Lincoln College
Farm Management and Rural Valuation Department

1980 Farm Budget Manual

Part 2 Financial (Volume1)

1980 FARM BUDGET MANUAL

Part 2: FINANCIAL

Volume 1 Sections 1-5

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PREFACE

The Lincoln College Farm Budget Manual is published in two parts: Part 1, the Technical Manual, which is revised biennially, and Part 2, the Financial Manual, which is revised every year.

The 1980 edition of the Financial Manual is published in two volumes. The need for two volumes has arisen because of the extensive revision and expansion of the information presented in the Manual.

Volume 1 contains five sections: Assistance and Incentives For Farmers; Farm Capital and Finance; Farm Revenue; Farm Expenditure; and Gross Margins.

Volume 2 contains two sections: Taxation For Primary Producers 1980; and Estate and Gift Duty.

Prices quoted in this Manual are those pertaining to the period from late 1979 to early 1980. As most people would be aware, prices for many commodities will rise in the coming year. Therefore, the prices contained in this Manual should be used as a guide only. Up-to-date figures should always be obtained where possible in any financial planning.

Trade names of various products are used only to acquaint the reader with some of the types available, and for clarity and convenience. No preferential endorsement by the College is intended. Nor is criticizm of similar or alternative products implied.

I would like to express my grateful thanks to Mr. John Clark and Miss Elizabeth Burtt for their conscientious work in revising, updating and compiling the Manual.

To all other members of the College staff, commercial firms and organisations that assisted in the revision of this manual, I extend my thanks.

I trust all readers of the Manual find it interesting and useful.

R.J. Diprose
Senior Lecturer in Farm Management
Editor
January 1980

INTRODUCTION

In an era of increasing sophistication in farm management analytical techniques, the budget remains the simplest and yet most versatile technique available to the farmer and his adviser. Essentially a farm budget is a written plan which formalizes an anticipated farm programme and translates it into expected financial results.

Some reassurance can be gained from the knowledge, as the following prose indicates, that the basic financial problems have been with us for some time now. However, through budgeting, the requirement for dollars and cents does become slightly more quantitative.

– IN HOT H_2O –

My Grand'fer farmed in days of yore,
But I must farm in 'eighty-four:
My Grand'fer grew large crops of grain,
In spite of drought, disease and rain:
My Grand'fer farmed, to my surprise,
Without one expert to advise.
I wish I'd farmed in days of yore
Instead of Nineteen-eighty-four
While thick the experts round me stand
To guide and lead me by the hand:
My wheat, they say, will never grow
Without it's need of H_2O;
Nor will my barley ever thrive
Without some more P_2O_5;
My roots, it seems, will likewise rot,
Unless I dress with Phos. and Pot.;
While if I add to ample P.
A modest dose perhaps of C.
It seems quite certain I shall then
Upset the ratio of N.
It's doubtful if I'll ever see
A blade of grass on yonder lea.
Unless I buy, without delay
One hundred tonnes of S. of A.
Thus wise I farm in Eighty-four
Would I had farmed in days of yore.

One day (perchance of experts rid),
I'll farm as well as Grand'fer did:
But first I'll need, it's obvious sense,
A tonne or two of Dollars and Cents.

ANON.

The final form of any budget will depend on the purpose for which it is to be used and the vocation and point of view of the person doing it. Thus budgets produced for the same farmer by his farm adviser and his accountant might vary quite markedly in approach and presentation.

The Lincoln College budget is designed primarily as a teaching aid and so lays considerable emphasis on formalizing the farm programme for the budget year. The Society of Accountants budget on the other hand is designed for use by accountants whose main interest lies in the finances of the farm rather than the details of the farm programme.

The information in this manual is set out to assist the individual in assessing any farming orientated financial transaction or computation with a reasonable degree of accuracy.

Volume 1

Section 1, Assistance and Incentives for Farmers, contains direct extracts from the M.A.F. Information Services booklet of the same name.

Section 2, Farm Finance, gives a brief description on the forms of capital and provides information regarding possible sources, lending terms and lending rates.

Section 3, Farm Revenue, is an attempt at assessing representative levels for farm prices for the present financial year.

Section 4, Farm Expenditure, is likewise an attempt at formalizing a financial basis for assessment of farm costs. The information contained in both Sections 3 and 4 should be regarded in light of present highly inflationary times.

Section 5, includes samples of Gross Margin Analyses to demonstrate this particular budgetary technique and current relativity of different enterprises.

Volume 2

Section 6, Income Taxation, examines the taxation system in New Zealand with reference to individuals, companies, partnerships, trusts and primary producers. There are several worked examples of taxation liabilities.

Section 7, Estate and Gift Duty, contains details of how these Duties are determined for the current financial year, supported by worked examples.

FARM BUDGET MANUAL

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For full details see Volume 2.

SECTION 1

ASSISTANCE AND INCENTIVES FOR FARMERS

1.0 ASSISTANCE AND INCENTIVES FOR FARMERS

1.1 INTRODUCTION

This section contains direct extracts from the M.A.F. Media Services Booklet "Assistance and Incentives for Farmers".

Whilst this section sets out briefly those measures of direct benefit to farmers it makes no attempt to include the wider range of Government Support for the primary industry, such as advisory services, research and grants to various bodies and organisations.

1.2 FARM SETTLEMENT

1.2.1 Farm Settlement Finance

Preference for finance for farm settlement is given to:

- applicants such as sharemilkers, farm employees, and farmers' sons who are purchasing a first farm; and
- farmers who are purchasing additional land to make an existing unit economic.

Other factors considered are the applicant's qualifications and experience in the type of farming he proposes, personal contributions (cash, stock, or land), the price being paid, other borrowing, and whether farm earnings will cover commitments such as loan charges, farm expenses, and maintenance, and provide a reasonable standard of living for the applicant and his family.

Though most loans are granted to purchase self-contained viable units, some are granted as a stepping stone to farm ownership, and to help retain competent workers in the industry. Experienced bona fide farm workers, such as shearers, and fencers, with a proven record of thrift and initiative, may be granted loans to purchase suitable smaller units, provided the total loan commitments, as well as farm running and living expenses, can be met from the total income.

Rural Banking and Finance Corporation.

1.2.2 Special Settlement Loans

The Special Settlement Loans Scheme aims to settle young farmers who would not otherwise have the opportunity of

purchasing a farm, and who have demonstrated qualities of thrift, initiative, and outstanding ability to manage a farm enterprise.

Loans up to 85% of the Rural Bank's valuation of the essential land, buildings, stock and plan may be advanced. Interest is at the current farm purchase rate, presently 9%, rebated to 7½% for the first 3 years, and repayment terms are flexibly administered to accommodate fluctuations in farm income. Applicants must have a minimum unencumbered contribution of 15% of the ingoing total, with a reasonable proportion from personal savings. Preference will be given to applicants in the 25 to 40 year age group, with their own transport and (desirably) with some academic farming qualification.

Properties are at the applicant's own choice, but must be reasonably priced, economic units, with an adequate standard of improvements. Most loans will be made for the purchase of sheep, dairying, or mixed-cropping farms, though other types of agricultural enterprises may be considered.

Rural Banking and Finance Corporation.

1.2.3. Maori Lands Finance

The Maori Land Board provides financial assistance to farmers of Maori descent to enable them to develop Maori lands; purchase farms, purchase stock and plant; and for further land development. The Board's lending policies are flexible and it will lend on horticultural enterprises, as well as traditional farming.

Department of Maori Affairs

1.2.4. Land Settlement

The Land Settlement Board is responsible for the development and settlement of Crown Land.

Each year, Government decides, on the basis of available finance, the number of improved farms to be offered by ballot to landless farmers. To participate in a ballot, applicants must:-

- be New Zealand citizens, by birth or naturalisiation;
- not have owned an economic farm;
- normally be 25 or more years of age;
- have been engaged principally in farming for at least 12 months immediately prior to applying; and
- although the Board has some discretion, applicants as a rule must -

- have had 5 years' full-time farming experience and completed four week courses in each of 2 years in basic husbandaries and farm management to a satisfactory standard; or
- have been awarded the Trade Certificate in Management; or
- have been awarded an appropriate diploma by Massey or Lincoln, and afterwards have completed 2 years' full-time farming.

Stock and plant are provided, at current prices, by the Board, on settlement.

Finance is available from the Land Settlement Board for the capital over and above the stipulated deposit or cash contribution required to take over the farm, stock, and plant. Interest payable on the current-account mortgage granted in the first instance is 7½% for the first 3 years, then 9%. Interest rates are reviewed every three years.

Department of Lands and Survey.

1.2.5 Farm Ownership Accounts

Farm Ownership Accounts, designed to help farm workers, share-milkers, students, and others associated with farming to buy a farm, can be opened with the Post Office Savings Bank, a trustee savings bank, or some building societies.

The account is available for the purchase of a first farm, or for the purchase of stock and plant to go sharemilking or share farming for the first time.

With the written consent of the Rural Banking and Finance Corporation, an account can be opened by any New Zealand citizen who has attained the age of 15 years, and who –

- being a pupil at a secondary school in New Zealand, intends to become a farmer; or
- is undertaking a course of study which will assist him to become an efficient farmer; or
- is principally engaged or employed in the farming industry or in any associated servicing industry in New Zealand; or
- has some other relevant experience or qualification which, in the opinion of the Rural Bank, will enable or assist him to become an efficient farmer.

The depositor must elect to save under either a grant scheme or a tax-rebate scheme.

(i) Grant Option –

The depositor may save up to $3,000 per annum and receive a tax-free grant of between 25 and 50% of his savings, depending on how long the account has been open. The maximum grant is $15,125 on maximum eligible savings of $30,250. The minimum qualifying period for a grant is 5 years from the date the first $250 is saved, if a farm is being purchased; or 3 years, if stock and plant are being purchased to go sharemilking or share farming.

(ii) Tax-Rebate Option –

A depositor may deposit up to $4,000 per annum (with a maximum of $50,000 per account) in a special Farm Ownership Account and claim a tax-rebate of 45c for each $1 of the annual increase in savings. There is a limit of $1,800 (45% of $4,000) or the depositor's tax liability, if it is less than that amount.

Interest at the rate of 3% per annum is payable on balances in both types of account. A depositor who commences to save under the purchase grant scheme may transfer to the tax-rebate option during his savings term but not vice-versa.

Rural Banking and Finance Corporation and New Zealand Post Office.

1.2.6. Suspensory Loans for Sharemilkers

A sharemilker buying his first dairy farm may be forced to sell a substantial part of his existing dairy herd if it exceeds the farm's carrying capacity. To overcome the heavy tax liability on this type of sale, an interest-free suspensory loan may be granted, secured by a mortgage on land. Providing the recipient remains in occupation and actively farms the property on his own account for 10 years, the loan is written off. For tax purposes the amounts written off will be regarded as assessable income but spread equally over the year of remission and next 2 succeeding years.

Applications should be lodged at the nearest office of the Rural Banking and Finance Corporation as soon as an agreement has been signed but not later than the date on which any agreement to purchase becomes unconditional.

Rural Banking and Finance Corporation

1.2.7. Stamp Duty Exemption on First Farms

A bona fide farmer who goes into farming on his own account may be exempted from the payment of stamp duty in respect of the purchase of his first farm. In general, the purchase must comply with the following criteria before the exemption will be allowed:

- the purchaser or his spouse, or both together, cannot own or have owned a substantial interest in farm land or a farming company.
- the property must be capable of supporting a full-time farming operation.
- the purchaser must actively farm the property within 2 years of purchase.
- the purchaser must acquire a controlling interest in the farm or farming company and not dispose of it within 2 years of acquisition. In the case of more than one person acquiring the land or shares, each of those persons who qualify for a first farm exemption in their own right must hold, in the aggregate, a controlling interest in the farm land or farming company.

The exemption applies to qualifying documents executed on or after 22 July 1977 and the claim of exemption from stamp duty will normally be made through the purchaser's solicitor.

Inland Revenue Department

1.2.8. Farm Vendor Settlement Finance Schemes

These schemes, announced in the 1977 Budget, provide that 50% of the interest earned by retiring farmers from money left in farms sold to new farm purchasers approved by the Rural Bank is exempt from taxation.

The aim of schemes is to assist suitably qualified and experienced farmers to purchase their first farm by encouraging the outgoing farmer to invest in the industry. It applies to sale and purchase agreements entered into on or after 28 July 1977, with the date of settlement not earlier than 1 April 1978. Retiring farmers have the option of investing in either a farm vendor finance bond issued by the Reserve Bank on behalf of the Rural Bank, or the more familiar farm vendor mortgage guaranteed by the Rural Bank. In both cases the minimum term is 7 years and the interest rate 9%. The maximum amount which can qualify for the concession is $150 000 and the retiring farmer must have owned the farm for at least 10 years or be selling because of ill health.

There are, however, essential differences between the 2 schemes.

(i) Farm Vendor Finance Bonds:

Under the bond option, the vendor accepts a 7 year bond (which can be redeemed at the end of the 7 years or on prior death of the bond holder) for at least 50% of the sale price of the land and buildings.

If the sale price is less than the current Government valuation, the amount of the bond investment is to be not less than 50% of current Government valuation of the freehold or leasee's interest. The maximum is 80% of the Rural Bank's valuation of the land or $150 000, whichever is the lesser.

The interest rate payable on the bond is at present 9% per annum for the whole term of 7 years.

The vendor is able to deduct 50% of the interest earned on the bond for income tax purposes, and is able to convert the investment to cash at the end of 7 years. The bonds are redeemable on death to meet the needs of beneficiaries and the payment of estate duty.

Under the bond option the Rural Bank takes a mortgage for a term of up to 25 years on standard Rural Bank lending conditions and thus relieves the purchaser of the need to refinance at the end of 7 years.

The purchaser must have a personal equity (unencumbered capital or farming assets) of not less than 20% of the value of the farm as a going concern.

The bond scheme gives farmers prepared to reinvest at least 50% of the sale price in their property a Government-guaranteed security and relief from the administrative problems of taking and holding a mortgage.

(ii) Farm Vendor Mortgage Guarantee

The mortgage guarantee option is an extension of the Farm Mortgage Guarantee Scheme operated by the Rural Bank. This option provides the same taxation benefits for the vendor who is unable to invest the full 50% of the sale price as required under the bond option.

The vendor takes a mortgage from the purchaser in the normal way, and is guaranteed by the Rural Bank against loss of capital should the purchaser fail to meet his obligations under the mortgage.

The scheme offers valuable benefits to the vendor. He qualifies for a tax exemption by having 50% of the interest earned on the guaranteed mortgage exempt from income tax. He is protected against loss of capital, can lend relatively smaller sums behind prior mortgages without risk, and can handle his own mortgage administration. Over all, he gains maximum protection with a minimum of inconvenience.

For the purchaser, the scheme has the attraction that he obtains a reasonable fixed interest rate mortgage for at least 7 years on either a first or subsequent security. The benefits of the guarantee against loss of capital and the taxation advantages are likely to encourage vendors to sell their properties to eligible new farmers.

It should be noted that the mortgage is not refinanced by the Rural Bank at the end of the term, and renewal or repayment must be negotiated by the parties concerned.

The basic conditions laid down by the Rural Bank for the guarantee option are:

- the mortgage may be on a flat or table basis, or on demand if provision is made for repayment over, or at the expiry of, a term of not less than 7 years. The mortgage may be a first, second or subsequent security.
- the interest rate for a minimum of 7 years must not exceed the standard Rural Bank settlement rate (currently 9%).
- the maximum amount of the loan eligible for a guarantee is $150 000 or 80% of the borrower's mortgageable interest in the land, whichever is the less.
- at the date of sale, the vendor must have owned the farm and/or shares in the farm for not less than 10 years, or be selling because of ill health.
- a purchaser, or purchasers, must not hold or have held an interest as owner or shareholder in a farm property which would have been regarded by the Rural Bank as being suitable for his settlement as a full time farmer. He must also personally occupy and farm the property.
- a purchaser must have a personal equity (unencumbered capital or farming assets) of not less than 30% of the value of the farm as a going concern.

All types of farms regarded as suitable by the Rural Bank for the settlement of farmers will be considered, provided

they are economic units (or can be developed to an economic standard in a short period). Propositions regarding the strengthening of uneconomic units may be considered in special circumstances.

1.3 FARM FINANCE AND DEVELOPMENT

1.3.1. Livestock Incentive Scheme

The Livestock Incentive Scheme aims to encourage farmers to achieve a permanent increase in the number of livestock carried on an existing holding. A farmer whose property has an unexploited carrying capacity, and who intends to permanently increase pastoral production, can seek a suspensory loan or a taxation incentive.

(i) **Loan Option –**

An interest-free suspensory loan of $12 per qualifying stock unit.

(This loan will be written off if the increase is sustained for 2 years.)

(ii) **Taxation Option –**

A deduction from taxable income of $24 per qualifying stock unit.

(This deduction may be used, in whole or in part, in any of the 3 tax years after the increase has been sustained for 2 years.)

The scheme applies to farms carrying sheep, cattle (beef or dairy), or deer. Livestock will be converted to stock units to establish the basis for payment of a loan or for the deduction from taxable income. Allowance will be made for land devoted to cash cropping on mixed-cropping properties.

To be eligible, the farm's potential minimum carrying capacity at the end of the program must be:

Dairy –	65 cows and replacements (500 stock units)
Sheep and other livestock –	1000 stock units.

The programme must be commercially viable and offer a substantial and permanent increase in livestock numbers and production.

Applicants must have a mortgageable interest, a satisfactory lease or some other written agreement, giving them the sole use

of the land to which the programme applies, for the period of the programme and for at least 2 years thereafter.

Stock Increase Programme

- The programme may be for a minimum of 1 year and a maximum of 3 years. The scheme is open until 31 March 1982, and the farmer must submit his programme for approval by the Rural Bank before that date.
- The basic number of stock units will normally be calculated on stock held at 30 June 1979; but when this is less than the 30 June 1978 carrying capacity, an average of the two figures may be used by the Rural Bank to determine the basic carrying capacity of a particular property. For farmers buying properties after these dates, and in special circumstances, the Bank will take into account stock carried at 30 June in the 2 years before application, and any other relevant factors.
- Before the increase in livestock units qualifies for either incentive, the farm must achieve an increase equal to 2%, 3% or 4% of the basic livestock units, depending on the length of the programme, with a minimum increase of 50 units spread over the whole programme. This means that a 1-year programme will need to show a more than 2% increase; and a 2-year programme, a more than 3% increase; and a 3-year programme, a more than 4% increase, or more than 50 units in each case, whichever is the greater.

  The amount of the suspensory loan or the tax incentive will be calculated on livestock units in excess of these basic increases.

Farm advisers and farm consultants can assist a farmer to prepare his application.

Rural Banking and Finance Corporation.

1.3.2. Land Development Encouragement Loans.

The scheme is aimed at encouraging the development of unimproved or reverted land by ensuring that not only is the initial capital available, but that work can continue despite fluctuations in income.

Individual farmers, partnerships, lessees, trusts, Maori land incorporations, private and public companies will be eligible to apply for a loan to assist with the initial development of:

- unimproved land being developed for the first time for farming purposes from the unproductive state.
- reverted land which is capable of being redeveloped to a productive state.
- extensive, clear hill-country grazing land where the dominant cover comprises such species as tussock, danthonia or unimproved browntop. (Where aerial seeding and oversowing are contemplated, it is expected that the area would not previously have been topdressed or oversown with improved species, but in any event not in the 5 years up to 1 June 1978.)

Priority will be given to the development of those areas clearly requiring initial work, such as clearing, drainage, cultivation or oversowing, to establish permanent pasture which can be economically maintained in its improved productive condition.

The scheme does not provide for renewal or upgrading of existing pasture which would normally be carried out under prudent management in line with district farming practice. Areas reserved for soil or water conservation, erosion or river protection, wildlife and other reserves and properties intended for afforestation are not eligible under this scheme.

Applicants must be able to demonstrate the financial viability of their total farming operation and must have a mortgageable interest in land. Where the tenure is leasehold, the minimum term required will normally be 15 years from the commencement of the loan.

(i) **Development Projects:**

A development programme must cover a minimum area of 10ha (25 acres) or a large enough area for carrying capacity to be increased by at least 100 stock units.

Applicants must submit a total development, management and financial programme and define the area to be developed by means of accurate scale plans, aerial photographs, etc., showing both the subject area and its location in relation to the whole property.

(ii) **Qualifying Expenditure:**

Qualifying expenditure is that which is incurred in the development of unproductive land up to and including the sowing down in pasture and may include the cost of clearing, cultivation seed, capital fertiliser and lime, and drainage where this is a prerequisite to the commencement of the development programme. Expenditure on such

items as fencing (subdivisional and boundary) to meet the cost of non-qualifying expenditure may be undertaken from the farmers usual source of credit, including the Rural Bank, Department of Maori Affairs or Marginal Lands Board.

(iii) **Loan Details:**

Subject to compliance with the general terms of the scheme, the main features of these loans are:

- loans are for a term of 15 years. Payments are made on application to the Rural Bank as work progresses or on evidence of satisfactory completion of the programme.
- loans cover that portion of the development costs associated with land preparation up to and including the grassing stage up to a maximum of $250 per ha. Normally this will be based on actual and reasonable costs of approved work carried out to acceptable district standards.
- All interest is deferred and the interest accumulated up to that time, is written off at the end of the fifth, tenth and fifteenth years.
- One half of the loan advanced is repayable by equal amounts spread over ten years commencing after the end of the fifth year.
- the other half of the loan will be written off at the end of the tenth year provided that the development programme has been satisfactorily completed, and the improvements maintained.
- the notional interest rate charged will be in line with the Rural Bank development lending rates which are currently 6% for the first period, 7½% for the second and 9% for the third.

To obtain these maximum benefits, an applicant must retain ownership of the land for the full 15 year term of the loan. If the land is sold or otherwise disposed of (other than to approved family members) within 10 years, the total balance owing, after allowing for any principal repayments, together with any interest not previously written off, becomes repayable. For tax purposes both interest and principal written off will be treated in terms of Section 172 of the Income Tax Act 1976.

(iv) **Closing Date of Scheme:**

Applicants for loans may be lodged with the Rural Bank up to 31 March 1981. If applicants already have loans with the Marginal Lands Board or Department of Maori Affairs, their application should be lodged directly with those organisations. All applications must be lodged before the start of the development programme.

1.3.3. Development Finance

Any reasonable need for development finance may qualify for a loan, including clearing, grassing, fencing, topdressing, housing, farm buildings, roading, planting, water supply, irrigation, and purchasing stock and essential plant.

Priority is given to applicants who actively farm their own properties, and special attention is paid to farming ability.

Rural Banking and Finance Corporation

1.3.4. Development Expenditure

Refer to Taxation Section.

1.3.5. First-Year Taxation Allowances – Buildings, Plant, and Machinery

Refer to Taxation Section.

1.3.6. Stock Loans

(i) **Short Term: (5 to 7 years)**

Sharemilkers and other farmers who do not own the land they farm may obtain loans to purchase stock and plant.

Reasonable security of tenure, or a satisfactory 50/50 sharemilking agreement (normally 3 years) is needed. Provided the applicant can meet his commitments and make a reasonable contribution from his own resources, a loan of up to 60% of the market value of stock and plant may be advanced on first security.

(ii) **Long Term: (up to 25 years).**

These loans are available for –

- Stock purchased or increased (through retention of stock that would normally be sold) in association with development or the purchase of additional land.
- Purchase of stock for diversification, where the new stock is more costly per unit or a change is being made from dry stock to breeding stock.

Loan limits and security are flexible.

Rural Banking and Finance Corporation.

1.3.7. Maori Land Board Loans

The Maori Land Board provides loan finance to experienced farm workers of Maori descent to purchase stock and plant for sharefarming purposes.

Department of Maori Affairs

1.3.8 Special Plant Loans

To foster progressive farming methods and new techniques, assistance is given to soundly based farmers and agricultural contractors to introduce new types of plant and machinery. The aim is to demonstrate and evaluate the equipment under local farming conditions. Substantial amounts may be granted on a term basis; interest rates depend on the type of proposition and the security offered.

Rural Banking and Finance Corporation

1.3.9. Plant and Machinery - Finance for Purchase

From 1 August 1978 a limited number of loans for the purchase of plant and machinery will be available from the Rural Bank to:

- farmer group machinery co-operatives or syndicates for plant for use on their own land,
- individual farmers undertaking extensive development projects,
- and soundly established owner/operator agricultural contractors providing an efficient and essential agricultural service to farmers.

Emphasis will be placed on essential requirements, in connection with land development work, rather than the purchase or

normal replacement of tractors and plant required by farmers to continue with existing farming systems.

Loans generally not exceeding two-thirds of cost, up to $25 000 for any one operator for tractors, plant and farm machinery, excluding road transport vehicles and aircraft, will be considered and loan terms will be up to 5 years with interest at 12% per annum on the reducing balance. Loans of up to 50% of value of good second-hand plant not more than 2 years old, subject to an acceptable certificate from an agent as to condition and age, may also be considered. Security arrangements can be flexible, but a mortgage of land would normally be required, in addition to an instrument by way of security over the machine.

The availability of this type of finance from the Rural Bank is intended to complement and not replace the many other sources of credit available. Because of this essentially complementary role, farmers and agricultural contractors will generally have to rely on their traditional sources of finance for their plant and machinery requirements. Similarly, applications to refinance debts incurred with other lenders or hire purchase arrangements cannot be entertained.

Rural Banking and Finance Corporation

1.3.10 Marginal Lands Board Finance

The Marginal Lands Board operates as a Government lender of last resort, providing finance to farmers to restore, maintain, and increase production on properties that are not economic, but are potentially so.

The only applications considered by the board are those which are unacceptable to other lenders, or where the terms on which finance is available are so demanding that the property could not service them.

Finance is available, generally, on current-account mortgage in the first instance, for development, to buy stock and chattels, to buy additional land to make a farm economic, and to refinance existing securities to enable additional development to be undertaken.

Finance and advances for development, stock, and plant, can attract a concessional interest rate of 6% for the first 3 years and 7½% for the next three years, afterwards increasing to 9%. Advances for amalgamation can attract a concessional interest rate of 7½% for 3 years, after which the rate increases to 9%. No concessional interest rate is available on finance for refinancing. Interest rates are reviewed every 3 years.

The Board has advanced money for orchards, market gardens, pig and deer farming, as well as for traditional farming ventures; it will consider any reasonable proposition aimed at increasing production from the land.

Department of Lands and Survey

1.3.11 Artificial Breeding Incentive Scheme

The Artificial Breeding Incentive Scheme offers a $2 per cow payment for cows inseminated during 1978 and 1979 which are additional to those inseminated in 1977. The payment will be made on additional cows artificially inseminated, not on additional inseminations resulting from return matings, etc. The scheme covers inseminations carried out by livestock improvement associations, commercial operators, and private operators. Qualifying inseminations are restricted to the use of all dairy bull semen, excluding Dairy Board Sire Proving Scheme semen, but includes semen from beef bulls listed in the Dairy Board's "Sire Catalogue 1979 Dairy and Beef'.

Ministry of Agriculture and Fisheries

1.3.12 Refinancing of Farm Debts

When a farmer is in financial difficulty, assistance is available for refinancing his onerous short-term debts. The aim is to provide long-term financial stability for the farmer, within the limits of his earning capacity, rather than the complete repayment of the debt. First mortgages and institutional mortgages are not normally re-financed.

Priority is given to efficient, credit-worthy farmers who have severe liquidity problems which are hindering further progress or the maintenance of past development. The interest rate is 11%.

Rural Banking and Finance Corporation

1.3.13 Seasonal Finance

Seasonal finance on a current account basis is available for tobacco growers, pip-fruit growers, and (as the need arises) for other farmers, especially in periods of depressed farm incomes. First-time farmers and those who are carrying out substantial development programmes may also qualify for seasonal finance, if it is not readily available from other sources.

Rural Banking and Finance Corporation

1.3.14 'Nil' Livestock Values for Taxation

Refer to Taxation Section.

1.3.15 Energy Conservation Expenditure

A farmer who incurs capital expenditure (which is not normally deductible for income tax purposes*) in acquiring and installing certain kinds of new plant, machinery or equipment for use for the purposes of energy conservation may claim an immediate 100% write off in the year the expenditure is incurred. In addition, the cost of improving or altering certain kinds of plant, machinery, equipment, or of insulating such assets or buildings for use for the purposes of energy conservation will also qualify for the 100% first year write off.

* It would not include, however, energy conservation expenditure of a private nature such as to the family residence.

Inland Revenue Department

1.3.16 Farm Mortgage Guarantees

To encourage lenders to invest their funds in farm mortgages, the Rural Bank guarantees farm lenders against loss should the borrower ultimately fail to repay a loan. The Rural Bank does not itself grant a loan.

Mortgages which qualify for guarantee are those raised for any acceptable farming purpose, including purchase of land, development, working expenses, and the refinancing of current accounts or existing mortgages.

Most competent farmers are eligible, including individuals, a family or other partnership, and private companies or trusts.

Rural Banking and Finance Corporation

1.4 FERTILISER

1.4.1 Fertiliser Price Subsidy

From 22 June 1979, subside of $15.00 per tonne is payable on locally manufactured and imported fertilisers.

The method of payment for superphosphate is by deduction from the cost of the raw materials used in manufacture. For

other imported fertilisers, the subsidy is paid at the point of first sale in New Zealand.

The ex-works or ex-store price has therefore been reduced by the equivalent of $15.00 per tonne, and no farmer claims are involved.

Ministry of Agriculture & Fisheries

1.4.2 Fertiliser Aerial Spreading Bounty

Fertiliser spread by a commercial aerial-spreading contractor qualifies for a bounty of $2.00 a tonne.

The contractor invoices the farmer with the net amount after subsidy.

Ministry of Agriculture and Fisheries

1.4.3 Transport Subsidies on Fertiliser and Lime

A subsidy is payable on the transport of fertiliser and lime from a works, a merchant, or its port of entry to the farm gate. The rates are:

First 65 kilometres –	8 cents per tonne per kilometre
Next 185 kilometres –	5 cents per tonne per kilometre
Kilometres in excess of 250 –	3 cents per tonne per kilometre

The supplier invoices the farmer with the net amount, after subsidy. For imported fertilizers, the maximum distance subsidised is 435km.

Ministry of Agriculture & Fisheries

1.4.4 Subsidy on Transport of Serpentine, Dunite, and Dolomite

A subsidy is payable on the cost of transporting serpentine, dunite, and dolomite from the point of its production to a fertiliser works, or mixing plant.
The rate of subsidy is:

First 30 kilometres –	8 cents per tonne per kilometre
Next 130 kilometres –	5 cents per tonne per kilometre
Kilometres in excess of 160 –	3 cents per tonne per kilometre

Ministry of Agriculture & Fisheries

1.4.5 Co-operative Fertiliser-Spreading Facilities

To help reduce fertiliser-spreading costs, the Rural Bank will consider applications for loans to construct or upgrade airstrips, age bins, and access roading. Preference will be given to co-operative undertakings.

As problems of security and equitable distribution of debt between participants can arise in such arrangements, the bank will consider the alternative of making advances to individual contributors, with (if necessary) security over their individual farm properties.

Rural Banking and Finance Corporation

1.4.6 Fertiliser and Lime - Deferred Cost

Refer to Taxation Section.

1.4.7 Fertiliser Transported by Air and Sea

From 22 June 1979, fertiliser conveyed by heavy aircraft to off-shore islands and to parts of the Marlborough Sounds will be subsidised at 25.0 cents per tonne per kilometre of flying distance.

The distance from the works to the airfield is subsidised at normal transport rates.

Subsidies on fertiliser conveyed in these areas in light aircraft are calculated at ground-transport rates.

Where fertiliser travels by sea during some stage of its delivery from the works, the subsidy is paid, as if the fertiliser had been delivered by rail and/or road directly from the nearest works.

Where delivery by road and rail is impracticable, the subsidy is calculated on the basis of the distance from the nearest works, including the sea portion of the journey.

Ministry of Agriculture and Fisheries

1.5 FORESTRY

1.5.1 Forestry Encouragement Grants

Cash grants, equal to 50% of the qualifying costs of establishing and maintaining an approved woodlot, are available up to a maximum of $450 per hectare, to persons whose qualifying costs do not exceed $300 000 in any one financial year. The minimum area of planting eligible for a grant in any one financial year is 2 hectares.

Application must be made to the Forest Service not later than 31 August in the year preceding establishment.

Qualifying costs are:

- Land clearing and preparation.
- Fencing (costs of new fencing, up to $40 per hectare).
- Trees and planting, blanking and releasing.
- Pruning and thinning.
- Fertilisers and other chemicals and their application.
- Disease and pest control (insect, fungal, and animal).
- Temporary internal roads and access tracks, including any associated culverts and bridges, up to $40 per hectare.
- Land tax on land used for forestry.
- Rates.
- Insurance against fire.
- Interest on loans for forestry (limited by their impact on profitability).
- Professional forestry services and advice.
- Repairs and maintenance to temporary fences; to plant and equipment used for land preparation and planting, and the tending and maintenance of the tree crop; to temporary buildings and temporary roads and bridges; and to access tracks.
- Fire protection and suppression.
- Rent on land leased for forestry.
- Hired plant and equipment.
- Subscriptions to the Farm Forestry Association or the New Zealand Forest Owners' Association Inc.

New Zealand Forest Service.

1.5.2. Modified Grants Scheme for Protection/ Production Planting

The same conditions apply to this as to the grants scheme, except that 66⅔% of the qualifying cost of establishment (instead of 50%) will be met. For costs incurred after establishment, only the usual 50% will be refunded. The area must be one where a protection/production woodlot is considered to be the best land use.

The scheme is available initially to landholders in the Gisborne/East Coast area where soil stabilisation is of major concern but could be extended later to other areas if there is sufficient demand and if finance permits.

New Zealand Forest Service

1.5.3. Plantings for Shelter or Erosion Control

Refer to Taxation section.

1.5.4. Woodlot Taxation Incentives

The value of growing trees is specifically excluded from any valuation for assessment of land tax. Where a local authority levies rates on the capital value (as distinct from the land value), the value of timber trees or of trees for shelter or amenity purposes is exempted by statute from inclusion in property valuations for the purpose of levying rates. Also, the timber value of standing trees is exempted from estate duty.

Inland Revenue Department

1.6 SOIL AND WATER

1.6.1 Irrigation

Assistance is given for approved community irrigation schemes. A Government grant provides the finance for the headworks. None of this cost is recovered. The cost of off-farm distribution works is initially met in full by Government grants. Once the scheme is operating the farmers' half share of off-farm distribution works plus ruling rates of interest, is recovered in the water charge over a 40-year period. The Government provides interim finance for the full cost of on-farm works. A suspensory loan is provided for one-half of the fixed on-farm costs. This loan is written off after 10 years with 1/10 being

abated each year, provided the farmer does not sell his farm and meets the requirements of the development programme. The remaining one-half of the annual cost of on-farm work is recovered from the farmer at the end of the year, often through normal interest bearing loans provided by the Rural banking and Finance Corporation (up to 100% for these costs.)

In addition, Rural Banking and Finance Corporation loans up to 100%, with provision for deferral of interest and/or principal repayment, may be given for schemes that do not meet the policy; for example, some spray irrigation equipment or a scheme covering less than the requirements for a community scheme.

Ministry of Works and Development and Rural Banking and Finance Corporation.

1.6.2 Catchment Control Schemes, River Control and Land Drainage, and Soil Conservation Works.

Assistance may be available for approved proposals to protect farmland from flooding, for community drainage schemes, and for erosion-control works. The rate of grant varies with a maximum of 3:1, depending on a number of factors (including the off-site, or downstream, value of the works). Assistance is provided on condition that the farmer will contribute, as appropriate, to the maintenance of the works.

The works for which a grant may be available include:

- Catchment control schemes that involve water management and soil conservation works that treat a whole catchment.
- River control and flood protection works, and community drainage schemes.
- Soil and water conservation plans for individual farms. This may include erosion-control fencing; the provision of alternative grazing where severely eroded country is to be retired; and various structures and planting, over-sowing, and top-dressing specifically to control severe erosion.

Catchment Authorities

1.6.3 Rural Water-Supply Schemes

Assistance is given for approved community rural water-supply schemes which incorporate a minimum of four farms and

service at least 800 hectares. There is a 1:1 grant for most off-farm and on-farm works. The responsibility for promoting schemes rests with county councils.

Design assistance is provided through consultant engineers and Ministry of Agriculture and Fisheries staff. Water treatment requirements are provided through the Health Department. The policy is administered by the Ministry of Works and Development.

County councils: Ministry of Works and Development: Ministry of Agriculture & Fisheries: Health Department.

1.6.4 Pollution Prevention Expenditure

Refer to Taxation Section.

1.7 NOXIOUS PLANT, PEST AND DISEASE CONTROL

1.7.1 Cattle Tuberculosis and Brucellosis Eradication Schemes

Farmers are responsible for presenting cattle for testing and for arranging the slaughter of reactors. Government contributes the cost of the testing (either by providing ministry staff or, in some circumstances, by paying the farmer's veterinarian to carry out the tests) and pays compensation for any reactors.

The compensation payable on reactions to either test is as follows:

- In addition to the carcass proceeds, 90% of the difference between an average carcass value and an average replacement value, assessed each season for differing classes of animals over 6 weeks of age.
- Where a reactor is condemned at the works, 90% of the average carcass value, in addition to compensation.
- A seasonal bonus payment on the following classes of reactor, slaughtered within the period allowed –
  - Town supply cows, at $70 each.
  - Factory-supply cows 18 months of age and over, at a varying rate (according to the month of test) on tests carried out between June and January in the North Island and between July and February in the South Island.
  - In-calf beef breeding cows and heifers, and cows with dependent calves at foot, at a rate estimated as one-half of the average price of weaners for the season.

- Tb-reactor meat is not eligible for export, and a support scheme is operated to ensure that the proceeds to farmers equal the export-schedule rates applying at the date of slaughter. Compensation against discounting at sale of beef-breeding cattle under movement control because of tuberculosis infection is payable up to a maximum recommended each 6 months by the National Animal Health Advisory Committee.

Ministry of Agriculture & Fisheries

1.7.2 Noxious-Plants Control Scheme

The Noxious-Plants Control Scheme provides for a subsidy of 75% of the cost of the chemicals used to control specified noxious weeks.

The local administration of noxious-plants control is the responsibility of the district noxious plants authority, which is the country (or combined counties) noxious-weeds committee, with the local senior farm advisory officer as an *ex officio* member. Administration is co-ordinated by eight regional committees, and the national policy is formulated by the Noxious Plants Advisory Committee.

The 75% subsidy applies to 'declared' species, but only after the particular control programme has been approved by the district authority. Claims are paid by the Ministry of Agriculture and Fisheries.

The 1977 Budget provided for an additional noxious plant to be eligible for subsidy in each region, at the discretion of the Noxious Plants Advisory Committee.

Ministry of Agriculture & Fisheries

1.7.3 Nassella Tussock

The North Canterbury and Marlborough Nassella Tussock Boards derive most of their funds from a Government subsidy, based on county contributions. The boards carry out control work on farms within their districts. (Farmers meet 50% of the cost).

A 'county scheme', administered by 16 local authorities in the South Island and 5 in the North, provides for farmers to be reimbursed for 50% of the cost of undertaking approved nassella-tussock-control programmes themselves. This scheme also

operates now in the North Canterbury and Marlborough Nassella Tussock Board's districts, as a complement to those Board's activities.

1.7.4. Australian Sedge

North Island local authorities administer a scheme which pays 50% subsidy to farmers towards the cost of controlling Australia sedge by a range of approved control methods.

Farmers arrange with the county to carry out a control programme approved by the Ministry of Agriculture and Fisheries. On its completion, the county pays the subsidy and is reimbursed by MAF.

1.7.5. Noxious Plant Eradication -Temporary Employment

Under the Temporary Employment Programme it is possible for district noxious plant authorities to offer finite short-term noxious-weed eradication projects to the Department of Labour.

The Department of Labour will reimburse district authorities for the cost of wages and some of the overheads for the workers engaged through the department on approved projects.

The only qualification is that the projects offered must be additional and labour-intensive and not reduce the existing employment opportunities of spraying contractors or staff levels of authorities.

Noxious plants authorities

1.7.6. Pest Control

The income of pest destruction boards charged with the control of rabbits, opossums, and other similar pests on rateable land from rates levied on farmers is subsidised dollar for dollar by Government. In addition, district grant payments may be made where the land will not stand sufficient rates to allow adequate control of pests from finance available through rates and subsidy.

Local authorities: Ministry of Agriculture and Fisheries

1.8 ADVERSE-EVENTS RELIEF

1.8.1 Adverse Climatic Events

In emergencies such as floods and droughts, Government assistance is available to farmers in areas where adverse-events committees are formed. A committee is set up by local farm

advisers at the request of the affected farmers. Standard forms of relief are:

- Stock Feed
  - **commercial carriers**
    Refunds of freight charges to a maximum of $25 per tonne.
  - **farmer's own vehicle**
    Grants covering vehicle running costs. Rates per tonne per kilometre (max. 10c/t/km) depend on the size of truck.
- Stock
  - **commercial carriers**
    Full refunds of the freight charge on the outward (flood) or homeward (drought) journey with a distance maximum of 200km. A 50% refund applies beyond 200km.
  - **farmer's own vehicle**
    Grants covering vehicle running costs. Rates per tonne per kilometre (max. 10 c/t/km) depend on the size of the truck and apply only to the outward (flood) or homeward (drought) journey with a maximum of 200km. The rate is halved beyond 200 km.

– A subsidy of up to 50% of the actual cost, up to a maximum of $50 per hectare is payable toward the cost of regrassing pastures destroyed by flooding. Expenditure which qualifies for reimbursement includes seed, fertiliser, insecticides, and contractors' charges, and out-of-pocket costs.

– Taxation relief is available to a farmer who is forced to sell livestock because of an 'adverse event' such as a fire, flood, disease, or drought. Provided certain conditions are met, the excess of the sale price over the standard or 'nil' values used by the farmer is not included in his assessable income until the year in which replacement livestock is bought.

If, however, taxation relief is the only form of assistance desired, the local Federated Farmers branch should submit a request to the district MAF office for reference to the Commissioner of Inland Revenue. (There is no need to set-up an adverse-events committee solely to recommend this assistance.)

Ministry of Agriculture and Fisheries

1.8.2 Adverse Climatic-Events Emergency Services

Helicopters, fixed-wing aircraft, and specially equipped ground machinery may be used in certain emergencies for inspection and relief work. Wherever practicable, equipment owned by commercial organisations is used; but if no suitable equipment is available, Ministry of Defence resources can be employed. Farmers must agree in advance to meet half the transit cost of moving the aircraft or the equipment and the personnel to the headquarters established for the emergency operation, and also half the cost of operations on their own properties.

Ministry of Agriculture & Fisheries and Ministry of Defence

1.8.3 Adverse Climatic-Events Loans

Loans are granted to farmers in Government-designated disaster areas who suffer hardship as a result of severe climatic conditions such as droughts, hail and snowstorms,and flooding. If an early recovery appears likely, a loan is granted, regardless of the normal security margins.

The terms and conditions vary, according to the degree of hardship; both principal and interest may be deferred for 2 years. In cases of severe hardship, interest of up to $1200 a year for the first 2 years may be converted to a suspensory loan. Loans may be used for all forms of farm expenditure, including purchase of feed, cartage, sprays, living expenses, and so on.

Rural Banking and Finance Corporation.

1.8.4. Adverse Events-Temporary Employment

There is provision under the Temporary Employment Programme for registered unemployed persons to be made available to local authorities or the Ministry of Agriculture and Fisheries to undertake labour-intensive relief work on farms following floods, droughts or other emergency situations brought about by climatic events.

This assistance is generally organised through committees established following declaration of a disaster area by the Ministry of Agriculture and Fisheries.

The Department of Labour will reimburse the employing authority for the cost of wages and some of the overheads for the workers employed through the Department of Labour on approved projects.

Department of Labour: Ministry of Agriculture and Fisheries

1.9 EDUCATION

1.9.1 School Boarding Bursary

School boarding bursaries are granted to pupils, either primary or secondary, who are obliged to live away from home in order to receive their education.

Eligibility is determined by the distance to the nearest state school or school transport service; for children up to 10 years of age, the distance is 3.2 kilometres, and for those 10 years and over, 4.8 kilometres. Bursaries may also be awarded to children suffering from specific disabilities, who are boarding away from home to receive special education that is not available at their local school. There is no specified period of tenure of the bursary, and there is no limit on the number of bursaries awarded annually.

The school boarding bursary is at the rate of $600 per annum per eligible child.

Additional assistance is also available in the form of payment towards travel to and from boarding school at the beginning and end of each school term for children who live in very remote areas. Parents will be reimbursed for travel costs in excess of $10 per return trip for pupils eligible for school boarding bursaries, who are travelling between their home and the nearest suitable boarding school.

Boarding assistance is also available for secondary students to pursue specified academic and technical courses where these are unavailable locally, and for study at the sixth and seventh-form levels where the education that is available locally does not include accrediting of the University Entrance qualification. Where a pupil eligible for these bursaries resides within reasonable travelling distance of a school offering the required course, transport assistance in lieu of a course bursary may be available.

Maori and Polynesian pupils for whom no secondary school facilities are available within daily reach of home or for whom a complete secondary school course is not available locally, may qualify for a Maori and Polynesian Secondary School Scholarship at the rate of $750 per annum.

Department of Education

1.9.2 School Transport Assistance

School pupils under 10 years of age who live more than 3.2 kilometres and pupils 10 years and over who live more than 4.8km from the nearest state school or private school of their denomination, may be eligible for school transport assistance.

Eligible pupils are required to make their own way up to 1.6 kilometres to a bus stop. Thereafter transport assistance is provided.

Transport assistance may also be given to children with serious locomotive difficulties attending ordinary classes at primary or secondary schools and children enrolled at special schools, classes or clinics. Pre-school children attending pre-school groups attached to primary schools, or special classes at pre-school centres may also qualify in certain circumstances, and limited assistance is given for children attending playcentres and kindergartens.

Use is made of public passenger services wherever possible.

Where it is justified, an education board will arrange a special school bus service by way of a contract with a local bus operator, the NZR Road Services, or a bus owned by the Department of Education. However, in some cases a private transport allowance is paid on the use of private cars to convey children to school or to connect with a passenger-transport service.

Department of Education

1.9.3 Correspondence School

Pupils who cannot attend a school daily may be enrolled with the Correspondence School. All materials required are supplied, e.g. art supplies for primary school children, text books for secondary school pupils.

Travel costs incurred by pupils travelling to "school days" are met by the Correspondence School.

Any enquiries regarding assistance to school pupils living in rural areas should be made to the local education board.

Department of Education

1.9.4 Farm Training

The Flock House and Telford Farm Training Institutes offer courses related to the Trades Certification Board examinations in farming and the Government Land Settlement Scheme.

Applicants attending either course for the first time are required to pay travel costs one way. Government reimburses course members for surface fares one way, and also provides free accommodation, meals, and tuition. A subsistence allowance is paid to married men who attend land-settlement courses.

Ministry of Agriculture and Fisheries.

1.9.5 Private-School Fees

Refer to Taxation Section.

1.9.6. Farm Cadet Scheme

The farm cadet scheme provides assistance to employers of farm cadets by way of a subsidy of 60% of basic or award wages in the first year, 50% in the second year, and 40% in the third year, in respect of a maximum of 7 weeks' training in the first year, 4 weeks in the second year and 4 weeks in the third year. This wage subsidy is available instead of, but not in addition to, assistance under the Additional Apprentice Incentive Scheme in respect of any one cadet in the same year. The scheme takes effect from 1 July 1979, and is administered by Federated Farmers.

Ministry of Agriculture and Fisheries.

1.10 STABILISATION

1.10.1 Dairy Industry Stabilisation

At the beginning of each season, basic farm gate prices are set for milk-fat and for SNF ('solids-not-fat'). These prices must not be more than 10% up or 5% down on the previous season's basic prices.

At the end of the season, if either or both of the Milkfat Trading Account and the SNF Trading Account indicates a surplus, the Dairy Board may distribute a percentage of this to suppliers, the balance being credited into a reserve account. In the event of the board incurring a loss in milkfat and/or SNF products, it will be granted overdraft facilities at 1% per annum by the Reserve Bank of New Zealand if the loss exceeds the accumulated reserves in the relevant account.

New Zealand Dairy Board.

1.10.2 Supplementary Minimum Prices for Milkfat

In addition to the stabilisation procedures operated by the dairy industry, the Government has established, and will underwrite a farm gate supplementary minimum price for the 1979/80 season of 185c/kg of milkfat in wholemilk. A similar price will also be set for the subsequent season at a level not less than that set for 1979/80.

For the current season, a supplementary payment will be made

by the Government to the Dairy Board to bring the Board's total payout up to 185c/kg, if the combined basic price plus 50% of the 1979/80 individual trading surplus of milkfat and SNF are less than 185 c/kg. Regardless of the actual percentage payout by the Board of any trading surplus for 1979/80 the level of any supplement paid by the Government will be based on an assumed payout of 50%.

The 185 c/kg refers to the farmgate prices as paid by the Dairy Board to dairy companies. Company payments to suppliers will fluctuate around the 185 c/kg for a number of reasons including the product mix, manufacturing cost levels, and decisions regarding the degree of capital formation to be undertaken.

Ministry of Agriculture and Fisheries

1.10.3 Meat-Income Stabilisation Scheme

A Meat Export Prices Committee establishes minimum and trigger schedule prices for benchmark grades of export meat- lamb, mutton, manufacturing beef, and prime beef - before the start of each meat year.

If the lowest regional exporters' schedule price for any benchmark grade is below the minimum level, the board must also establish minimum prices for other grades of that type of meat. It must then ensure that producers receive no less than the minimum prices by making supplementary payments from the Meat Income Stabilisation Account held at the Reserve Bank of New Zealand; purchasing the meat itself; or doing both.

When the schedule price of a benchmark grade exceeds its trigger price, a levy is imposed at a rate equivalent to 50% of the excess expressed as a percentage of that schedule price. This percentage levy is also applied to the schedule prices of all grades of that type of meat and deductions made from producers' returns accordingly. The levies are paid into the Meat Income Stabilisation Account and credited as appropriate to the sheepmeats and beef sub-accounts of that account. When funds in the account are exhausted, advances can be made from the Reserve Bank at an interest rate charge of 1% per annum. Credit balances in the account earn interest at a rate of 1% per annum.

New Zealand Meat Producers Board.

1.10.4 Supplementary Minimum Prices for Meat

The Supplementary Minimum Prices Scheme for Meat, introduced for the 1978-79 and 1979-80 meat seasons has been extended for another year. The Government will continue to underwrite meat export schedule prices to producers, supplementing those set under the meat-income stabilisation arrangements. The supplementary minimum prices (SMPs) are related to the benchmark grades of meat used for the meat-income stabilisation arrangements administered by the Meat Producers Board. These prices for the 1979-80 meat season are:

	c/kg (at schedule)
Lamb	86
Mutton	40
Manufacturing beef	100
Prime beef	110

Similar prices will be set to 1980-81 at levels no less than those listed above.

The Supplementary Minimum Prices Scheme for meat applies only to export carcass meat from sheep and cattle, excluding bobby calves. If the lowest regional meat exporters' schedule price for nay benchmark grade of meat, including any supplement paid by the Meat Producers Board under its meat-income stabilisation arrangements, is below the SMP for that grade, the board will establish SMPs for other grades of that type of meat. The board will then supplement producer prices up to the SMP levels by making supplementary payments from the Government-financed Supplementary Minimum Meat Prices Account maintained by the board at the Reserve Bank.

Ministry of Agriculture and Fisheries: Meat Producers Board

1.10.5 Wool-income Stabilisation Arrangements

Under its Minimum Prices Scheme the Wool Board sets a table of minimum prices for all types of shorn wool and dead wool produced in New Zealand. Other than in exceptional circumstances, only one table of minimum prices shall be set in any one season, with movements in the target average of the table limited to a decrease of 5% and an increase of 10% on that of the previous season.

When the sale price of any wool falls below its appraised minimum price, the board will supplement that price up to its minimum level through a supplementary payment made from the Minimum Wool Prices Funding Account held at the

Reserve Bank of New Zealand. The board may also provide minimum price support by purchasing the wool using its own funds and any borrowing for that purpose, or by a combination of both supplementation and purchasing. Should the funds in the account become exhausted, advances can be made from the Reserve Bank at an interest rate of 1% per annum.

The Minimum Price Funding Scheme provides for a minimum price funding levy (currently set at 2%) to be imposed on all shorn wool and dead wool produced in New Zealand (i.e. on all wool other than dag wool, slipe wool, fellmongered wool, and wool on the skin). The levy is paid into the minimum Wool Prices Funding Account. Credit balances in the account earn interest at a rate of 1% per annum.

There is provision for the Wool Board to borrow from the funding account for wool trading purposes approved by the Minister of Agriculture. Interest at a rate of 1% per annum is payable to the credit of the account on such borrowings.

Under the Individual Grower Income Levy Retention Scheme when the average price of wool at auction exceeds the trigger price set at the beginning of that season, a further levy called the Grower Retention Levy is introduced on all shorn wool and dead wool. The rate of levy is equivalent to 50% of the amount by which the average price at that auction exceeds the triger price, expressed as a percentage of that average price. The levy collected is paid into the Wool Income Retention Account at the Reserve Bank, held on behalf of the grower who paid it, and refunded to him under certain conditions.

Wool Board

1.10.6 Supplementary Minimum Prices for Wool

The Supplementary Minimum Prices Scheme for Wool, introduced for the 1978-79 and 1979-80 wool selling seasons, has been extended for the 1980-81 season. The Government will continue to underwrite wool prices to supplement those set under the wool-income stabilisation arrangements. The supplementary minimum price for wool for the 1979-80 season is based on an average price of 235 c/kg (greasy) at auction floor in New Zealand. A similar price will be set for 1980-81 at a level not less than that set for 1979-80.

The Supplementary Minimum Prices Scheme for wool applies only to shorn wool and dead wool. The rate of supplement payable by the Government through the Wool Board is equivalent to the amount by which the 'average' price of such

wool at auction is below 235 c/kg, expressed as a percentage of that 'average' price, provided this percentage is 0.5% or greater. This rate of supplement is applied to the gross proceeds from the sale of qualifying wools and paid to growers through brokers or directly by the Wool Board as appropriate. The Board will make these supplementary payments from the Government financed Supplementary Minimum Wool Prices Account at the Reserve Bank of New Zealand.

The supplementary minimum price of 235 c/kg for 1979/80 is an average price. The guaranteed price to growers for any one lot of wool under the scheme will vary according to several factors including that wool's type and yield.

Ministry of Agriculture and Fisheries
and New Zealand Wool Board

1.10.7 1979/80 Dairy Beef Market Guarantee Scheme

To encourage the retention of dairy beef calves, the 1979 November-December national average price for 'spring-born' dairy beef weaners is being guaranteed at a minimum of $70 per head. If the average price of the dairy-beef weaners sold at auction during November and December is below $70 per head, every eligible calf will attract a supplementary payment equal to the difference between the average price and $70, irrespective of the weight or the sale price of the particular animal, and whether or not the animal is sold.

The scheme covers beef calves of dairy origin born between 1 June 1979 and 31 May 1980 on a dairy farm that has supplied more than 3000 kilograms of milkfat during November 1979, while those born between 1 November 1979 and 31 may 1980 are to be registered during June 1980.

The payments will be made to whoever owns the calves at midnight on 31st October 1979 with regard to the first registration period, and on 31 May 1980 with regard to the second period.

The claimant need not necessarily be a dairy farmer, but may have purchased calves to rear them.

Ministry of Agriculture and Fisheries

1.10.8 Farm Income Equalisation

Refer to Taxation Section.

1.11 TRANSPORT

Refer to Section 4.19 Motor Vehicle, Fuel, Licensing and Road user Charges.

1.12 FARM LABOUR

1.12.1 Farm-Employee Housing

To help alleviate the remoteness which confronts some farm workers and their families, finance is available to farmers to build or buy houses in nearby townships to accomodate their employees who prefer to live away from the farm. The farm worker and his family will in this way have better access to schooling and other social amenities. Generally, finance will be made available only to farmers engaged full-time on their own properties, who do not already have suitable accommodation on the farm for their employee. Normal terms and the existing conditions of lending will apply, and the proposed dwelling must be located within a workable distance from the farm.

Rural Banking and Finance Corporation

1.12.2. Farm Employment Scheme

This scheme is aimed at encouraging the creation of additional jobs in the farming sector and provides a wage subsidy for each person engaged through the Department of Labour.
All farmers in New Zealand are eligible to participate in the scheme provided:

- only workers referred by the Department of Labour are engaged under the Farm Employment Scheme.
- prior approval to engage staff has been obtained.
- the vacancy must be for a full-time job additional to normal requirements. For seasonal activities it must be additional to the number of jobs over the corresponding period in the previous year.
- the vacancy must be for a full-time job additional to normal requirements. For seasonal activities it must be additional to the number of jobs over the corresponding period in the previous year.
- award wages must be paid.
- the vacancy must not have been created by the discharge directly or indirectly of another worker since 31 October 1978.

The amount of the subsidy is $40 per person per week for up to 6 months starting from the date the person is engaged.

Department of Labour

1.13 GENERAL

1.13.1 Estate Duty

The Rural Bank of New Zealand assists with loan finance to pay estate duty in cases of genuine need. The bank's normal lending criteria apply to such loans. Preference for the available finance is given where a beneficiary (such as a widow or a member of the family) intends to continue personally farming the property; and it has been established, to the satisfaction of the bank, that the loan is necessary for the retention of sufficient land to constitute an economic family holding.

Rural Banking and Finance Corporation

1.13.2 Exemption of Matrimonial Homes from Estate Duty

When a matrimonial home which is also a farm homestead passes, on the death of a farmer, to the surviving spouse, the value of the home is exempt from estate duty. Because it is often not practicable for a farmer to leave the homestead to his wife, there is available an exemption of the wife's entitlement under the will or the value of the matrimonial home, whichever is the lesser. The exemption can be claimed even if the home is on land owned in partnership by the deceased farmer and his wife (or anyone else).

Inland Revenue Department

1.13.3 Estimation of Provisional Taxation

Refer to Section on Taxation.

1.13.4 Industrial Lending

The main categories of lending to agricultural industries at present are for

- the establishment of new types of industry and the expansion of existing industries which have potential export and/or regional-development prospects;

- the establishment of veterinary clinics or other activities where the project will service the rural sector; or
- the provision of packing sheds, cool stores, grain dryers, storage,wool-processing facilities, and suchlike.

Rural Banking and Finance Corporation

1.13.5 Rural-Export Suspensory Loan Scheme

Suspensory loans are granted to producers and processors to promote the export of agricultural and horticultural products not previously exported, or of products with limited current exports, whose markets can be further developed or expanded.

Up to 40% of the qualifying expenditure may be lent for suitable projects. On the achievement of an export target, the loan is converted to a grant, which is treated as assessable income for income-tax purposes. That income may, however, be spread to include the 2 years following the year in which the loan is converted to a grant.

Additional finance, though not eligible for the grant, may be provided under normal industrial or farm-development lending policies.

For tax purposes the amounts written off will be regarded as assessable income but spread equally over the year of remission and next 2 succeeding years.

Rural Banking and Finance Corporation

1.13.6 Suspension of Government Inspection Fees

In order to relieve farmers from the payment of various Government service charges associated with the meat, dairy, seed and other industries, the Government will, until further notice, suspend the payment of these charges from 1 October 1978.

The full list of cancelled inspection fees is:

Meat
Farm Dairy Instruction Levy*
Dairy Produce Grading
Seed Certification
Seed Testing
Livestock Export Inspection
Game Inspection
New Zealand-grown fruit and vegetables

Fish Inspection
Plant material for export
Honey

* Although termed "instruction" this includes inspection of dairy plant, equipment and buildings to ensure hygiene standards are maintained, as well as instruction on milking techniques, milk handling and storage, cleaning and efficiencies of milking.

Ministry of Agriculture & Fisheries

1.13.7 Agricultural Contractors Loans

Loan assistance is given to agricultural contractors who are engaged full-time in the business and who derive the bulk of their gross income from farm contracting. Loans, usually long-term, are granted for the purchase of land or buildings, or for the erection of buildings suitable as a base area of operations. Housing assistance is included.

Typical of the contractors helped so far are weed sprayers, well drillers, and harvesters. Special emergency assistance may be available for the contractor who is in difficulty because of a drop in the meat and wool farmers' income. Special plant loans are also available.

Rural Banking and Finance Corporation

1.13.8 Electricity

Two types of assistance are available through the Rural Electrical Reticulation Council:

- *To Supply Authorities* – Where a supply has been requested by a consumer and it would be uneconomic for the supply authority to provide a supply, despite a guaranteed minimum-revenue from the consumer, the authority may apply to the council for a subsidy. Such a subsidy, if approved by the council is based on the annual running cost of the line and is payable for a period of 10 years, extendable (on application) to a maximum of 20 years.

  No subsidy is available on short extensions, that is under 1 kilometre, or where the annual subsidy is estimated to be under $200. Full details regarding eligibility for any subsidy can be obtained from your local Power Board.

- *On Generating Plants* – For areas too remote for connection to the public supply, a subsidy can be claimed on a private generating plant:

  Diesel plants– an annual sum which if invested at 5½% per annum, will recover the full capital cost of the plant, plus installation costs, in 7 years.

  Hydro plants – an annual payment of 5% on the total capital cost of the plant for a period of 10 years.

No assistance is available towards the initial financing of the plant, and both the fuel (if applicable) and maintenance costs are the responsibility of the owner. A condition is that the applicant must obtain the council's approval to a subsidy before arranging to purchase the plant.

Ministry of Energy

1.13.9 Electricity - South Island Concession

An electricity concession of 25% of qualifying power consumption is available in the South Island. The scheme has been designed to encourage the establishment, expansion or retention of industry in the South Island. However, it also covers primary industry, which is electricity intensive and closely allied to manufacturing, e.g. environmentally controlled horticulture and chicken raising. To qualify for assistance new industries must use at least $5,000 worth of electricity a year and extensions not less than $1,000 worth a year. Full details of the assistance available can be obtained from any electrical supply authority.

Ministry of Energy

1.13.10 Safety Frames on Tractors

Refer to Taxation Section.

1.13.11 Intensification of Land Use on Small Holdings

The Rural Bank's development policy has been extended to enable development loans to be made available to those owners of small holdings wishing to undertake worthwhile productive development, particularly where there is emphasis on export-orientated horticultural production.

Eligible development expenditure will, in general, be confined to improvements of a permanent and productive nature such as drainage, clearing, fencing, grassing, plantings, water supply, irrigation, essential farm buildings for protecting plant or packing facilities. Apart from bona-fide farm workers, finance is not available for the initial purchase of land or for stock or the erection of a new house.

Applicants must provide land and meet immediate housing needs, be able to demonstrate their capability and expertise to competently manage the unit, and their total income from all sources must be clearly sufficient to service all commitments, after maintaining the property and meeting all living expenses.

The loan term will vary according to the type of development and ability of the proposition to repay, and will bear interest at 9%, but with a rebate of 6% for the first three years and 7½% for the second three years.

Rural Banking and Finance Corporation

1.13.12 Rural Landscape Protection

Farmers, with areas of native bush, wetland, and other important landscape on their farms, which they would like to see preserved, can achieve this by an open space covenant.

An Open Space Covenant is an agreement between a private landowner (or leaseholder) and the QEII Trust. The owner voluntarily agrees, while still retaining title to the land, that it will be managed in the way set out in the Covenant. The agreement binds not only the existing owner, but any subsequent owners, as it is registered against the title to the land. It can be in perpetuity or for a fixed period of years.

Some advantages of the convenant scheme are:

- A covenant will ensure that the area of land is kept as the present landowner feels it should, even though ownership may change.
- The Trust can negotiate with the owner terms that may assist the owner maintain the land.
- If land is set aside for productive use, its valuation will be reviewed and this may affect the level of rates.
- The owner still retains title to the land.
- The owner becomes an automatic member of the Trust.

Queen Elizabeth II National Trust

SECTION 2

FARM CAPITAL AND FINANCE

2. FARM CAPITAL AND FINANCE

2.1 CAPITAL

2.1.1 Land and Buildings

Where a recent Government Valuation is available this is probably the best guide there is to the overall value of the property. If the Government Valuation is three or four years old then some adjustment of the figures may be necessary. This should be done in the light of the movement in land values since its release and include any major improvements made on the farm since the last Valuation.

For budget purposes this is split up between Land and Buildings. If varying grades of land are found on the property then the land value may be split up into several sections valued differently, the total of these summing to the overall Paddock Value. The Capital Value is usually also expressed as a figure per hectare of the farm, and per stock Unit carried on the farm, or per unit of production (e.g. per kg butterfat) for comparative purposes.

2.1.2 Stock

The numbers used in assessing capital tied up in stock should include only that stock which is considered basic to the running of the farm. Generally this will be the stock that is normally wintered (say on hand in July), and is usually the breeding stock plus replacements; although in a trading situation this will include that trading stock which could be replaced with breeding stock and replacements able to be carried on the farm under normal farming practice.

Value used per head should be clearing sale or ewe fair values interpreted on a reasonably conservative basis.

The overall carrying capacity in stock units can be determined from these stock numbers.

2.1.3 Plant

Valuations of plant should also be made on the basis of local clearing sales interpreted conservatively. The up-to-date price list for new equipment is very useful in assisting with these assessments.

2.1.4 Working Capital

This is a part of the necessary capital needed to run the property but is often forgotten by people when purchasing a property. On sheep farms and certain types of horticultural properties (e.g. tobacco) income is concentrated in one part of the year but expenses must be met throughout the year and money for this purpose must either be set aside or borrowed. On dairy properties incomes are fairly evenly spread and this difficulty is not met to the same extent.

There are two sources of working capital:

- Farmer's own cash.
- Borrowed money. In this case working capital is largely provided by stock firms and Banks. The amount of working capital needed for any one particular farm is a function of total expenditure and the time pattern of income.

With stock firm and bank advances interest is charged on the day to day balance of the account hence the average level of the advance is the working capital figure required for budget purposes. It should not be forgotten however that some farming enterprises reach a peak of advances at certain times of the year much greater than their average level. This may well present financial problems which are not immediately obvious when the average figure is assessed.

Working capital requirements are difficult to assess accurately. Each property and each farming type tend to have their own individual characteristics. The table below presents a rough guide only for student use. It is constructed by considering the working capital requirements as a percentage of the value of land, buildings, stock and plant.

It must be remembered that these percentages approximate the total fluctuation in working capital during the season, and do not necessarily represent the amount which must be borrowed. Neither do they represent the average requirement, but merely the maximum facility which must be available albeit only for a short time.

It must also be considered, that this type of calculation will relate the working capital requirement strongly to the value of land, which is not generally a factor in working capital at all. Therefore these percentages should be treated as guidelines only, and adjusted for the circumstances of:

- the individual farmer and his management system.
- the locality value of the land involved.

The percentage method should only be used where NO OTHER more accurate method (such as monthly cash flow computation) is practicable.

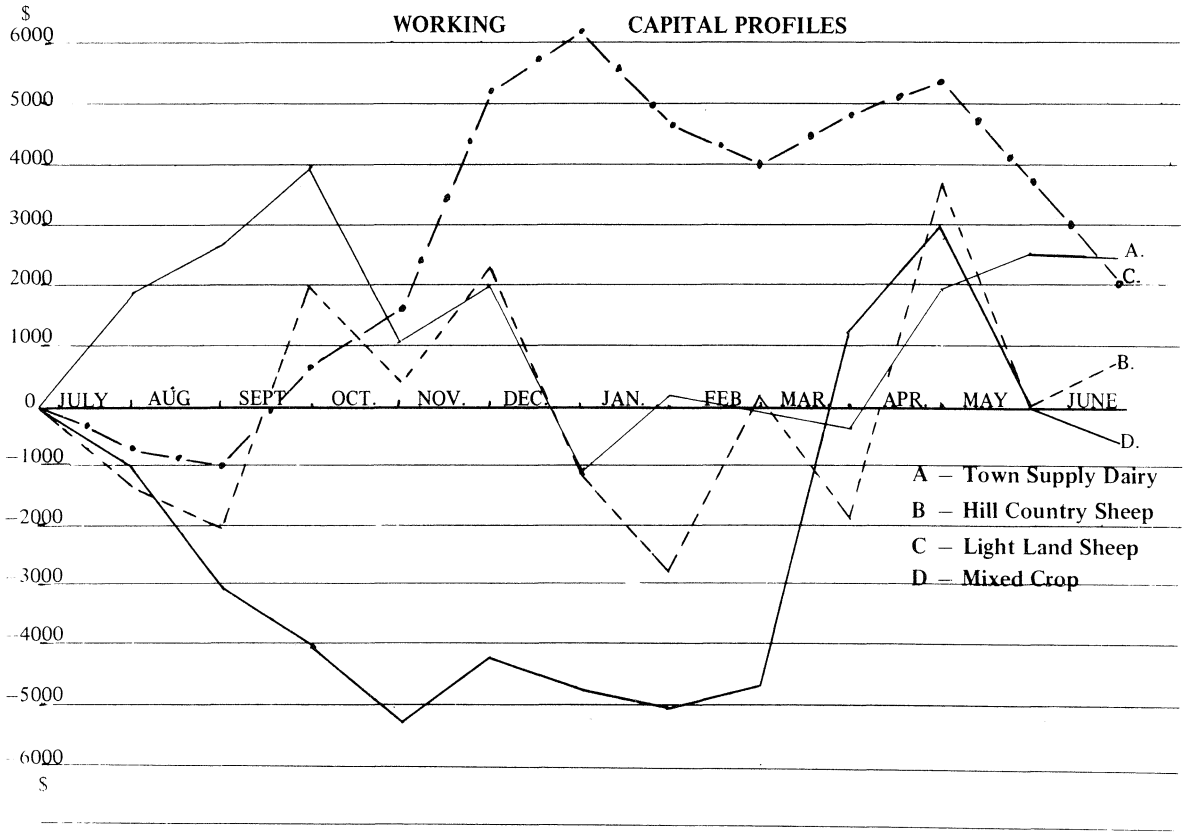
Table 1 Working Capital Requirements of Various Farm Types

Farm Type	Percentage of Value of Land, Building Stock and Plant
Dairying (Intensive)	2%
Dairying and Mixed	3% – 4% depending on comparative size of dairy enterprise
Sheep and Cropping	4% – 5% depending on amount of crop and small seeds.
Sheep (Intensive Fat Lamb)	5%
Sheep (Hill Country Store)	6%
Poultry	5%
Market Gardening	5% – 10% depending on spread of sales
Orchard or Nursery	10% –15% depending on spread of sales
Tobacco and Hops, etc.	10% – 15% depending on spread of sales

At the end of the set out of capital a summary is usually made showing the total capital involved in the farm. This figure is used later to assess efficiency and it is a very useful guide for later work on farm finance.

2.1.5 Working Capital Profile

This is the term used to describe the way a farmer's net monthly balance of income and expenditure moves over the period of a year. It is important for students to realize that although two farms may have the same average working capital requirements the monthly patterns of these may be entirely different. Some examples of different working capital profiles are illustrated in the following graph.


WORKING CAPITAL PROFILES
$
6000
5000
4000
3000
2000
1000
0
−1000
−2000
−3000
−4000
−5000
−6000
$
JULY
AUG
SEPT
OCT.
NOV.
DEC.
JAN.
FEB
MAR.
APR.
MAY
JUNE
A.
C.
B.
D.
A – Town Supply Dairy
B – Hill Country Sheep
C – Light Land Sheep
D – Mixed Crop

2.2 SOURCES OF FINANCE

(In alphabetical order)

2.2.1 Building Societies

May lend to build a dwelling on a farm – policies and interest rates vary with the institution. Local example – rate 14%, term 10 years, first mortgage.

2.2.2 Dairy Companies

Some Dairy companies lend to shareholding suppliers. Security: unsecured, lein on milk fat, or I.W.S.

Loans for seasonal finance or medium term (development stock).

Term: generally on demand, occasionally up to 3 years, interest rate about 12%.

2.2.3 Lands and Survey Department

Land and Settlement Board Finance

Money is available for the development and settlement of Crown Land over and above stipulated deposit or cash contribution required to take over the farm, stock and plant.

Deposit requirements – 10% improvements, 25% stock and plant.

For full details, refer to Section 1.2.4

Marginal Lands Board Finance

Government lender of last resort for properties that are not economic, but are potentially so. Concessional interest rates available. For full details, refer to Section 1.3.10

2.2.4 Life Insurance Companies

Policies vary from company to company.

Two main forms of finance are –

Long term mortgage finance – generally up to 50% of valuation, 10–30 year table mortgage, 14%, mortgagor expected to have adequate life cover for the principal.

Loans against policies – 12%.

2.2.5 Rural Banking and Finance Corporation

General Policy: To consider any viable farming or fishing requirement subject to Corporation policy and availability of funds.

Specific Policies:

(i) Farm Settlement

Policy	–	Refer to "Assistance and Incentives to Farmers", Section 1.2.1.
Terms	–	Up to 25 year table first mortgage (and first I.W.S. over stock where necessary). Interest 9% rebated to 7½% for first 3 years, reviewed every 3 years.
Amount	–	Up to 2/3 security margin within the following guidelines. Sheep and cattle farms $95,000 to $125,000. Dairy farms $70,000 to $95,000. Mixed cropping farms $95,000. Orchards, poultry, pig and other intensive enterprises $35,000 to $70,000.

(ii) Special Settlement Loans

Policy and terms	–	Refer to "Assistance and Incentives to Farmers", Section 1.2.2.
Amount	–	Guideline $150,000 plus current account.

(iii) Stock Loans

Policy	–	To lessees, sharemilkers etc. Refer to "Assistance and Incentives to Farmers", Section 1.3.6.
Terms	–	5–7 year table loan secured by I.W.S. over stock (and plant where necessary). 60% security margin. Interest rate 9% rebated to 6% for first 3 years, and 7½% for second 3 years.

(iv) Development

Policy	–	Medium to long term table mortgage lending to most development propositions.
Terms	–	Interest 9% rebated to 6% for first 3 years and 7½% for second 3 years.

(v) Development Encouragement

Policy – 15 year loan for initial development of unimproved or reverted land.

Terms – Interest 9% rebated to 6% for the first five years and 7½% for the next five years. However provided the development for which loan has been approved is carried out and maintained to the satisfaction of the Rural Bank, and ownership of property is retained, the mortgagor will not be required to pay any interest.

Amount – Maximum of $250 per hectare.

(vi) Refinance

Policy – Hard core debt, and estate duty.

Terms – Table mortgage at 11% usually medium term.

(vii) Industrial Lending

Policy – Refer to "Assitance and Incentives to Farmers", Section 1.13.4.

Guidelines – Up to $500,000, 20 year table mortgage, 11% interest.

(viii) Fishing Loans

Policy – Parallels to farming policy i.e. purchase, special fishing boat loans, refinance, re-conditioning, change of fishing method, with table mortgage loans up to ⅔ security value and a basic interest rate of 9% up to $25,000, and 11% over $25,000.

(ix) Other

A wide range of other areas are covered. Information on these should be sought from the Rural Bank.

2.2.6 Solicitors and Trust Companies

- The Trustees Act defines where and to what extent these funds can be invested (e.g. first mortgage on land up to ⅔ of a registered valuers value) unless there are special provisions in the will of Trust investment which govern investment.
- Provide medium term debt finance (3 to 5 years) often renewable or at least able to be refinanced.
- Solicitors generally lend a flat mortgage, some trust companies may include repayment provisions.
- Generally lend up to 50% of valuation on first mortgage or on second mortgage with Rural Bank guarantee.
- Interest rate varies from 12% – 15%.

2.2.7 Stock and Station Agencies

Have agreed to limit their lending to seasonal only (13½% for arranged finance, 15% for unarranged finance) but some medium term financing of stock and plant is done nevertheless – generally 2–5 year term. Loan facilities are very much on a personal basis and often unsecured, but an increasing trend to take an I.W.S. or mortgage.

2.2.8 Trading Banks

Medium term: Plant purchase etc. at 14%. Occasionally land purchase in exceptional circumstances. Security generally mortgage, I.W.S.

Bridging finance: 15% on first mortgage.

Seasonal overdraft: 10½–13% on a daily basis charged half yearly, plus a service commitment fee of about ½% charged on the maximum arrangement. Security required – usually Life insurance, stock, mortgage.

2.2.9 Trustee Savings Banks

Policy is not to earn profits for shareholders, but to provide community service under the control of local trustees. Farm lending policy varies with the institution, but one local example has as its policy:

- Loans up to 50% of valuation on first mortgage (no limit).
- Terms: 25 years reducing instalment mortgage.

– Interest: Existing Clients 13%
New clients 14%, 3 year bridging with refinance possible if they "play the game".

2.3 FEES AND COMMISSIONS

This section is designed to assist in the assessment of various Fees and Charges associated with the purchase and sale of land such as valuation, surveying, real estate and legal costs.

It also covers the costs or charges of various Institutes and Societies that offer services to the rural community, such as farm consultancies, rural valuers and farm accountants.

2.3.1 Accountancy Fees

See 'Administration', in the Farm Expenditure section.

2.3.2 Architectural Fees

(i) **New House:** for a new house costing greater than $16,000 the minimum scale is 6.6 percent of the capital cost of the building. This includes the full range of services from sketch plan through to supervision of any final alterations.

For country work there is usually a travel disbursement usually on a 'flat rate'.

(ii) **Alteration to Existing Buildings:** There is an additional fee of 2 percent of the capital cost added to the above.

2.3.3 Consultancy Charges

N.Z. Soc. of Farm Management Recommendation on Professional Charges.

(i) Farm advisory services – Where professional services are based on regular consultations and visits to farm properties:

Maximum fee $35.00 per hour
Minimum fee $15.00 per hour

Actual time to be charged includes time on farm, preparing reports, and undertaking any special investigations.

(ii) Consultations, Special Projects, Negotiations – undertaken in a professional capacity. Includes farm inspections, investigations, preparation of reports, where no instruction for regular visits have been received.

Maximum fee $40.00 per hour
Minimum fee $20.00 per hour

(iii) Farm Supervision and Administration – Where consultants take responsibility for supervising management, labour, development, and authorisation of expenditure.

Maximum fee $40.00 per hour
Minimum fee $15.00 per hour

(iv) Appearance in Courts – or before Land Valuation Committees, Special Tribunals, Arbitrations and Umpires Fees.

Maximum fee $50.00 per hour with a minimum charge of $100.00 for attendance.
Minimum fee $25.00 per hour.
Travelling expenses as per Government rates.

Lincoln College operates a commercial Farm Advisory Service which provides a full consultancy, advisory, and rural valuation service to the public.

Over a number of years the Farm Advisory Service has built up a considerable number of contacts with Insurance Companies, Trustee Agencies, other lending organizations, solicitors and private individuals.

The service includes:

(i) regular advisory services to farmers
(ii) executive control and administration of properties
(iii) advice and preparation of reports on specific matters
(iv) valuations, reports and loan recommendations on rural properties.

The consultancy fees are based on an average of $160 per day, and valuation charges are according to the N.Z.I.V. scale.

Enquiries should be addressed to: *The Officer in Charge,*
Farm Advisory Service,
Lincoln College,
Canterbury.

The Lincoln College Council has established the Property Management Service as an independant body to encourage and assist the formation of sound farming agreements between land

owners and qualified young people. The Service will supervise the fulfillment of the contracts and the preservation of the farming assets.

Land prices have increased rapidly in recent years. Increasing land values create a formidable barrier for potential farm owners to overcome. Despite the difficulties young people continue to enter the farming industry. The Property Management Service aims to facilitate and increase the rate of farm settlement.

A number of land owners have already formed successful agreements with suitable people throughout New Zealand. There are many more situations where agreements could be beneficial to land owners and young farmers alike.

2.3.4 Legal Fees

Vendor and Purchaser

(i) Purchaser's Solicitor.

- where the consideration does not exceed $4000: $60.00
- where the consideration exceeds $4000 a charge of $60.00 plus the following percentages of the balance:

	$		$	%
from	4 000	to	7 800	.77
over	7 800	to	31 000	.57
over	31 000	to	48 000	.47
over	48 000	to	63 000	.38
over	63 000	to	118 000	.28
over	118 000	to	240 000	.15
over	240 000	to	390 000	.11
over	390 000	to	800 000	.07
over	800 000	to	1 000 000	.05

All fees to be rounded to the nearest dollar.

For any transaction where the consideration exceeds $1 000 000 charges shall be assessed in accordance with Schedule I but with a maximum of $1247.

(ii) Vendor's Solicitor

- where the consideration does not exceed $4000: $46.00

- where the consideration exceeds $4000 a charge of $46.00 plus the following percentages of the balance:

	$		$	%
from	4 000	to	7 800	.48
over	7 800	to	31 000	.33
over	31 000	to	48 000	.29
over	48 000	to	63 000	.23
over	63 000	to	118 000	.17
over	118 000	to	240 000	.07
over	240 000	to	390 000	.05
over	390 000	to	800 000	.04
over	800 000	to	1 000 000	.025

All fees rounded to the nearest dollar.

For all transactions where the consideration exceeds $1 000 000 charges shall be assessed in accordance with Schedule I but with a minimum of $692.00.

- Where the same Solicitor acts for both Vendor and Purchaser, Vendor's Solicitor's and Purchaser's Solicitor's costs shall be charged to each client respectively.
- Where there are collateral transfers, costs in accordance with the scale shall be charged for each transfer, the consideration being apportioned as nearly as possible according to the respective values of the land transferred.

The following figures are examples of Fees worked out from the above scales.

N.B. The Purchaser's Solicitor's fees also apply to Mortgagee's Solicitor's fees.

Consideration	Purchaser's Solicitor's Fee	Vendor's Solicitor's Fee
$	$	$
4 000	60.00	46.00
5 000	68.00	51.00
10 000	102.00	72.00
20 000	159.00	105.00
30 000	216.00	138.00
40 000	264.00	167.00
50 000	309.00	195.00
60 000	347.00	218.00
70 000	378.00	237.00
80 000	406.00	254.00

90 000	434.00	271.00
100 000	462.00	288.00
120 000	515.00	320.00
130 000	530.00	327.00
140 000	545.00	334.00
150 000	560.00	341.00
160 000	575.00	348.00
170 000	590.00	355.00
180 000	605.00	362.00
190 000	620.00	369.00
200 000	635.00	376.00
250 000	706.00	409.00
300 000	761.00	434.00
350 000	816.00	459.00
400 000	867.00	483.00
500 000	937.00	523.00
600 000	1 007.00	563.00
700 000	1 077.00	603.00
800 000	1 147.00	643.00
And thereafter at the rate / $1000 of	.50	.25

(iii) Transfers and Assignments of Chattels (where included in the sale of a business), Goodwill, Mortgages, Profits A Prendre, Leases and Licences and all other Interests in Land.

The vendor's solicitors scale is to apply to all the transactions under this heading but does not apply to Unit Flats and the transfers and assignments of Choses in Action not otherwise specifically mentioned, chattels not included in the sale of a business and Ships, Patents, Trademarks and Company Shares.

(iv) Stamp Duty

This is charged at a flat rate of 1 percent of the purchase price of the property to the purchaser. For 'Stamp Duty Exemption on First Farms' see Section 1, 'Assistance and Incentives for Farmer's.

(v) Formation of Farming Companies, Partnerships and Trusts.

The actual costs involved vary greatly depending on who is employed to do the formation and the complexity involved, since most company, partnership and Trust formations involve individual circumstances.

Lessor and Lessee, and Bailor and Bailee

(i) Simple Tenancy Agreements

Lessor's Solicitor:

- Where rent does not exceed $12.00 per week: $17.00
- Where rent does not exceed $40.00 per week: $20.00
- Where rent exceeds $40.00 per week: $30.00

Lessee's Solicitor:

60% of the scale costs allowed to Lessor's Solicitor.

(ii) Memoranda of Lease, Deeds of Lease, Agreements to Lease and Bailments for any term not exceeding ten years, inclusive of any right of renewal.

Lessor's Solicitor:

(a) Where the rent does not exceed $1000 p.a.: $50.00

(b) Where the rent exceeds $1000 p.a.: a charge of $50.00 plus the following percentages:

	$		$	%
from	1 000	to	1 350	3.00
over	6 700	to	6 700	1.39
over	6 700	to	500 00	1.25

All fees to be rounded to the nearest dollar.

For any transaction where the annual rental exceeds $500,000 charges for the whole transaction shall be assessed in accordance with above schedule but with a minimum of $6 301.00.

Lessee's Solicitor:

60% of the scale costs allowed to the Lessor's Solicitor.

For terms exceeding ten years, or for those with a right of renewal which would make the total term greater than ten years, the Fees for both Lessor and Lessee's solicitors are as above plus 50%.

(iii) Renewals of Leases and Agreements to Lease, and Bailments.

Lessor's or Bailor's Solicitor:

	$
Rental not exceeding $800 p.a.	24.00
Rental not exceeding $1600 p.a.	36.00
Rental not exceeding $2400 p.a.	48.00
Rental not exceeding $4800 p.a.	72.00
Rental not exceeding $7200 p.a.	96.00
Rent exceeding $7200	120.00

Lessee's or Bailee's Solicitor

60% of the above.

(iv) Consents by Lessor or Mortgagee and Deeds of Covenant Required by Lessor or Mortgagee.

	$
Consent	24.00
Deed of Covenant	24.00
Combined Fee for both of above	48.00
Lessee's or Mortgagor's Solicitor's Fee for perusal of the Deed of Covenant	12.00

(v) Commission on Collection of Rent

Commission on collection of current payments of rent — 5%. The charge covers collection and accounting to clients but not general administration or management.

Mortgagor and Mortgagee

(i) Memoranda of Mortgage

Mortgagee's Solicitor:

In accordance with the scale shown for Purchaser's Solicitor (under Vendor and Purchaser – see table of examples given) treating the sum secured as the consideration.

e.g. Total purchase price $100 000 of which $40 000 is to be Mortgage. Purchaser pays $462.00 on the total purchase price, plus $264.00 on the Mortgage sum.

Mortgagor's Solicitor

One half of the Mortgagee's Solicitor's costs.

N.B. When the same Solicitor is acting for both Mortgagor and Mortgagee, the only fee chargeable to either or both parties shall be the appropriate scale fee as for Mortgagee's Solicitor.

(ii) Collateral Securities

For the principal mortgage full scale costs shall be charged.

For collateral securities

Mortgagee's Solicitor:

	$
For first $400 of consideration in each security	24.00
For every additional $200 of part thereof	2.50
Maximum charge for each Collateral security	100.00

Mortgagor's Solicitor:

One half of the Mortgagee's Solicitor's costs.

The consideration upon which the forgoing fees shall be

calculated shall be the amount secured by the principal security or if the collateral security is a life policy the amount assured by the policy, whichever is the lesser.

But if the collateral security is a mortgage of a life policy or policies collateral to a Memorandum of Mortgage or other security where the collateral security can be taken on behalf of a Mortgagee on a settled printed form of security supplied by the Mortgagee without substancial re-drafting thereof:

Mortgagee's Solicitor:

Where the amount secured by the mortgage or assured by the policy or policies whichever is the lesser:

	$		$	$
Up to	4 000			24.00
over	4 000	to	7 999	36.00
over	8 000	to	20 000	48.00
over	20 000			72.00

Mortgagor's Solicitor:

One half of the Mortgagee's Solicitor's Fees.
Where it is not clear which is the "principal security" the following rules shall apply:

> The principal security is the security containing land of greatest value. If only one security is over land then such security is the principal security. If no securities are charged over land or an interest in land, the principal security is that of greatest value.

(iii) Variations of terms of Mortgages and other charges

Mortgagee's Solicitor:

On the amount secured in the original Mortgage or if any Variation of Mortgage has been registered, then on the amount of the principal sum shown due in the latest registered Variation altering such principal sum:

	$		$	$
Up to	4 000	to		24.00
over	4 000	to	20 000	48.00
over	20 000			72.00

Mortgagor's Solicitor:

One half of the Mortgagee's Solicitor's fee with a minimum fee of $24.00.

Affidavit Renewing Registration of instrument: For preparation, execution and filing: $24.00

In the case of an increase of the principal sum the costs in respect of the amount of the increase shall be the appropriate scale fees as for Mortgages.

(iv) Releases and Discharges of Mortgages and Other Charges.

Mortgagee's Solicitor:

On the amount secured in the original mortgage or if any Variation of Mortgage has been registered then on the amount of the principal sum shown due in the latest registered Variation altering such principle sum:

	$		$	$
Up to	4 000			19.00
over	4 000	to	20 000	29.00
over	20 000			38.00

Mortgagor's Solicitor:

Same as above.

If two or more mortgages are being discharged simultaneously by the same mortgagee then a release fee as above shall only be charged on one release only, and a fee of $12.00 shall be charged on each of the other releases.

Partial Releases and Memoranda of Reduction:

The fee to be charged shall be as for the release of a Mortgage originally securing the sum by which the Mortgage debt is reduced, with a minimum of $24.00.

The above shall not include the fees payable for production of documents.

(v) Commission on Collection of Mortgage Interest and Instalments.

Commission on collection of current payments of:

Interest on flat Mortgages ..... 5 percent

Instalments containing principal and interest, 5 percent on the interest (or estimated interest) content of the instalment plus a discretionary percentage up to 2½ percent on the principal, according to the relative amounts of principal and interest.

The foregoing charges are to cover collection and account to clients but no general administration or management, nor preparation of statements involving calculations of principal and interest under Mortgages.

2.3.5 Real Estate Charges

(i) Sales:

- On the sale of all property, freehold or leasehold, and including farms, businesses and motels there shall be a charge on the consideration

Basic fee	$100
On the first $100,000	2.75%
Thereafter	1.5 %

plus in the case of leasehold property, one half of the annual ground rental pertaining at the date of sale.

- Subdivisions. Where the agent advises the vendor from the commencement of planning for subdivision, generally assisting in all phases, subsequently selling the lots – 5 percent of the price of each lot sold.
- Farm Stock, Implements and Farm Chattels. On live and dead stock and farm chattels sold in conjunction with real property, either the subject of a separate valuation or included in the price as a going concern, on the purchase price 2.75 percent.

  On live and dead stock and chattels sold by itself, on the purchase price 5 percent.

(ii) Letting, Leasing and Assignment:

- Farm Properties. (Including assignment of lease), on the average annual rental 10 percent.

(iii) Miscellaneous.

- Property Management. On receiving of rent and/or interest requiring receipting and accounting of such monies through the Trust Account, on all money received 5 percent.

  Acting under written authority or instruction where the agent supervises the proerty concerned including the receiving of rent/interest requiring the receipting and accounting of such moneys through the Trust Account, on all moneys received 7.5 percent.

  Acting under written authority or instruction where the agent arranges and supervises repairs and renovations on a property on the cost of repairs and renovations 7.5 percent.

- Sharemilking Agreements. Where sharemilking contracts are arranged by members a charge of $2.00 per cow will

be made with the cost being debited in equal shares to the farm owner and the sharemilker. These charges apply to both 39 percent and 50/50 types of agreements. Portion of this charge may be deleted where a stock transaction arises directly from the arrangement of a sharemilking contract.

- Auction Sales, Mortgagee, Sheriff sales etc. Where a property is offered under instructions from the mortgagee and is brought in at the mortgagee's estimate, or where a mortgagee holds a sale other than through the Supreme Court and fails to reach the reserve price, an offering fee shall be charged on the mortgagee's estimate or on the reserve price as the case may be 1% with a minimum charge of $35.00. The fee where the mortgagee withdraws the property within 7 days prior to the sale shall be on the mortgagees estimate of value or on the reserve price as the case may be 1%. Where the mortgagee withdraws the property prior to seven days before the auction then the above fee shall be ½% with a minimum fee of $35.00. When the sale is not proceeded with, an inspection fee of $35.00 shall be paid where the auctioneer provided a description of the property for advertising purposes. When the property is sold to the mortgagee at his estimate of value the offering fee of 1% shall be charged.

2.3.6 Surveyors Charges

Registered Surveyors are bound by a Scale of Charges which must be approved by the Minister of Lands before coming into operation.

The scale is complex but takes into account the area of land under survey, the length of lines measured, the number of pegs and reference marks placed or used, the number of easements shown on the plan etc. Travelling times, vehicle mileages, costs of cutting and clearing if necessary, and occupation of trig. stations if necessary are charged on a time basis. Redefinitions of boundaries as distinct from subdivisions are also generally carried out on a time basis.

Where a subdivision is proposed it is necessary to obtain the Local Authority approval and the Local Authority is required to seal the final survey plans. When the proposed subdivision creates more than 2 lots, the scheme plan of the proposed subdivision which is submitted to the Local Authority for approval, must be prepared by a Registered Surveyor and may

be required to show topographical features, buildings, ground heights and title information as well as the details of the subdivision. The charges for the preparation of the scheme plan are on a time basis.

Where a subdivision or other survey work is contemplated it is suggested that a Registered Surveyor or firm of Surveyors be approached and asked to give an estimate of the costs involved. They will be quite prepared to do this and can also advise on all aspects of the subdivision.

2.3.7 Valuation Charges

N.Z.I.V. Scale of Charges

(i) Fees for the Valuation of Freeholds:

Urban – Up to $5,000	$25.00
$5,001 to $100,000	$25.00 for the first $5,000 plus $1.50 per $1000 or part thereof thereafter.
$100,001 to $1,000,000	$167.50 for the first $100,000 plus $1.25 per $1,000 or part thereof thereafter.
Above $1,000,000	$1,292.50 for the first $1,000,000 plus $1.00 per $1,000 or part thereof thereafter.
Rural – Up to $5000	$25.00
$5,001 to $100,000	$25.00 for the first $5000 plus $1.75 per $1000 or part thereof thereafter.
$100,001 to $1,000,000	$191.25 for the first $100,000 plus $1.50 per $1000 or part thereof thereafter.
Above $1,000,000	$1.541.25 for the first $1,000,000 plus $1.25 per $1000 or part thereof thereafter.

(ii) Additional buildings – Where a property contains more than one building each of a value of at least $10,000 an additional fee of $10.00 may be charged for each additional building.

(iii) Block valuation of land – Where a member is required to value a block of land and subdivisional investigation is the basis of the valuation, the fee to be charged shall be as per (i) above, on the final block value plus $1.00 per section.

(iv) Valuation of leaseholds – For valuation of leasehold properties where lessor or lessee interests require to be assessed, the charge shall be as per (i) above on the freehold capital value plus 10 percent to the nearest dollar.

(v) Consultations – Where members are engaged on consultancy or counselling work the fee shall be based on quantum meruit. Replacement insurance valuations and certificates – the fee for the initial valuation for the replacement insurance purposes shall be calculated at 66⅔% of the prescribed scale relating to the gross replacement of the building.

For annual certificates the fee shall be charged at the rate of:

$1 million	15% of the scale in (i)
$1 million to $5 million	12½ percent
Over $5 million	10 percent of scale

(vi) Daily rate – Where the prescribed scale fee provides an earning rate of less than $80 per day or $40 per half day, the rate of a member shall be in the range of $10 to $18 per hour depending on the skill and experience of the member.

(vii) Court attendances – Valuation fees will be first charged and in addition the member shall charge fees in the following range depending on the skill and experience of the valuer.

- Supreme court including the Administrative Division and Special Tribunals $80 to $120 for the first half day plus $15 to $30 per hour until released by his principal.
- Magistrates Court, Land Valuation Committees and other Tribunals $15 to $30 per hour for the first hour or part thereof, thereafter $10 to $20 per hour until released by his principal.

(viii) Assessors Fees – These are the same as 'Court attendance fees' (see (vii)).

(ix) Umpire's Fees – Members agreeing to act as umpires may charge a retaining fee of $5.00. Where a member is called to act as umpire the fee shall be based on quantum meruit.

SECTION 3

FARM REVENUE

3.1 SHEEP

3.1.1 Export Meat Schedule.

Meat which is destined for export is graded by the New Zealand Meat Producers' Board. The various grades are paid for according to a schedule which is set every week during the killing season. Three main factors influence the prices offered:

(i) Changes in meat prices due to supply and demand on overseas markets, especially Smithfield.

(ii) Changes in prices for by-products, and

(iii) Changes in killing charges.

The payout for ewes, lambs and wethers is based on a separate assesment for meat and another for pelt and wool payment (see Section 3.3). The basis for calculating future lamb schedules has been altered. Exporters derive the schedule price by deducting all known costs (on a per head basis initially) from the estimated selling price. The costs have to be converted from a per head basis to a per kilogram basis. Previously, the costs were divided by an average weight for all lambs, but a new formula uses the average weight for each particular grade. This method reflects the true processing costs of various grades and weight ranges, but does not reflect market differentials in the schedule.

Below is a copy of an export schedule as set by the N.Z. Meat Producers' Board.

MEAT EXPORTERS' SCHEDULE PRICES TO PRODUCERS

Sheep and Lamb

The following export schedule will operate as from 4th February 1980. Prices are quoted as delivered to works.

Lambs:

PL	8.0 - 12.5kg	83.0¢/kg
PM	13.0 - 16.0kg	86.0
PX	16.5 - 19.5kg	75.0
PH	16.5 - 19.5kg	70.0
PHH	20.0 - 25.5kg	67.0
YL	8.0 - 12.5kg	81.0
YM	13.0 - 16.0kg	84.0
OL	8.0 - 12.5kg	79.0¢/kg
OM	13.0 - 16.0kg	82.0
A	8.0 - 12.5kg	56.5
F	8.0 - 25.5kg	50.0

Cutter 1L	Under 12.5kg	47.2¢/kg
1M	12.5kg & over	52.2
Cutter 2	All weights	39.3
M	All weights	15.4

Mutton:

ML1	Under 22.0kg	45.0¢/kg	MX	Under 26.0kg	39.5¢/kg
ML2	22.5 - 26.0kg	44.0	MM	All weights	25.5
			MF	All weights	5.5
MH1	26.5 - 30.kg	42.0	MP1	Under 26.0kg	5.0
MH2	30.5 - 36.0kg	20.0	MP	Allweights	4.0

Hoggets:

HL Under 22.0kg 46.0 ¢/kg
HM 22.5 - 26.0kg 44.0
HX Under 22.0kg 46.0

Rams:

All weights 5 ¢/kg

Buffer Account Deduction Percentage: NIL

Federated Farmers' Levy of 0.5 cents/head is to be shown as a deduction on each weight note.

3.1.2 Local Meat Prices:

There is a large amount of meat sold on the hoof from farms to wholesale buyers, but the weekly sales at Addington and Burnside still set the market in the South Island, as do sales at Stortford Lodge and Papakura in the North Island. The current situation can be determined from the weekly stock reports in the newspapers. The prices at the Addington sales on Tuesday 29th and Wednesday 30th January are shown below.

Prime Lambs:

Best lambs – $18.80 to $19.90
Medium lambs – $15.80 to $18.60

Store Lambs:

Best wether lambs – $14.00 to $17.00
Medium wethers – $11.80 to $14.00
Light wethers – $10.10 to $11.30
Best ewe lambs - $16.90 to $32.20
Good to medium ewe lambs - $15.00 to $16.40
Light ewe lambs – $11.00 to $14.70

Prime Sheep:

Best young wethers – $17.90 to $19.10
Medium young wethers – $15.30 to $17.50
Best two tooth ewes – $18.30 to $20.10
Medium two tooth ewes – $17.40 to $18.10
Best older ewes – $14.40 to $17.00
Medium older ewes – $11.50 to $14.10
Light old ewes – Down to $9.90

Store Ewes:

Best two-tooth ewes – $31.00 to $36.00
Good two-tooth ewes – $21.00 to $28.00
Best adult ewes – $30.60 to $36.40
Good adult ewes – $20.00 to$26.00
Five year ewes – $18.20 to $20.20
Medium c.f.a. – $15.70 to $19.20

3.1.3 London Wholesale Prices

The following are prices for New Zealand lambs sold to retailers "ex-hooks" on the Smithfield Market in London during the week ending 25th January 1980.

Description	Weight Range (kilograms)	Price (N.Z. cents per kilogram)	
PL	8.0 - 12.5	244.4 Old Season	254.5 New Season
PM	13.0 - 16.0	224.2	241.9
PX	16.5 - 19.5	N.Q.	214.2
PH	16.5 - 19.5	199.0	212.9
PHH	20.0 - 25.5	N.Q.	204.1
YL	8.0 - 12.5	233.1	248.2
YM	13.0 - 16.0	219.2	238.1

3.1.4 Store and Breeding Stock Prices

Store stock prices reflected higher prices for wool, lamb and more significantly the record beef prices on the United States market, as well as the good autumn pasture growth.

1979 Autumn Ewe Prices by District, Good and Medium Grades.

District	2th Ewes		4 year ewes		5 year ewes	
	Good	Medium	Good	Medium	Good	Medium
Auckland (Jan)	30.00	23.00	27.00	19.00	24.00	15.00
Te Kuiti (Jan)	26.00	16.00	20.00	14.00	19.00	14.00
Hawke's Bay (Jan)	31.00	25.00	22.00	19.00	22.50	21.00
Canterbury (Feb)	25.00	19.00	20.00	16.00	17.00	14.00
Dunedin (Feb)	30.00	24.00	21.00	18.00	15.00	13.00
Invercargill (Feb)	34.00	28.00	22.00	18.00	18.00	15.00

Source: "Annual Review of the Sheep and Beef Industry, 1978/79", New Zealand Meat and Wool Boards' Economic Service.

The prices for stock can vary quite a lot during a season. The table below has been drawn up to allow the reader to amend the prices for the different classes of sheep as the season progresses. If all sales reports published in the newspapers are noted, any marked changes will become apparent.

Class of Stock		
2 tooth ewes	Fine wool	Good
		Average
		Small
	Medium wool	Good
		Average
		Small
	Strong wool	Good
		Average
		Small

4 year old ewes	Fine wool	Good Average Small
	Medium wool	Good Average Small
	Strong wool	Good Average Small
5 year old ewes	Fine wool	Good Average Small
	Medium	Good Average small
	Strong wool	Good Average Small
Aged works ewes		
Ewe hoggets	Fine wool	good Average Small
	Medium wool	Good Average Small
	Strong wool	Good Average Small
Store lambs	Fine wool	Good Average Small
	Medium wool	Good Average Small
	Strong wool	Good Average Small

Rams

The following figures are the approximate values for flock rams.

Southdown	$40 - $60
Dorset Down	$60 - $100
South Dorset Down	$60 - $100
Hampshire	$60 - $110
South Suffolk	$60 - $80
Suffolk	$60 - $80
Romney	$60 - $100
Corriedale	$80 - $120
Perendale	$90 - $120
Border Leicester	$80 - $130
Borderdale	$80 - $100
Coopworth	$80 - $140

These values are only useful as a guide for budgeting purposes. Up to date figures should be obtained wherever possible.

The values of stock sold through Addington in late January are given in Section 3.1.2. These can be used at a starting point for the completion of the above table.

3.1.5 Minimum Price Schemes

The Meat Export Prices Committee has set the following minimum and trigger prices for benchmark grades for the 1979/80 season commencing on October 1, 1979.

The prices were set as follows, with those for 1978/1979 in parentheses:

Benchmark grades	Minimum Price	Trigger Price (cents/kg)
Lamb – PM (13.0 - 16.0 kg)	86.0(72.0)	120.0(95.0)
Mutton – ML (22.0 kg & under)	35.0(30.5)	50.0(42.0)
Beef – Cow M (145.5 - 170 kg)	100.0(58.0)	140.0(80.0)
– Bull (220.5 - 245 kg)	110.0(-)	160.0(-)
– Steer PL (245.5 - 270 kg)	112.0(70.0	158.0(96.0)

The Board's scheme will continue to be administered as it has in the past. If the schedule price for the benchmark grade exceeds

the trigger, levies will be applied at the rate of 50 per cent of the difference between the schedule price and the trigger price for all grades of that meat. The funds derived from these levies, if any, will be deposited in the Meat Income Stabilisation Account at the Reserve Bank.

If the schedule price for the benchmark grade falls below the minimum, the Board has the option of paying supplements up to the minimum price or taking over the product at the minimum price and marketing it on its own behalf.

In addition to the price smoothing scheme, the Board acts as administrating agent of the Government's Supplementary Minimum Prices Scheme. This scheme applies only to export carcass meat from sheep and cattle, excluding bobby calves. The minimum prices relate to the same benchmark grades as listed above and are as follows (last season's prices in parentheses):

Supplementary Minimum Price

	(cents/kg)
Lamb – PM (13.0-16.0kg)	86 (70)
Mutton – ML (22kg & over)	40 (30)
Prime Beef – PL Steer (220.5-270kg)	110 (70)
Manufacturing Beef – M Cow (140 kg & over)	100 (80)

The Supplementary Minimum Prices Scheme will be run alongside the Board's scheme with similar administration, but separate identification and accounting procedures.

In the possible event of the schedule price for a benchmark grade falling below the supplementary minimum price, the Board will determine the supplementary minimum price for all the other relevant non-benchmark grades of meat and instruct exporting companies to pay those prices to producers. Therefore the prices received by farmers for benchmark grades in the announced schedule will never be below the announced S.M.P. The supplementary minimum prices for other grades and in differing regions of the country could be either above or below that for the benchmark grade. For the purposes of this operation, as well as with the Board's price smoothing scheme, the benchmark price will relate to the lowest-priced region.

Stock sold on an owner account or company pool basis will receive supplements equal to the difference between the exporters' schedule and the supplementary minimum prices, which will be payable in the week in which the stock are slaughtered.

If the S.M.P. scheme is operative, the Board, acting as the Government agent, will arrange for supplementation only. It does not have the option of purchase and marketing, but this possibility will continue to be available under its own scheme.

Payments procedure

Payments of the supplementary minimum prices to producers, if required, will be made by the exporting companies as denoted on the individual killing sheets. Companies will be reimbursed by the board, as the Government's agent, using funds drawn from the "Supplementary Minimum Meat Prices (S.M.M.P.) Account", established at the Reserve Bank.

The operation of the two schemes (i.e. price smoothing and S.M.P.) may result in some combined actions:

(i) Where the Government's Supplementary Minimum Prices (S.M.P.) are above the price smoothing minimum prices, as is the case with mutton in the 1979/80 season:

(a) If the schedule for a benchmark grade falls below both the S.M.P. and the price smoothing minimum, the producer would receive the relevant S.M.P.

The Board may choose to intervene and purchase at its minimum price in which case producers would still receive the S.M.P. and companies would be reimbursed with a Government supplement of the difference between the Board's buying-in price and the S.M.P.

(b) If the schedule is above the price smoothing minimum but below the S.M.P., then the S.M.P. would be payable to producers, and companies would receive the Government supplement for the difference.

(c) If the schedule is above the S.M.P., then producers will receive these schedule prices in the normal manner.

(ii) Where the price smoothing minimum prices are set above the S.M.P., as is the case with prime beef (PL Steer) in the 1979/80 season:

(a) If the schedule price for a benchmark grade is lower than both minimum prices, then producers would receive the price smoothing minimum price. In this instance,however, the Board would have the option of intervening and purchasing at the relevant minimum prices.

(b) A similar procedure to (a) above would follow if the schedule fell between the S.M.P. and the higher price smoothing minimum price.

(c) If the schedule is above the price smoothing minimum, producers will receive these schedule prices in the usual way.

In either case, where the schedule for the benchmark grade is above the price smoothing trigger price, producers' returns will be levied at the rate of 50 per cent of the difference between the schedule and the trigger price.

Note: The sources for section 3.1.5 were "The New Zealand Meat Producer", Vol. 7., No.1 Oct. 1978 and Vol. 7., No.10 Sept. 1979 published by the New Zealand Meat Producers Board.

3.1.6 Milking Ewe Production

Milking ewes for dairy production is a new dimension to sheep production in New Zealand. Possibilities for the development of this enterprise are vast; there are approximately 40 million lactating ewes available each year. At present prices for sheep milkfat, sheep milking is very profitable. This milkfat price however, appears to bear no resemblence to a competitive world fetta cheese price and indications are that the price wuld have to drop to just over half or perhaps less in order to produce sheeps' fetta at competitive world prices.

The Dairy Board estimates that New Zealand fetta cheese is likely to sell between $ 2500 and $3 000 per tonne and when production, freight and packaging costs are subtracted the following payout prices would be indicated:

Landed export price $2 000/tonne. . . . .$ 4.46/kg
$2 750/tonne. . . . .$ 6.92/kg
$4 000/tonne. $11.02/kg

(1 kg sheeps' milkfat = 3.28 kg fetta cheese).

1979 prices were in the vicinity of $12.00 per kg milkfat.

3.2 WOOL PRODUCTION

3.2.1 Wool Production Statistics

(i) AUCTION SALE PRICES 1978/1979 SEASON (Cents per kilogram clean on Floor)

Selling Centre	October		December		March		May	
	46/48's Coarse Crossbred B Fleece (37F2D)							
	46/48's Coarse Crossbred 2nd Shear (37F2L)							
	F1.	2 Sh.	F1.	2 Sh.	F1.	2 Sh.	F1.	2 Sh.
Dunedin	302	284	290	266N	332	318	334	312
Timaru	304	286	288	N/A	296**	280	330***	313
Invercargill	302	284	290	266	336N	324	328	311
Auckland	296	277	294	272	335**	321	326	307
Napier	296	279	293	274	352	331	334	312
Christchurch	298*	282*	294	271N	347**	329	330	312
Wellington	290*	277*	290	270	361	338	334N****	308
Wanganui	294*	274*	290	268	338	318	334N****	308

56's Strong Halfbred B Fleece (28F2W)

Timaru	324	310	315**	356***
Christchurch	314 (Nov)	316	356**	356
Dunedin	324	310	348	348 N

NOTE:

Sales were not held successively in the order as shown, so that this table does not reflect the progressive movement of prices. Sales held in November, January, February, April and June have been omitted unless otherwise indicated.

* November
** February
*** April
**** June
N = Nominal

SOURCE:

N.Z. Meat and Wool Boards' Economic Service "Annual Review of the Sheep and Beef Industry, 1978/1979.

(ii) AVERAGE PRICE FOR GREASY WOOL AT NEW ZEALAND AUCTION SALES

Micrometers	All Styles and Types 19-22*	25-27**	35***	All Qualities	Total Greasy Auction Sale Value	Estimated Total Value of Wool Prod
SEASON	(cents per kilogram greasy)				($ million)	($ million)
1960/1961	76.3	76.1	70.1	74.1	141.6	197.6
1965/1966	95.7	82.7	69.4	76.5	176.6	241.0
1970/1971	74.3	56.1	44.8	53.4	116.6	178.4
1971/1972	75.6	60.9	58.7	66.5	139.0	214.3
1972/1973	200.0	157.2	125.0	144.0	282.2	44.7
1973/1974	212.5	154.0	122.5	139.2	271.6	396.4
1974/1975	138.2	89.6	82.6	91.7	192.9	269.7
1975/1976	185.6	139.9	148.1	157.1	333.9	489.8
1976/1977	229.9	216.8	209.9	219.5	441.2	664.0
1977/1978	218.9	193.0	180.3	190.4	378.1	591.8
1978/1979	226.0	217.4	209.3	218.8	447.2	701.5

SOURCE:
N.Z. Meat and Wool Boards' Economic Service "Annual Review of the Sheep and Beef Industry, 1978/1979".

* = 60/64's and up
** = 58/60's, 58's and 56/58's
*** = 46/50's and 48's

(iii) STATISTICAL REPORT ON THE 1978/1979 WOOL SELLING SEASON (July - June)

	1977/1978	1978/1979
DISPOSALS:		
1. Sales		
(a) at Auction		
(i) Greasy : bales	1 325 163	1 360 104
: kilograms	198 608 840	204 350 314
: av. price (c/kg)	190.43	218.85
(ii)Scoured : bales	34 938	35 543
: kilograms	4 429 981	4 536 548
: av. price (c/kg)	263.24	303.60
TOTAL BALES SOLD AT AUCTION	1 360 101	1 395 647

(b) Privately		
(i) Brokers	13 568	18 627
(ii) Private buyers & WMA	333 489	406 433
(iii) Extra Choice	67 337	20 270
TOTAL SOLD PRIVATELY	414 394	445 330
2. Growers' Shipments (in bales)		
(a) Greasy	9 012	10 255
(b) Scoured	40 395	43 758
(c) Slipe	9 313	4 468
TOTAL GROWERS' SHIPMENTS	58 720	58 481
3. Slipe Disposals (in bales)		
Freezing companies and fellmongers	212 664	204 680
TOTAL DISPOSALS		
(a) In bales	2 046 044	2 104 138
(b) In kilograms (greasy equivalent)	317 013 263	382 635 575
SCOURING: (in tonnes)		
(a) On account Growers	8 577	8 981
(b) On account Buyers	97 218	108 745
TOTAL SCOURED	105 795	117 726
EXPORTS: (in tonnes)		
(a) Greasy	111 324	120 658
(b) Scoured	106 297	121 119
(c) Slipe	25 161	19 327
TOTAL EXPORTS	242 782	261 104
LOCAL MILL PURCHASES: (in bales)	121 492*	156 814*
BOARD MARKET ACTIVITIES (N.Z. & U.K.) : in bales		
(a) Bids (Market Intervention incl. S.P.C.)	401 928	47 852
(b) Purchases (i) Intervention	122 256	5 679
(ii) Extra Choice	67 337	20 210
(iii) Other	1 735	28
(c) Sales – all	91 430	137 918
(d) Govt. Supplementary Minimum Prices Scheme – Supplement Paid ($)	–	1 362 443

* = Provisional

SOURCE: New Zealand Wool Board, "WOOLNEWS" Vol. 8 No. 3 Sept. 1979.

3.2.2 Wool Prices

The 1979/80 wool selling season opened on a strong note at the combined Auckland/Napier sale at Napier on July 26. Prices were at least 10% higher than the closing sale of the 1978/79 season, half of this accounted for by the June revaluation of the NZ$.

A total of 18 345 bales were offered, of which 3 560 were Wool Board Stock. The entire Auckland catalogue was composed of grab samples, supported by testing house certificates, which were displayed at Napier. Sixty percent of the offering was second shear with 6% fleece wools and 9% crutchings. The AWASP was 256.73 c/kg, and the average price for greasy wool was 252.33 ¢/kg.

The market remained strong at the first two South Island sales of the season, Dunedin/Invercargill on August 17 and Timaru at Christchurch on August 22. AWASPs for these sales were 258.0 ¢/kg and 257.2 ¢/kg respectively.

There was a slight easing in the market at Christchurch on August 24 when the AWASP dropped to 255.6 ¢/kg. This was mainly due to a temporary lull in business over the European holiday period. Previous demand by Eastern Europe and Japan was not maintained at these sales.

The competition during September increased with more orders from new markets, such as Iran. The prices at the combined Auckland/Napier sale at Napier on September 21 were higher than at Dunedin, with crossbred fleeces up by 2.5 - 5% and second shear by 5%. The AWASP for Napier was 266.46 ¢/kg.

The Christchurch sale on September 27 saw some lively bidding which lifted crossbred and second shear prices to as high as 341 ¢/kg (greasy) - an increase of about 5%. Halfbred prices also improved by this margin. The AWASP rose to 272.07¢/kg. Due to the steady demand by the market, Wool Board support has been minimal. During the first two months of the 1979/80 season, the Board bid on 9.62% and purchased 2.19% of wool offered at auctions in N.Z. and the U.K.

The Timaru sale on October 11 halted the steep rise in wool prices that occurred in September and the AWASP settled at 286.54¢/kg. At the Napier sale on October 19 the market indicator dropped to 282.70.

Buying by Eastern and Western Europe and Japan remained steady, but both exporters and manufacturers were reluctant to build stocks at the high market levels. Many overseas manufacturers had depleted stocks of raw crossbred wool and brockers and scourers were pressured to make early deliveries to shipside. The N.Z. Wool Board was once again relatively inactive in market support during October.

Prices were high at the Christchurch sale late in October when the seasonal peak was reached - an AWASP of 291.13 ¢/kg. However, prices drifted in November and reached 277.46 ¢/kg at Invercargill on 22nd November.

Competition in November was well spread following the pattern established early in the season. The N.Z. Wool Board lent sporadic support at sales through its strata price control mechanism which limits the extent of the fall in prices on any one selling day.

In the first 4 months of the 1979/1980 Season (to October 31) a total of 263 452 bales of greasy wool and 5 718 bales of scoured wool had been sold by auction in New Zealand. Although this weight of wool (39 449 tonnes) was only 23% more than that sold in the first 4 months of the 1978/1979 season, returns were 59% higher than last season, realizing $106.388 million.

The average greasy wool price was 268.13 ¢/kg, compared with 206.59 ¢/kg for the same 4 month period last year.

The table overleaf shows the prices for various types of wool at sales held to November 1979. The source is the monthly N.Z. Wool Board publication 'Woolnews'.

3.2.3 Wool Income Stabilization Arrangements

(i) Under its Minimum Prices Scheme, the Wool Board sets a table of minimum prices for all types of shorn wool and dead wool produced in New Zealand. Other than in exceptional circumstances, only one table of minimum prices shall be set in any one season, with movements in

PRICE MARKSHEET – Cents Per Kilogram

		AUCK. 26/7	NAP. 26/7	DUN. 17/8	INV. 17/8	TIM. 22/8	CH.CH. 24/8	WANG. 31/8	WELL. 31/8	DUN. 7/9	AUCK. 21/9	NAP. 21/9	CH.CH. 27/9
21 F2W	Merino B Fleece			460N									488N
22 F2W	Merino B Fleece			450N									464
24 F2W	¼ Bred B Fleece			-									430
25 F2W	Ex. Fine ½ Bred B Fleece			396N									420N
26 F2W	Fine ½ Bred B Fleece			390N									418N
27 F2W	Med. ½ Bred B Fleece			386		388							410
28 F2W	Med. ½ Bred B Fleece			380		382							400
29 F2W	Strong ½ Bred B Fleece			374		376	370						392
30 F2W	Strong ½ Bred B Fleece			370		370	366						386
31 F2W	Ex. Strong ½ Bred B Fleece			368		368	365						388
32 F2E	Fine XBd B Fleece	363	366N	368N	-	368	368N	368N	368N	374	377N	381	392N
34 F2D	Fine XBd B Fleece	N.A.	368	370	-	370	368	368N	368N	376	-	380	392
35 F2D	Med. XBd B Fleece	364	368	370	368	366	364	366	366	372	379N	380	386
37 F2D	Coarse XBd B Fleece	N.A.	368	370	368	366	364	366	366	372	379N	380	386
37 G3F	Coarse XBd Av Inf Soft Cotts	N.A.	N.A.	-	-	-	-	337	337	-	-	360	-
35 P3G	Med XBd Av Inf Pieces	N.A.	338	340	340	340	332	337N	-	344	-	-	370
37 F2L	Coarse XBd B 2/Shear	338	344	350	346	348	348	345	345	352N	359	364	368

		DUN. 4/10	TIM. 11/10	INV. 18/10	NAP. 19/10	CH.CH. 26/10	AUCK. 1/11	DUN. 8/11	WANG. 9/11	NAP. 15/11	NAP. 16/11	INV. 22/11
21 F2W	Merino B Fleece	544	538			530		512				
22 F2W	Merino B Fleece	510	496			500		478				
24 F2W	¼ Bred B Fleece	440	454			454		448				
25 F2W	Ex. Fine ½ Bred B Fleece	430	434			444		440				
26 F2W	Fine ½ Bred B Fleece	426	428			438		428				
27 F2W	Med. ½ Bred B Fleece	422	424			436		428				
28 F2W	Med. ½ Bred B Fleece	412	416			432		420				
29 F2W	Strong ½ Bred B Fleece	406	408			428		418				
30 F2W	Strong ½ Bred B Fleece	402	404			426		412				
31 F2W	EX. Strong ½ Bred B Fleece	404	404			426		408				
32 F2E	Fine XBd B Fleece	406	404	406N	404	414	414	410	406	409	405	400
34 F2D	Fine XBd B Fleece	410	408	402	400	414	414	408	402	405	400	392
35 F2D	Med. XBd B Fleece	410	408	408	403	410	410	408	402	405	400	392
37 F2D	Coarse XBd B Fleece	410	408	408	403	410	410	406	402	405	400	392
37 G3F	Coarse XBd Av Inf Soft Cotts	-	-	-	-	-	-	-	378	385	381	376
35 P3G	Med XBd Av Inf Pieces	390	386	380	373	392	374	380	358	370	367	362
37 F2L	Coarse XBd 2/Shear	388	386	384	386	398	393	388	381	385	380	380

*N = Nominal

the target average of the table limited to a decrease of 5% and an increase of 10% on that of the previous season.

MINIMUM FLOOR PRICES:

1975/1976 ..... 124 cents/kg
1976/1977 ..... 136 cents/kg
1977/1978 ..... 150 cents/kg
1978/1979 ..... 170 cents/kg
1979/1980 ..... 200 cents/kg

When the sale price of any wool falls below its appraised minimum price, the Board will supplement that price up to its minimum level through a supplementary payment made from the Minimum Wool Prices Funding Account held at the Reserve Bank of New Zealand. The Board may also provide minimum price support by purchasing the wool using its own funds and borrowing for that purpose, or by a combination of both supplementation and purchasing. Should the funds in the Account become exhausted, advances can be made from the Reserve Bank at an interest rate of 1% per annum.

The Minimum Price Funding Scheme provides for a minimum price funding levy (currently set at 2%) to be imposed on all shorn wool and dead wool produced in New Zealand. This includes all wool other than dag wool, slipe wool, fellmongered wool, and wool on the skin. The levy is paid into the Minimum Wool Prices Funding Account. Credit balances in the Account earn interest at a rate of 1% per annum.

There is provision for the Wool Board to borrow from the Funding Account for wool trading purposes approved by the Minister of Agriculture. Interest at a rate of 1% per annum is payable to the credit of the Account on such borrowings.

(ii) At the beginning of each season, the Minister of Agriculture announces a 'trigger' price which is above the minimum price. This price is determined after consultations between the Ministry of Agriculture and Fisheries and the New Zealand Wool Board. Factors that affect the 'trigger' price are the ruling level of prices and prospects for wool as well as other farm products, the maintenance of an expanding sheep industry and the need to promote general economic stability in the economy.

The operation of the 'trigger' price is as follows:

The prices for each grade of wool at a particular sale are weighted up by the national volume of wool of each grade. As a result an Adjusted Weighted Average Sale Price (or commonly known as A.W.A.S.P.) is calculated based on the prices that were achieved at that particular sale and the New Zealand volumes of each grade. It must be stressed that this A.W.A.S.P. value differs from the Actual Sale Average Price (or A.S.A.P.) because of the weighting using New Zealand volumes of wool.

In the event of the A.W.A.S.P. being above the predetermined 'trigger' price, a Grower Retention Levy is introduced on all shorn wool and dead wool. The levy is equivalent to 50% of the amount by which the A.W.A.S.P. exceeds the 'trigger' price, expressed as a percentage of the A.W.A.S.P. This percentage figure is then deducted from all wool sold at that particular sale and applies to all wool sold privately up to the next auction. The percentage levy will usually change at this stage in response to actual prices changing.

The proceeds levied in this way are deposited in the Wool Income Retention Account at the Reserve Bank of New Zealand in the name of the individual grower. Deposits may be withdrawn at the discretion of the Minister of Agriculture. They will be available 5 years after the date of deposit, however, under special circumstances they may be withdrawn or refunded at an earlier date. These individual grower accounts will not attract tax until the date of withdrawal, neither will they accumulate interest during the time of deposit.

The 'trigger' price that will operate during the 1979/1980 season was announced in June 1979 as 300 cents per kilogram. This was 20% up on last season's price of 250 cents per kilogram.
The method of calculating the Grower Retention Levy is shown in the following hypothetical example:

1. The 'trigger' price for 1979/1980..... 300¢/kg
2. A.W.A.S.P. at a sale ..... 345¢/kg
3. Difference..... 45 cents
4. 'Specified Percentage' retention
   $\frac{0.5 \times 45}{345} \times 100$..... 6.521%

Thus, the 'Specified Percentage' retention of 6.521% would be applied to the gross proceeds of all wool sold at that sale and nationally for all wool sold privately by growers until the next sale.

(iii) Since 1976, the New Zealand Wool Board (previously the N.Z. Wool Marketing Corporation) has operated a Strata Price Control Scheme to limit the degree to which prices at any auction sale may vary from the price levels prevailing at the previous sale. To do this, the Board bids through a subsidiary (New Zealand Wools) at a fixed percentage below previous prices. In this way, steep falls in the market can be avoided, although it is inherent in the system that the Board could accumulate large stocks of wool on a falling market.

Due to the steady nature of the wool market in the early part of the 1979/80 season, the Wool Board has not been very active in pursuing its market intervention policy. This is much the same situation as last season. During the first two months of the 1979/80 season, the Board bid on 9.62% and purchased 2.19% of wool offered at auctions in New Zealand and in the United Kingdom.

(iv) Since July 1976, the Wool Board has also offered an alternative to auction or private sale of wool to the growers. The Extra Choice Scheme entails the grower sending his wool to a broker or a private buyer, and asking for it to be made available for valuing by the Board. The grower is then offered the current market price by the Board and if acceptable the grower is paid 10 working days later. This allows the grower to obtain cash quickly at times when the roster of wool sales may be full and the grower would otherwise encounter delay in the disposal of his product. He is also assured of a fair market price for his wool on the day. It is expected that most of the wool bought by the Board will be fed back into the auction system in due course. The Wool Board is continuing the E.C.S. during the 1979/80 season in its present form. Until the end of the season, crutchings, second shear bodywool and lambswool are eligible.

The E.C.S. has proved very popular with woolgrowers, and in the four months ending October 31, 1979, 3780 bales were offered to the Board, of which 2966 (78.47%) were purchased. During the same four months, 25 989 bales of E.C. Stock wool were sold.

(v) In addition to the stabilization procedures operated by the wool industry, the Government has established and will underwrite a supplementary minimum price for wool for the 1979/80 wool-selling season. This price is based on an average of 235 cents/kilogram (greasy) on the auction floor in New Zealand. A similar price will be set for the 1980/81 season at a level not less than that set for this season.

The Supplementary Minimum Prices Scheme for wool applies only to shorn wool and dead wool. The rate of supplement payable by the Government through the Wool Board is equivalent to the amount by which the A.W.A.S.P. for such wool is below 235 cents/kilogram expressed as a percentage of that A.W.A.S.P. When this percentage is greater than 0.5%, this rate of supplement is applied to the bulk proceeds from the sale of qualifying wools and paid to growers through brokers or directly by the Wool Board as appropriate. The Board will make these supplementary payments from the Government-financed Supplementary Minimum Wool Prices Account at the Reserve Bank of New Zealand.

After each auction sale, brokers and registered private buyers are advised of the supplement percentage. Brokers then calculate the payment, show it on the account sales and pay it to the growers. The Wool Board Levy and the stabilization levy is deducted from the gross amount, including the supplement. The brokers then reclaim the supplement from the Board. Private buyers – but only those registered – operate the scheme. They are advised of the supplement percentage which they will use to calculate the gross proceeds and deduct the levy. They then advise the Board which pays the supplement to the grower.

Other points about the scheme are:

- No supplement will be paid if the percentage is 0.5 or less.
- Arrangements with co-operatives and pools are similar to those with private buyers.
- The scheme applies to shorn wool, both greasy and scoured, and to dead wool. It does not apply to dags, dag wool, slipes and sheepskins.
- It does not apply to parcels of less than 100 kilograms unless the wool is going through brokers' bins.

Payment of the supplement to growers who sell privately is made by direct transfer through the banking system. This means that private buyers have to obtain the account number or a cheque-book pay-in slip for each grower so that payment may be made. There is no direct payment to growers by cheque. If growers want their wool proceeds paid to a seasonal financier, e.g. stock and station agent, Rural Bank or to anyone holding security over their wool clip, then there is provision on a special form to instruct the Board accordingly, giving details of the firm and branch where payment is to be made. In these cases, the grower's signature is needed on the form to authorise the Board to make payment to another person. The form leaves space for details of the seasonal financier's account number and the client's reference number. To get these details, the private buyer or the grower should send the form to his financier to be completed and returned either directly to the Board or to the private buyer. The buyer then sends it with the monthly levy return to the Board. Booklets of forms – including an example of one correctly completed – are available from registered private buyers.

The supplementary minimum price of 235 cents/kilogram for 1979/1980 is an average price. The guaranteed price to growers for any one lot of wool under the scheme will vary according to several factors including that wool's type and yield.

3.2.4 Summary of Levies Imposed on the Wool Grower

There are several levy charges that the wool grower faces when he sells his product. The Wool Board levy is used to finance Wool Board activities, and is equivalent to 3% of the grower's gross proceeds from wool sales, however it is sold. As mentioned above, there are the Minimum Prices Funding Levy (2% of gross proceeds) and the Grower Retention Levy (based on the 'trigger' and A.W.A.S.P. values).

3.2.5 Comment on Wool Production, Prices and Consumption during the 1978/1979 Season

(i) PRODUCTION: Total wool production in the 1978/1979 season increased by 3.1% to 320.6 thousand tonnes, or 9.8 thousand tonnes more than in 1977/78. This was higher than in 1976/1977 when 302.5 thousand tonnes of wool

were produced. This production figure includes greasy, slips, scoured and wool on sheepskins converted to the greasy equivalent.

The weight of greasy wool sold at auction in 1978/1979 increased by 2.9% compared to the previous year. This follows a 1.2% decrease between 1976/1977 and 1977/78. The amount of wool sold through all South Island centres increased when compared with the previous year, while the amount sold through Wanganui decreased by 5.6% and that through Auckland by 0.8%.

The amount of wool scoured increased by only 1.3% in the 1978/1979 season, following increases of 10% in 1976/1977 and a further 27% in 1977/1978. Slipe disposals increased by 6.0% compared with 1977/1978, part of this increase attributable to the higher sheep and lamb kill. Private sales of greasy wool increased by 18.7%, while the sales by brokers increased by about 35% when compared with the last season. The Wool Board purchased some 20 270 bales of wool from growers under the Extra Choice Scheme during the year, a decrease of nearly 70% over 1977/1978.

The change in production of wool by regions and production per sheep based on estimated number of sheep wintered in the hinterlands of the eight wool-selling centres in 1977/1978 is shown in the following table:

N.Z. WOOL PRODUCTION 1978/1979 (Total and Per Sheep Shorn)

District	Sheep No. June 1978 (millions)	Total Prod'n (000 tonnes)	% Change	Production per head (kg)	Change (kg)
Auckland	10.404	46.20	+ 2.8	4.44	−0.38
Napier	11.192	63.07	+ 0.1	5.64	−0.14
Wanganui	4.940	24.93	− 1.2	5.05	−0.32
Wellington	6.120	34.85	+14.6	5.69	+0.69
North Island	32.656	169.05	+ 3.3	5.18	−0.10
Christchurch	8.334	39.50	+ 1.3	4.74	−0.16
Timaru	4.720	24.95	+ 2.3	5.29	+0.04
Dunedin	7.652	37.83	+ 6.6	4.94	+0.03
Invercargill	8.801	49.27	+ 2.0	5.60	−0.25
South Island	29.507	151.55	+ 3.0	5.14	−0.10
NEW ZEALAND	62.163	320.60	+ 3.1	5.16	−0.10

As can be seen in the above table, the overall New Zealand production per head decreased by 0.10 kg per head compared with the 1977/1978 year. The total production of 320.6 thousand tonnes reflects the higher sheep numbers in all districts. Favourable feed conditions throughout 1978/1979 enabled the wool clip per head to recover from the drop experienced during 1977/1978, which resulted from severe drought conditions over much of the country.

(ii) WOOL PRICES: The average price for wool sold at auction during the season of 1978/1979 was 218.8 cents per kilogram compared to 190.4 cents per kilogram for 1977/78, an increase of 14.9%.

The selling season opened at Dunedin on 17 August with prices generally unchanged on closing rates from the previous season. Prices gradually increased until mid-October, when they were 7% above those of August, but there was a marginal decline of 5% after October.

From mid-December through until late January, the market was almost static, with prices only 2½% above the season's opening levels.
The stability of the market during the 5½ months of the 1978/1979 season was unprecedented in times when the Board had little influence on the floor price levels. The stability was on a broad front with virtually all categories moving within a similar narrow price band.

This consistency of price abruptly ended in February when prices rose appreciably. At the Auckland sale on February 22, crossbred fleeces, second shear and lambs wool prices were 15%, 20% and 25% above December/January prices respectively. The season's peak was at the Wellington sale on March 15, when the A.W.A.S.P. reached 254.17 cents per kilogram.

Fine wools rose in price during February/March, with merinos peaking at Christchurch on February 28, some 15% above January rates, and halfbreds at Christchurch on 6 April at 5% above. There was an overall drop of 5% in the New Zealand market soon after, which established a new price level for fine wools which continued for the balance of the season.

Cross bred wools peaked in mid-March, and gently declined until mid-May when they rose again to close at between 7.5% and 12.5% below the season's peak.

(iii) COMPETITION: There was more widespread competition for New Zealand wool during the 1978/1979 season, with Western Europe, traditionally the dominant factor in the market place, less active than previously. This was compensated for by increased purchases by Japan in particular, and to a lesser extent by the USSR, Poland, Italy and China. Small, but emerging textile nations, such as Hong Kong, Taiwan, India and Pakistan, were also active. The political situation in Iran caused exports to that country to cease for several months.

Modest purchases were made by local carpet manufaturers. Other sectors of the domestic textile industry provided useful support to the market, especially during the first half of the season.

(iv) MINIMUM PRICES: During 1978/1979, the minimum price was set at 170 cents per kilogram. Throughout the season, prices remained above this level and so no supplementation was needed. At the start of the 1978/1979 season, the fund stood at $40.4 million and by June 1979, had risen to $52.5 million.

(v) WOOL INCOME RETENTIONS: The 'trigger' price of 250 cents per kilogram was only exceeded once during the 1979/1979 season, at the Wellington sale on March 15. The retention was only 0.8%, involving some $45 762.

NOTE: This section, 3.2.4., was adapted from Section 6: Wool Production, Prices and Consumption in "The Annual Review of the New Zealand Meat and Wool Boards' Economic Service, 1978/1979".

3.3 SKINS

The skin payments as at 4 February 1980 were as follows:

Lambs –	0.75kg	382 cents/kg
	1.25kg	507
	1.80kg	645
Shorn Lambs –	0.20kg	255
	0.50kg	315
	0.75kg	365
Sheep –	0.25kg	335
	0.50kg	392
	0.75kg	440
	1.00kg	499
	1.25kg	561
	1.50kg	623
	1.75kg	680
	2.00kg	736
	plus 20 cents for every 0.1kg over 2.00kg	

Seedy Wool and Seedy Pelts will be adjusted as follows:-
LIGHT: 35¢ per hd deduction **MEDIUM:** 50¢ per hd deduction
HEAVY: 65¢ per hd deduction.

Deduction will also be made for black fibres of 10¢ per kilo. Inferior and cotted full wools are subject to deduction and also Merino Type Ribby Pelts with a wool count of 60 upwards.

Sheep $1.50 per head
Lambs $1.00 per head

Skin payment schedules are published weekly, along with sheep and lamb meat schedules, by the Freezing Companies.

3.4 CROPS

3.4.1 Wheat:

(i) Prices –

The prices for milling standard wheat for the 1980 harvest are as follows:

	$ per tonne
Aotea, Kopara, and equivalent	140
Hilgendorf	168
Arawa	133
Karamu	119

The above prices are fixed as for delivery F.O.R. grower's station and are subject to a continuation of the arrangement with growers for the retention by the Wheat Board of up to 10% of the basic price. A retention of $2 per tonne will be deducted from growers' prices for the 1980 harvest.

(ii) **Monthly Storage Increments** – The Department of Trade and Industry has approved an increase in the rate of payment of storage increments from 1.25% per month of the basic price to 1.50%. Payment on wheat grown north of a line drawn from Waikouaiti to Queenstown, South Island, will apply as follows:-

For deliveries:		$ per tonne
April	1-15	3.15
	16-30	4.20
May	1-15	5.25
	16-31	6.30
June	1-15	7.36
	16-30	8.40
July	1-15	9.45
	16-31	10.50
August	1-15	11.55
	16-31	12.60
September	1-15	13.65
	16-30	14.70
October	1-15	15.75
	16-31	16.80
November	1-15	17.85
	16-30	18.90

Increment payments on wheat grown south of the Waikouaiti/ Queenstown line will apply one month later than above. These increments re-imburse growers for holding wheat up to the time of delivery.

Delivery of wheat to mills must be completed by a final closing date (not set as at time of printing). Delivery of South Island wheat for shipment to the North Island must be made as required to meet planned transport arrangements.

The date of delivery of the wheat to the point nominated by a mill or the Board and its acceptance as milling standard quality fixes the increment payable to the grower and it is not competent for either miller, broker or grower to enter into any arrangement for the disposal of milling standard wheat at any other price.

(iii) **Levies** – The levies on wheat payable by growers and collected by deduction on the credit notes issued will be at the following rates:-

	Cents per tonne
Wheat Research Institute	18
Wheatgrowers' Compensation Fund	15
United Wheatgrowers' (N.Z.) Ltd.	14
Federated Farmers of N.Z. Inc.	3
Total	50

(iv) **Premiums and Discounts** – The premium on Hilgendorf is 20% of the basic Aotea price; it amounts to $28 per tonne and will apply only to wheat which has been positively identified as Hilgendorf by the Wheat Research Institute. This will be done in the course of the usual baking test and until the Institute is satisfied as to the authenticity of the sample, it will not issue a test report.

The grower's price for Arawa and Wri-Yielder will be $7.00 per tonne less than Aotea, but if sold for milling, the charge-out price to millers will be the same as for Aotea.

The grower's price for Karamu will be $21.00 per tonne less than Aotea, but if sold for milling, the charge-out price to millers will be the same as for Aotea.

3.4.2 Barley

The contract price for No. 1 Grade Malting barley for the 1980 harvest is $110 per tonne in the South Island, and $130 per tonne in the North Island delivered to the nearest depot of the malting company. If the distance is greater than 48 kilometres, the malting company will pay the additional cost of cartage to the grower in the South Island. There are specified delivery points in the North Island - Palmerston North, Feilding, Marton, Wanganui and Woodville.

For barley with a screening percentage greater than 5%, the following prices will apply:

Screenings %	$ per tonne	
	S.I.	N.I.
6	108.00	128.50
7	106.00	127.00
8	104.00	125.00
9	102.00	124.00
10	100.00	122.50
11	98.00	121.00
12	96.00	119.00
13		118.00
14		116.50
15		115.00

If the barley does meet the above specifications, the malting company has the option to purchase it at $90 (S.I.) and $110 (N.I.) per tonne net delivered.

Where the malting company requires the contracted grower to store the barley, a storage increment will paid at the rate of $2.50 per tonne for delivery during the month of May and a futher $1.25 per tonne per month thereafter. Where the company requires the barley to be stored, the contract price will be paid following delivery and grading. Where the barley is delivered to the factory immediately after harvest, the farmer has the choice of being paid promptly or he can opt of the following payment scheme:

(i) 50% of the contract price will be paid immediately

(ii) 25% of the contract price will be paid on the 30th June

(iii) 25% of the contract price will be paid on the 30th September

(iv) Interest at the rate of 11½% per annum shall run from the date of 50% payment on the unpaid portion of the contract price to 30th September and this shall be paid with the final payment.

The price for seed barley for the 1979/1980 season is:

	Basic	1st Gen.	2nd Gen.
	($ per tonne)		
S.I.			
Zephyr	295	235	225
Mata/Manapou	315	255	245
N.I.			
Zephyr	295	278	268
Mata/Manapou	315	298	288

The price for feed barley grown on contract is $87.00 per tonne.

3.4.3 Oats

The price offered for good quality oats this season is $100/tonne in bulk, $105/tonne in bags. There was no premium for black oats at the time of printing, but as the season progresses, a $5 premium is expected.

3.4.5 Peas

The prices offered for field dressed peas for the 1980 harvest are:

(i) **Field peas –**

White Prolific	$140 per tonne
Huka	$140 per tonne
Ajax	$160 per tonne
Rondo	$140 per tonne

(ii) **Garden peas –**

Greenfast, Victory Freezer, D.S.P., New Victory, Patea, Pugets, Puki, Pania, Scouts and Small Sieve	$225 per tonne
Maro	$165 per tonne
Onward	$230 per tonne
William Massey	$240 per tonne

Note: All the above prices are for bulk seed. Seed in sacks receives a premium of about $13 for field peas and $6 for garden peas.

(iii) **Freezer peas –**

Grade	Tenderometer Reading	$per kg packed.
0	not exceeding 90	22.611
1	over 90, not over 95	20.390
2	over 95, not over 100	17.915
3	over 100, not over 105	15.710
4	over 105, not over 110	13.780
5	over 110, not over 115	13.230
6	over 115, not over 120	11.835
7	over 120	10.525

Note: Freezer pea crops that are passed over are paid for at the market price for seed peas when they are harvested and dressed.

3.4.6 Beans

(i) Beans grown for process freezing are paid for on the following scale.

Grade	Average Seed Length	$ per tonne weighbridge weight less deductions
0	not exceeding 8.5mm	133.00
1	over 8.5mm, not over 9mm	128.25
2	over 9mm, not over 9.5mm	124.45
3	over 9.5mm, not over 10mm	121.45
4	over 10mm, not over 10.5mm	118.55
5	over 10.5mm, not over 11mm	116.85
6	over 11mm, not over 11.5mm	115.65
7	over 11.5mm, not over 12mm	114.50
8	over 12mm, not over 12.5mm	113.40
9	over 12.5mm, not over 13mm	112.25
10	over 13mm	110.95

(ii) Tick beans grown for seed are paid for on the following basis:

Grade No. 1 M/D	$155 per tonne
Grade No. 2 M/D	$100 per tonne

3.4.7 Sprouting Brocolli

Sprouting brocolli sown in the autumn for process freezing is paid for at $287 per tonne packed weight. All harvesting and cartage are paid for by the processing company.

3.4.8 Cauliflower

Cauliflower grown for process freezing is paid for a $252 per tonne packed weight.

3.4.9 Brussel Sprouts

Brussel sprouts grown for process freezing are paid for on the following basis:

Grade No. 1	31.9 cents per kilogram
Grade No. 2	29.4 cents per kilogram
Grade No. 3	26.7 cents per kilogram

3.4.10 Potatoes

Prices for potatoes vary a lot during a season, due to several factors including the areas planted, the yield per hectare and weather conditions. The N.Z. Potato Board has discontinued the Guaranteed Payout Scheme for surplus potatoes and the contract growing system.

Potatoes used by process freezing companies such as Watties are paid for at $60 per tonne (container supplied by company) or $62 per tonne if in bulk or in grower's own bin.

Seed potato prices vary from year to year with changes in supply and demand. Depending on the harvest later in the year, the price could be higher or lower than those of 1979. There is no way of predicting the price in December.

3.4.11 Lucerne

The 1979/80 payment schedule for lucerne, both dehydrated and sun-cured, is:

Yields 8.5 tonnes per hectare and above	$43 per dry tonne
Yields below 8.5 tonnes per hectare	$39 per dry tonne

3.4.12 Linseed

The contract price being offered for linseed this season is $163 per tonne.

3.4.13 Lupins

There are few lupin seed contracts this season, presumably as the result of reluctance on the part of the farmers to grow a relatively risky crop. One quoted price was for Uniharvest white lupins at $150 per tonne.

3.4.14 Miscellaneous

There are several other specialist crops that are grown for seed in different areas. For example, oilseed rape contracts for this season are $240 per tonne. The prices for these should be obtained from farmers growing the crop, or from a local seed firm.

3.5 SMALL SEEDS

The price paid for small seeds is based on machine dressed weights which depend on the purity of the seed line. The prices shown in the table below are representative prices for 1st Generation Certified seed as at mid December 1979. The columns could be completed during the year using information from newspaper Grain and Produce reports, or prices direct from the seed merchants.

	1979 December	March	1980 June	September
	$	$	$	$
Grass Seed:				
Ruanui Ryegrass	.85 - .90			
Nui Ryegrass	.85 - .90			
Ariki Ryegrass	.80 - .82			
Manawa Ryegrass	.55 - .60			
Paroa Italian Ryegrass	.45 - .48			
Tama Ryegrass	.55 - .60			
Apanui Cocksfoot	2.80 - 3.00			
Crested Dogstail	1.20			
Matua Prairie Grass	2.50			
Browntop	3.00			
Chewings Fescue	1.50 - 1.75			
Clover seed:				
Huia White	1.60			
Turoa Montgomery Red	1.80			
Hamua Broad Red	1.50			
Lucerne:				
Saranac	3.00			
Wairau	2.00			
Kale:				
Medium Stemmed	1.00 - 1.10			
Giant	.90 - 1.00			
Turnips:	.50 - .60			

3.6 CATTLE

3.6.1 Export Meat Schedule

The beef schedule works in the same way as does the sheep meat schedule.

An example is shown below.

MEAT EXPORTERS' SCHEDULE PRICES TO PRODUCER

Effective from 3rd December 1979

		Cents per kilogram				
Grading	Weight Range (kg)	Steer	Heifer	Cow	Bull	Veal
P1	160.5 - 195	138.5	138.5	126.0	152.5	0 - 160 38.0
	195.5 - 220	138.5	141.5	130.0	154.5	
	220.5 - 245	141.5	144.5	133.0	156.5	
	245.5 - 270	144.5	147.5	135.0	159.5	No gradings
	270.5 - 295	145.5	148.5	136.0	162.5	for bulls
	295.5 - 320	146.5	as above		165.5	
	320.5 - 345	147.5	as above		168.5	
	345.5 & over	148.5	as above		171.5	
G	160.5 - 195	134.5	134.5	124.0		
	195.5 - 220	134.5	137.5	128.0		
	220.5 - 245	137.5	140.5	131.0		
	245.5 - 270	140.5	143.5	133.0		
	270.5 - 295	141.5	144.5	134.0		
	295.5 - 320	142.5	as above			
	320.5 - 345	143.5	as above			
	345.5 & over	144.5	as above			
T	160.5 - 270	134.5	136.5	127.0		
	270.5 - 295	136.5	138.5	129.0		
	295.5 & over	138.5	140.5	131.0		
E	160.5 - 270	127.0	129.0	114.5		
	270.5 - 295	129.0	131.0	116.5		
	295.5 & over	131.0	133.0	118.5		
L1	160.5 - 195	137.5	139.5			0 - 160 28.0
	195.5 - 220	137.5	141.5			
	220.5 - 245	139.0	142.5			
	245.5 - 270	140.0	143.5			
	270.5 - 295	143.0	144.5			
	295.5 & over	146.0	144.5			
L2	160.5 - 195	137.5	139.5			
	195.5 - 220	137.5	141.5			
	220.5 - 245	138.5	142.5			
	245.5 - 270	139.5	143.5			
	270.5 - 295	140.5	145.5			
	295.5 & over	141.5	145.5			

M	145.0 & under	129.5	133.5	132.5	0 - 160	28.0
	145.5 - 170	132.5	136.5	135.5		
	170.5 - 195	135.5	139.5	138.5		
	195.5 - 220	137.5	141.5	140.5		
	220.5 & over	138.5	142.5	141.5		

NOTE: The above prices are quoted for Hawke's Bay. The prices operative in the rest of the North Island and in the South Island are less than those quoted. The margins are as follows:

Steer:-	P1 = -6.0 cents; -6.5 cents less than Hawke's Bay value
	G = as above
	T = as above
	E = as above
	L1 = as above except for 295.5kg & over, - 5.5 cents & - 6.0 cents
	L2 = - 6.0 cents; - 6.5 cents
	M = as above
Heifer:-	P1 = -10.0 cents; -10.5 cents
	All other grades = as above
Cow:-	For all weight ranges = -9.0 cents; -9.5 cents
Bulls:	For all weight ranges = -7.0 cents; -7.5 cents

3.6.2 Local Cattle Prices

As with sheep, the markets at Addington and Burnside tend to set the market in the South Island. Below are prices received for prime and store cattle at the Addington sales on Tuesday 11th and Wednesday 12th December 1979.

Heifers and steers up to 220kg sold from 143¢ to 150¢ a kilogram; between 220 and 270kg at 139¢ to 147¢; and over 270kg at 136¢ to 144¢
Quality was very good, with mainly light to medium weight cattle being offered.

Prime Steers:

Heavy steers – to $450 to $623
Medium steers – $390 to $445
Light steer – $320 to$385

Prime Heifers:

Top-weight heifers – $360 to$516
Medium heifers – $320 to $355

Light heifers – $270 to $300

Prime Cows:

Heavy cows – $360 to $525
Medium cows – $320 to $355
Light cows – $290 to $318

Vealers:

The vealer yarding was not of particularly good quality. Heifers sold to $320 for good 18 - month Angus, others in this age group selling to $260. Seven month calves straight from their mothers sold from $220 to $230. In the bobby calves, Hereford cross heifer calves made to $72 and Friesian bull calves to $57.

Store Steers:

Yearling steers sold to $345 with most sales between $200 and $267.
Steers between 12 and 18 months ranged up to $336.
Adult steers were between $302 and $411.

Store Heifers:

Yearling heifers ranged from $190 to $272.
Heifers between 12 and 18 months brought from $213 to $301.

Store Cows:

Store cows were not yarded in large numbers.
35 empty Angus cows sold at $280 to $351.

3.6.3 Minimum Price Schemes

For information on the Government's Supplementary Minimum Prices Scheme and the N.Z. Meat Board's Price Smoothing Scheme refer to Section 3.1.5 in this manual.

3.7 DAIRY PRODUCE

3.7.1 Whole Milk for Manufacture

In June, the Dairy Products Prices Authority fixes two values, one for milkfat and one for solid-not-fat (S.N.F.). When these prices are known, the New Zealand Dairy Board fixes the actual product purchase prices, i.e. the prices for butter, cheese, milk powders, etc. Costs of milk collection and of manufacturing are included. The Board may adjust the prices, by up to 8 cents/kilogram of milkfat to achieve a desired product range. If the reaction of the manufacturing companies to the price is favorable, the prices are confirmed and the companies are then committed to manufacture not less than 90% of the products as set out in their programs.

The companies are paid by the N.Z. Dairy Board on the 20th of each month. After the companies have deducted their manufacturing and administrative costs, and have possibly withheld amounts for capital development, they pay the residual amount to their suppliers on the 20th.

The advance payment is usually 70% of the expected final payment, and the final adjustment for the year is made in June. In 1979/1980 the whole milk price as set by the Prices Authority is 165.72 cents/kilogram milkfat, but there is also a Government guaranteed minimum price of 185 cents/kilogram milkfat, both in 1979/1980 and 1980/1981. This guarantee scheme means that there will be either a retrospective adjustment during the season, or an end-of-season payment, of at least 14.28 cents/kilogram milkfat. The final price paid by local companies in 1977/1978 was approximately 171 cents/kilogram milkfat.

3.7.2 Whole Milk for Town Supply

The national town milk producer price is linked to the average price for whole milk used for the major manufactured products. This relationship is 1 cent/kilogram milkfat equals 0.06 cents/litre of milk. Prices to the producer are varied with the season of the year, to compensate for climatic conditions and to encourage production in the more difficult periods.

In addition, special price supplements are paid in specially difficult areas for dairying. For example, there is a special South Island allowance of 0.735 cents/litre and a Christchurch area allowance of 0.367 cents/litre which applies to full price milk of finest and first grade in March to August, both inclusive. The national advance town milk price, for the year ending 31st August 1980, is 12.9491 cents/litre of first grade milk. An example of how this price is applied by a producer company is as follows:

CANTERBURY DAIRY FARMERS LIMITED
Milk Prices 1979/1980

		QUOTA MILK (cents per litre)			SURPLUS MILK (cents per litre)		
Month	Full Price Paid for:	Finest	First	Second	Finest	First	Second
September'79	110% of quota	13.288	12.921	12.189	6.3	6.3	6.3
October	105% " "	10.787	10.420	9.688	"	"	"
November	105% " "	"	"	"	"	"	"
December	105% " "	"	"	"	"	"	"
January '80	105% " "	"	"	"	"	"	"
February	120% " "	"	"	"	"	"	"
March	120% " "	14.390	14.023	12.189	"	"	"
April	120% " "	"	"	"	"	"	"
May	120% " "	18.141	17.774	15.940	"	"	"
June	120% " "	"	"	"	"	"	"
July	120% " "	"	"	"	"	"	"
August	120% " "	"	"	"	"	"	"

NOTE: **Finest grade** is milk which passes a 5-hour reductase test and contains not less than 3.5% milkfat, and sediment test of 1 or 2, and freezing point 0.530 or more.

First grade is milk which passes a 3-hour reductase test but fails to pass a 5-hour test and/or contains not less than 3.25% milkfat.

Second grade is milk which fails to pass a 3-hour reductase test or contains less than 3.25% milkfat, or sediment test 3, or freezing point less than 0.530.

A penalty is applied to quota plus eligible percent of S.N.F. and below. The penalty is applied on a monthly basis on the average of three solids not-fat tests per month – one in each ten day period.

The three-tiered penalty system introduced this season is as follows:-

S.N.F. rating	Penalty
less than 8.0%	1.0 ¢/litre
8.0% - 8.3%	0.367 ¢/litre
8.3% - 8.4%	0.185 ¢/litre

For purposes of comparison between seasons, the milk prices for the 1978/1979 season are shown below:

CANTERBURY DAIRY FARMERS LIMITED
Milk Prices 1978/1979

Month	Full Price Paid for:	QUOTA MILK (cents per litre) Finest	First	Second	SURPLUS MILK (cents per litre) Finest	First	Second
September '78	110% of quota	12.525	12.158	11.426	6.367	6.000	5.268
October	105% " "	10.172	9.805	9.073	"	"	"
November	105% " "	"	"	"	"	"	"
December	105% " "	"	"	"	"	"	"
January '79	105% " "	"	"	"	"	"	"
February	120% " "	"	"	"	"	"	"
March	120% " "	13.627	13.260	11.426	"	"	"
April	120% " "	"	"	"	"	"	"
May	120% " "	17.156	16.789	14.955	"	"	"
June	125% " "	"	"	"	"	"	"
July	120% " "	"	"	"	"	"	"
August	120% " "	"	"	"	"	"	"

3.7.3 Dairy Industry Stabilization

At the start of each season, basic farm gate values are established for milkfat and S.N.F. (solid-not-fat). Except in exceptional circumstances, these values must not be more than 10% up or 5% down on the previous season's basic values. At the end of the season, if either (or both) of the milkfat Trading Account and the S.N.F. Trading Account indicates a surplus, the Dairy Board may distribute a percentage of this to suppliers, the balance being credited to a Reserve Account. In the event of the Board incurring a loss in milkfat and/or S.N.F. products, it will be granted overdraft facilities at an interest rate charge of 1% per annum by the Reserve Bank of New Zealand if the loss exceeds the accumulated reserves in the relevant account.

3.7.4 Supplementary Minimum Prices for Milkfat

In addition to the stabilization procedures operated by the dairy industry, the Government has established, and will underwrite, a farm gate Supplementary Minimum Price for the

1979/1980 season of 185 cents/kg of milkfat in wholemilk. A similar price will also be set for the subsequent season at a level not less than that set for 1979/1980.

For the current season, a supplementary payment will be made by the Government to the Dariy Board to bring the Board's total payout up to 185 cents/kg, if the combined basic price plus 50% of the 1979/1980 individual trading surplus of milkfat and S.N.F. are less than 185 cents/kg. Regardless of the actual percentage payout of the Board of any trading surplus for 1979/1980 the level of any supplement paid by the Government will be based on an assumed payout of 50%.

The 185 cents/kg refers to the farm gate prices as paid by the Dairy Board to dairy companies. Company payments to suppliers will fluctuate around the 185 cents/kg for a number of reasons including the product mix, manufacturing cost levels, and decisions regarding the degree of capital formation to be undertaken.

3.7.5 1979/1980 Dairy Beef Market Guarantee Scheme

To encourage the retention of dairy beef calves, the 1979 November–December national average price for 'spring-born' dairy beef weaners is being guaranteed at a minimum of $70 per head. If the average price of the dairy-beef weaners sold at auction during November and December is below $70 per head, every eligible calf will attract a supplementary payment equal to the difference between the average price and $70.

Every eligible calf will attract the same payment irrespective of the weight or the sale price of the particular animal, and of whether or not the animal is sold. The scheme covers beef calves of dairy origin born between 1 June 1979 and 31 May 1980 on a dairy farm that has supplied more than 3 000 kilograms of milkfat to a milk station or a dairy factory in the 1978/1979 season, or that will supply this amount in the 1979/1980 season.

Eligible calves that are born between 1 June and 31 October 1979 are to be registered during November 1979 while those born between November 1979 and 31 May 1980 are to be registered during June 1980.

The payments will be made to whoever owns the calves at midnight on 31 October 1979 with regard to the first registration period, and on 31 May 1980 with regard to the second period. The claimant need not necessarily be a dairy farmer, but may have purchased calves to rear them.

3.7.6 Dairy Cattle Prices

The differences in the prices paid for dairy cattle in the various districts of the country are not solely attributable to locality. They are dependant on the type of dairying carried out (i.e. town milk or factory supply), the other farming systems in the district, and the time of the year.

The following table shows the variation in dairy cattle during the last year.

District		Northland /Auckland	Waikato	Canterbury	Otago
Month/Class of Stock**					
January/ February	1	$250		$230 - 245	$220
	2	$160			$150
	3	$160		$230 - 250	$175
	4	$150			$140
May	1	$370	$350	$300 - 350	$250
	2	$280	$330	$	
	3	$250	$350	$290 - 340	
	4	$230	$325		
August	1	$300	$300 - 330	$290 - 310	
	2	$240	$280 - 300		
	3	$230	$270	$280 - 300	
	4	$210	$250 - 260		
November	1	$300 - 320	$280 - 320	$330 - 350	
	2	$240	$250 - 300		
	3	$170	$180 - 250	$320 - 350	
	4	$135	$240		

** Class 1 = Friesian 2nd/3rd calver
Class 2 = Jersey 2nd/3rd calver
Class 3 = Friesian heifer i.c. or r.w.b.
Class 4 = Jersey heifer i.c. or r.w.b.

SOURCE:"Marketplace" in New Zealand Farmer magazine; January, February, May, August and November 1979.

The dairy cattle offered at Addington saleyards, Christchruch, are few in number and not of very good quality by and large, except for some lines of yearling heifers. Addington market

prices are therefore not the best guide to dairy cattle prices. In Canterbury, with a distinct emphasis on town supply dairying, there is a considerable premium paid for autumn-calving cows and heifers over the prices paid for spring-calving cows and heifers.

There is a shortage of dairy cattle for sale in the Canterbury region. With the increasing costs of grain and protein, and a small increase in the prices for pig meats during the last year, profitablility has increased slightly.

3.8 PIG PRODUCTION

3.8.1 Introduction

The majority of pigs produced in New Zealand are now all meal fed, based on grain from the South Island and the Waikato region. With the increasing costs of grain and protein, and a small increase in the prices for pig meats during the last year, profitability has increased slightly.

3.8.2 Prices

The Pork Marketing Board has set a minimum price to maintain the viability of pig production. The Canterbury Frozen Meat Company operates at this schedule, as set out below.

MEAT SERVICES LIMITED

A Member of the C.F.M. Group of Companies

Pig Schedule On Hooks at Belfast Works

Effective as from Monday, 21st January 1980.

Note: Weight ranges and payments based on "hot" scale weight, head and feet on.

Hot Weights

45.5kg - 70kg	PRIME	177 cents per kilogram
	CHOICE	168 " " "
	STANDARD	147 " " "
	MUTILATED	135 " " "

70.5kg - 83kg	PRIME	165	cents per kilogram
	CHOICE	159	" " "
	STANDARD	137	" " "
	MUTILATED	120	" " "
Manufacturing			
All weights		68	" " "

These prices are subject to change at short notice.

Deductions:

Pork Industry Council Administration	50.0¢ per pig
Pork Marketing Board Stabilization Levy	100.0¢ per pig
Federated Farmers Levy	6.0¢ per pig
Total	156.0¢ per pig

Most pork is sold on the local fresh meat market where returns are higher. Current retail prices vary from $2.60 to $4.90 per kilogram. Most weaners and store pigs are sold between farmers by private contract with prices based on the schedules for slaughter pigs. Breeding stock are marketed similarly with premiums for stock with a Performance Testing background. A limited number of all classes of stock are sold at auction through saleyards.

The results of the Addington sale on Tuesday, February 13th 1980 are shown below.

Because of a high proportion of lightweight pigs, values in the fat pig section were similar to last week's levels. Many lightweight porkers were sold to fatteners to take through to baconer weights.

Light porkers – $65 to $70

Medium and heavy porkers – $70 to $80

Light and medium baconers – $80 to $92

Heavy baconers – $96 to $110 with the odd sale to $120

Choppers, $125 to $140 with only the best exceeding $155

Values for store pigs were similiar to last week's rates. Quality was again mixed. There was little demand for poorly presented weaners and slips and these dropped in price.
Small weaners – $24 to $28
Good weaners – 430 to $35
Slips and small stores – $37 to $47
Large stores – $46 to $55, with odd sales of unfinished pork to $58.

3.9 GOAT PRODUCTION

(A.R. McIvor – Farm Management Department Lincoln College)

3.9.1 Introduction

Production from goats within New Zealand can be divided into three categories, meat, milk and Angora mohair. Of these, meat production from feral goats has the highest output but the lowest unit value, whilst milk and mohair from Saanen and Angora strains respectively, with considerably higher unit values, are experiencing a period of growth.

3.9.2 Meat Production

Some 1220 tonnes of chevon (goat meat) was exported in 1977/78. This trade is based on the annual muster and slaughter of feral goats largely in the Hawkes Bay, East Coast, South Auckland, Te Kuiti, and Nelson-West Coast regions. Problems exist in the timing of killing due to pressure on existing killing facilites, and export values for both meat and hides are low.

Current range of values paid by exporters . . . $5 - $7 per head
Feral does for upgrading . . . North Island $7 - $10 per head
Feral does for upgrading . . . landed in Canterbury $30 - $50 per head

3.9.3 Milk Production

Goat milk is produced for three major purposes; for consumption as milk, or for processing into powdered milk, or for Fetta cheese.

Raw milk for consumption as milk is provided to the public from usually small herds of twenty to forty milking does. This tends to be a special need for invalids or people with allergies. Sales may be made at the farm gate, or through retail outlets. Milk powder is at present only made at the Hikurangi Dairy Co. north of Whangarei with a current production of approx. ten tonnes of powder per annum. Due to the small quantity of milk available for processing and difficulties with marketing, no other companies as yet have developed facilities. Fetta cheese is produced in a number of districts throughout New Zealand.

The following values should be taken as an indication only of relative price levels paid to producers for milk:

Town milk (raw milk)	45¢ – 56¢	per litre
Powdered milk	32¢	per litre
Fetta cheese	17.6¢	per litre

Values of Milking Goats – Saanen

Doe kids	$60 - $120
Mature does	$120 - $400
Bucks	$ 50 - $200

3.9.4 Angora

World Angora wool production has been declining over the last decade and values of wool have tended to fluctuate markedly, but have increased in recent years to the present high level. Unfortunately the genetic pool of Angora stock within New Zealand is very limited, with not only an undersupply of purebred stock, but also a restricted number of blood lines.

Pure bred bucks are used for mating to feral does in an upgrading process which takes three to four generations to attain animals producing quality wool. As a result values for pure bred animals soared in 1978-79 but it is thought that values will stabilize during 1980.

Angora wool production
(source: Lands and Survey Department)

Kid bucks	1.5 kg per annum
Kid does	1.2 kg per annum
Kid does	1.2 kg per annum
2th does	2.5 kg per annum
Dry does	3.2 kg per annum
Bucks (2 yrs of age)	4.0 kg per annum
M.A. does	3.0 kg per annum
Wethers	3.5 kg per annum

Wool Value

Kid	
1st kid super quality free of fault	$18.00 per kg
2nd kid with faults and kemp	$ 5.00 per kg
Adult	
Good long staple, good quality	$ 4.00 per kg
2nd quality - with fault and kemp	$ 3.00 per kg
Carding	$ 4.50 per kg
2nd quality	$ 2.00 per kg
Crosses	
¾ and ⅞ Angora cross	$ 3.50 per kg
½ bred Angora/Feral	$1.70 - $2.20 per kg

Value of mohair is influenced by the very small lots that are able to be offered and an improvement in values may be possible with larger offerings. The demand from local spinners for good quality kid wool is high.

Values of Stock

4th crosses and pure	
Kid does	$1 000 - $ 4 000
M.A. does	$1 000 - $10 000
Kid bucks	$2 000 - $ 3 000
2th bucks	$4 000 - $10 000
Mature bucks	$4 000 - $12 000
1st cross does	$100
2nd cross does	$150 - $200
3rd cross does	$500

3.10 DEER PRODUCTION

3.10.1 Introduction

Deer farming in New Zealand is a rapidly developing diversification with much promise as an export earner through sales of the two main products - venison and velvet antlers. By-products such as skins, tails, eye teeth, sinews and pizzles also have a good market value.

3.10.2 Velvet Prices

Prices as at mid December were as follows:

Grade	$/Kg
Super A *	254.00
A	243.00
B	198.00
C	110.00
D	44.00
Super D **	88.00

* Greater than 3.5 kg from one animal.

** Cut or slightly damaged A grade (less than 15 cm in length)

The New Zealand Deer Farmers Association operates a velvet pool which is offered as an alternative means of sale, and is of greater benefit to those selling small quantities of velvet at any one time. Prices for 1979/80 were unavailable at the time of print but 1978/79 prices are included:

Grade	$/kg
A	225.00
B	182.00
C	130.00
D	91.50
Fallow	137.00

3.10.3 Venison

Prices paid for venison vary widely but an average price for farmed venison would be in the region of $1.60 to $1.80 per kg.

3.10.4 Deer By Products

All the following prices given are approximate as a deer carcass is usually bought as a whole rather than as the separate products.

Skins	$4.00 each
Tails	$2.00 approx (on a weight basis)
Sinews	$2.20 per animal
Eye teeth	$3.00 per pair (stags)
	$1.00 per pair (hinds)
Hard antler	$7.00 - $8.00 per kg

3.10.5 Stock Prices

The price of stock at present is very variable depending on supply. Demand far exceeds supply and this is reflected in the increasingly high prices being paid for all classes of deer.

The following prices were from a Red deer sale in the Bay of Plenty in early November 1979

Hinds	up to	$3 850
Breeding Stage	up to	$4 900
Yearling Stags	averaged over $1 200; top	$1 850
Yearling Hinds	up to	$2 450

3.11 POULTRY PRODUCTION

3.11.1 Introduction

Poultry enterprises can be divided into two categories, meat and egg production. The poultry meat industry covers a range of species - chickens, ducks, and turkeys being the most common, but pheasants and geese are also raised commercially. Egg production (chickens) is estimated to be in the vicinity of 80 - 81 million dozen per annum.

3.11.2 Meat Chickens (Broiler)

Meat chicken production on a large scale is normally a contract operation in which the contracting firm pays most of the expenses such as feed, day old chicks, litter, and most

medication, and deducts these costs from the payout. The price paid for the final product is obviously largely dependant on the terms of the contract but in an average situation the payout would be approximately 95¢ per kg on a liveweight basis minus the above costs if applicable. For smaller operations (1 - 3 000 birds per batch as opposed to 20 - 30 000) it is not usual for a contract of the type mentioned above to be involved and the operator pays his own expenses including in many cases the processing costs. He could then expect to receive in the vicinity of $2.50 per kg - selling through a retail outlet or at the farm gate.

3.11.3 Eggs

The Egg Marketing Authority was established in 1953 and its principal functions are to regulate and control the production, marketing and distribution of eggs and egg products within New Zealand and elsewhere. Entitlement Licences are issued to all poultry farmers with more than 100 (egg type) laying birds and each holder of an entitlement license is levied monthly on the basis of the number of birds he actually has within the confines of his licence.

Of the 81 million eggs produced annually, approx 51 million are received, graded and sold by licensed distributors. The balance is marketed by poultry farmers direct to consumers or retailers situated outside defined Marketing Areas. Of the eggs passing through distributors in the year ending 30 June 1979, the prices received by farmer (Entitlement Levy deducted) was:

North Island ..... 72.4 cents per dozen.
South Island ..... 75.68 cents per dozen.

The other source of income from a layer enterprise is from cull birds. These usually sell for about $1.50 per bird ($1.00 - $1.90) through a retail outlet or at the farm gate, after processing.

3.12 FRUIT PRODUCTION

At the time of going to print, very few up to date fruit prices were available. The following are as at mid December 1979 unless otherwise stated.

3.12.1 Apples (June 1979)

	Market	Maximum Retail
Golden Delicious	29¢ per kg	43¢ per kg
Red Delicious	44¢ per kg	64¢ per kg
Granny Smith	41¢ per kg	59¢ per kg
Delicious	38¢ per kg	55¢ per kg
Sturmers	36¢ per kg	53¢ per kg
Richa Red	34¢ per kg	49¢ per kg

N.B. Maximum retail price is calculated as follows:
Wholesale price + 45% mark-up = 32¢ cartage/18kg (pear tray)

3.12.2 Pears

	Market	Maximum Retail
Packham's Triumph (April '79)	58¢ per kg	86¢ per kg
Doyenne du Comice (May '79)	61¢ per kg	90¢ per kg
Beurre Bosc (May '79)	47¢ per kg	70¢ per kg
Winter Cole (Mid June '79)	61¢ per kg	90¢ per kg

N.B. Maximum retail price is calculated as follows:
Wholesale price + 45% mark-up + 32¢ cartage/18kg (pear tray)

3.12.3 Berryfruits

	Market	Retail
Raspberries	73¢ – 75¢/punnet	95¢ – 99¢/punnet
Boysenberries (for processing - Watties)	$1.35/kg (using containers supplied by Watties)	-
Boysenberries	95¢/punnet	
Strawberries	30¢ – 52¢/punnet	59¢ – 79¢/punnet
Blackcurrants (for processing - Watties)	$1.00/kg (using containers supplied by Watties)	

3.12.4 Stone Fruits

	Market	Retail
Cherries	$2.50 per kg	$2.79 – $3.99/kg
Peaches	$3.30 – $7.70 per tray	$1.29 – $3.69/kg
Plums (Feb., 1980)		$1.95 – $2.98
Apricots (Feb., 1980)		99¢ – $2.40

3.12.5 Citrus

	Retail
Tangelos	95¢ – $1.60/kg
Lemons	$1.25 – $1.59/kg

N.B. Apple and Pear prices are from the New Zealand Apple and Pear Board. Prices for other fruits were taken from the Fruit and Vegetable Report ("Press" 14 December 1979). These prices are likely to change from week to week and are an indication only.

3.13 VEGETABLE PRODUCTION

The following prices were taken from the Fruit and Vegetable Report ("Press" 15 February 1980).

	Market	Retail
		$4.90 - $5.50
Mushrooms		
Lettuce	$1.00 - $1.50/case	38¢ - 45¢ each
Radishes		25¢ - 39¢/bunch
Onions	$3.00 - $4.50/bag	
Cucumber	12¢ - 20¢ each	25¢ - 79¢
Tomatoes	$1.50 - $3.00/carton	69¢ - $1.55/kg
Cabbages	$1.20 - $2.50/bag	35¢ - 69¢ each
Cauliflowers		39¢ - $1.25 each
Carrots		48¢ - 79¢/bunch
Silverbeet		69¢ - 89¢/kg
Sweet corn	10¢/cob	13¢ - 33¢/cob
Potatoes - Ilam Hardy	$2.50 - $3.20/bag	45¢ - 65¢/kg
- Chippewa	$4.00/bag	
Kumara	$18 - $24/case	
Parsnips	$6.20/bag	
Courgettes		80¢ - $1.59/kg
Brussel Sprouts		$2.20 - $3.50/kg
Celery		78¢ - 95¢/bunch
Beans		$1.20 - $2.85/kg

SECTION 4

FARM EXPENDITURE

4 FARM EXPENDITURE

4.1 WAGES

4.1.1 Dairy Farm Workers

(i) Permanent

	Per Week
Under 17 years of age	$ 69.71
17 years and under 18	$ 81.74
18 years and under 19	$ 93.76
19 years and under 20	$105.77
20 years and over	$114.19

These above figures are per week and found minimum rates of pay.

The ordinary hours of work shall be arranged between the employer and the employee, but shall not exceed 108 hours per fortnight. Within every 14 days, one day shall be free of work and 3 days shall be worked as part days. Free time should coincide where possible with weekends. A full day shall not exceed 9 hours and a part day shall not exceed 6 hours.

No employer shall charge any employee for board and lodging. Where the employer does not provide board or lodging, the employee shall be paid an extra $17.24 per week.

Thus, the adult weekly wage becomes $131.43.
($114.19 + $17.24 = $131.43)

In the case where the employee is provided with a house only, the employee shall be paid an extra $8.36 per week.

Thus, the adult weekly wage becomes $122.55.
($114.19 + $8.36 = $122.55)

The minimum hourly rate to be paid to permanent workers shall be 1/50th of the weekly rate.

(ii) Casual

The casual rate for a person not guaranteed a 40 hour week shall be 1/40th of the permanent weekly rate for a permanent worker of the same age except in the case of workers 20 years and over when the rate shall be $3.44/hour.

(iii) Every worker shall, after each year's continuous employment by one employer, be entitled to 3 weeks paid holiday consisting of 14 days taken consecutively and 7 days which may be taken for one or more days or part of a day.

After 15 years continuous service, a special holiday of 2 weeks may be taken.
After 25 years continuous service, a special holiday of 3 weeks may be taken.
After 35 years continuous service, a special holiday of 4 weeks may be taken.
After 40 years continuous service, a special holiday of 5 weeks may be taken.

(iv) Workers requesting to attend Lands Settlement courses are allowed from 3 weeks leave without pay per annum to a maximum of 6 weeks, provided normal farming operations are not affected.

(v) Training Incentives

Workers are entitled to additional payments if they produce suitable evidence of qualifications.

1st qualifying T.C.B. in farming	$1.045 per week
2nd qualifying T.C.B. in farming	$1.82 per week
Trade Certificate in farming	$2.35 per week
Trade Certificate in farm management	$4.18 per week

N.B. These allowances do not accumulate.

(vi) Wet Weather Gear Allowances

For the purpose of purchasing and maintenance of adequate wet weather gear, an employee shall be paid an additional allowance of $1.30 per week.

(vii) Vehicle Use

Where a worker uses his/her own motor vehicle on the employer's business, he/she shall be reimbursed an allowance at the rate of not less than 14.63 cents per kilometre. In the case of a motor cycle being used, the reimbursement shall be not less than 5.225 cents per kilometre.

4.1.2 Other Farm Workers

(i) Permanent

	Per Week
Under 17 years of age	$ 64.90
17 years and under 18	$ 75.73
18 years and under 19	$ 88.95
19 years and under 20	$ 98.56
20 years and over	$106.98

The above figures are per week and found minimum rates of pay.

Where the employer does not provide board and lodging the employee shall be paid an extra $17.24 per week.

Thus, the adult weekly wage becomes $124.22.
($106.98 + $17.24 = $124.22)

In the case where the employee is provided with a house only, the employee shall be paid an extra $10.45 per week.

Thus, the adult weekly wage becomes $117.43.
($106.98 + $10.45 = $117.43)

The minimum hourly rate to be paid to permanent workers shall be 1/45th of the weekly rate.

(ii) Casual

The rates of pay for casual workers are as follows:

	Per hour Without rations	Per hour With rations
Under 18 years of age	$2.64	$2.30
18 years and over	$3.22	$2.88

(iii) Training Incentives

Workers are entitled to additional payments if they produce suitable evidence of qualifications.

1st qualifying T.C.B. in farming	$1.045 per week
2nd qualifying T.C.B. in farming	$1.82 per week
Trade Certificate in farming	$2.35 per week
Trade Certificate in farm management	$4.18 per week

N.B. The above amounts do not accumulate.

(iv) Wet Weather Gear Allowances

For the purchases and maintenance of adequate wet weather gear, an employee shall be paid an additional allowance of $2.09 per week.

(v) Travel Allowances

An employee shall be reimbursed 5.225 cents per kilometre travelled on his/her employer's business.

This information was taken from the Agricultural Tribunal of New Zealand provided by the President of the New Zealand Farm Workers Association, Mr D. Hedderwick, Mendip Hills Station, Parnassus.

4.1.3 Shearers' and Shedhands' Wages 1979-80 (including 4.5% G.W.O. September 1979)

(i) Shearers Rates (minimum, with rations)

Machine shearing base rate (sheep)	$35.00 per 100
Machine shearing base rate (lambs)	$31.50 per 100
Machine shearing with cover comb	$39.71 per 100
Blade shearers	$52.25 per 100

All sheep with metal ear tags, other than stud sheep, are to be shorn at a premium of $2.09 per 100.

The shearing rate for stud sheep, stud lambs and hogget rams is 1.5 times the base rate i.e. $52.51 per 100.

The shearing rate for other rams is double base rate, i.e. $70.01 per 100.

Double-fleeced sheep and rams castrated after maturity are shorn at 1.5 times the base rate.

An allowance of $2.87 per day *in lieu* of rations and accommodation is to be paid to a shearer living away from the farm or contractor's quarters.

A shearer shall be reimbursed 15.51 cents /kilometre travelled if he provides his own transport on his employer's request.

Shearers who use their own hand piece must be paid a hand piece allowance of 68 cents per 100 sheep shorn.

(ii) Crutching Rates (minimum)

	per 100
Full belly, full crutch, flank and eye wig	$17.50
Full belly, full crutch, eye wig	$16.04
Full belly, tail crutch, eye wig	$14.19
Full belly, tail crutch	$13.22
Half belly, full crutch, flank and eye wig	$15.04
Half belly, full crutch, eye wig	$13.58
Half belly, full crutch	$12.68
Full crutch, eye wig – sheep	$11.67
– lamb	$10.50
Full crutch – sheep	$10.77
– lamb	$ 9.69
Tail crutch, eye wig – sheep	$ 9.82
– lamb	$ 8.84
Tail crutch – sheep	$ 8.86
– lamb	$ 7.97

The same allowances *in lieu* of rations and accommodation, and for travel as for shearers apply for crutchers.

(iii) Shedhands, Pressers, Daggers and Cooks' Rates (minimum)

Shedhands shall be paid not less than $3.05 per hour.

Pressers shall be paid not less than $3.19 per hour.

Daggers shall be paid not less than $3.19 per hour or $10.29 per 100.

For cooking for 12 persons and under, cooks shall be paid not less than $24.81 per day. For over 12 persons the rate is increased by $0.376 per person per day.

The same allowances *in lieu* of rations and accommodation and for travel as for shearers apply to these workers.

All workers reporting to the shed shall be paid a minimum of 4 hours pay, except where more than 4 hours are worked. This is applicable only if normal shearing commences and the sheep are not deemed too wet to shear or crutch. If the sheep are deemed to be too wet by secret ballot, a minimum payment of 2 hours will be paid except where the gang is living on the farm, and, having elected to begin work late in the day, less than 4 working hours remain.

4.1.4 Market Garden Workers

(i) Permanent Workers

	Per Week	Per Hour
Foremen/Forewomen	$133.60	$3.34
Leading Hands	$122.00	$3.05
Adults 20 years & over 19	$117.20	$2.93
Minors 19 years & under 20	$ 99.60	$2.49
18 years & under 19	$ 84.40	$2.11
17 years & under 18	$ 72.00	$1.80
16 years & under 17	$ 61.20	$1.53
Under 16 years	$ 52.00	$1.30

When piecework is worked, rates will be such as to enable an ordinary capable worker to earn 110% of the above rates. Hours of work shall not exceed 40 per week, or eight per day to be worked within 5½ days Monday to Saturday noon inclusive. Extra hours worked are to be paid at 1.5 times normal pay for the first 3 hours and double time rates thereafter. Work after Saturday noon and on Sundays shall be paid for at double rates. After one year's continuous service as an adult worker with the same employer, a service allowance of 5 cents/hour shall be paid. After 3 years service, this allowance shall be raised to 10 cents/hour.

(ii) Casual Workers

	Per Hour
Adults	$2.73
Minors 19 years & under 20	$2.32
18 years & under 19	$1.97
17 years & under 18	$1.68
16 years & under 17	$1.43
Under 16 years	$1.22

Piecework rates as above in (i)
Workers who work only on Saturdays shall be paid at ordinary rates for first 8 hours, 1.5 times ordinary rate for next 3 hours and at double rates thereafter. Workers engaged on a Saturday who have not worked 36 hours in the preceding five days, shall be paid at ordinary rates for the first 4 hours, 1.25 times ordinary rates for the next four hours, at 1.5 times for the next 3 hours and at double rates therafter.

Work done on Sunday or on statutory holidays shall be paid for at double rates.

(iii) Harvesters

	Per Hour
Adults	$2.85
Minors 19 years & under 20	$2.42
18 years & under 19	$2.06
17 years & under 18	$1.75
16 years & under 17	$1.50
15 years & under 16	$1.26
14 years & under 15	$1.08
13 years & under 14	$0.92
Under 13 years	$0.78

Piecework rates as above in (i)
Overtime shall be paid at 1.5 times ordinary rates for the first 4 hours and double rates thereafter for time worked in excess of:

8 hours in any day
40 hours in any week
5 days in any week

Time worked on Sundays is to be paid at ordinary rates unless the worker has completed 32 ordinary hours during the preceding six days in which case time worked shall be paid for at 1.5 time rates.

Workers who are required to work over time in excess of one hour beyond normal stopping time, shall be paid a meal allowance of $2.61 or be provided with a meal of equivalent value.

4.1.5 Orchard and Vineyard Workers (As at 31 December 1979)

(i) Permanent Workers
Minimum rates of wages:

	Per week
Managers	$133.90
Foremen (persons responsible to the workers for the day to day running of establishment)	$125.70
Adult workers 20 years and over	$114.95
Junior workers 19 years and under 20	$102.00
18 years and under 19	$ 97.70
17 years and under 18	$ 86.21
16 years and under 17	$ 74.72
Under 16 years	$ 63.22

Service Payment - After one year's continuous service as an adult worker with the same employer, a worker shall be paid a service allowance of 4.6 cents per hour. After three years this is increased to 9.2 cents per hour.

(ii) Casual Workers
Minimum rates of wages per hour

	Grade 1	Grade 2
Adult workers 20 years and over	$2.60	$2.53
Junior workers 19 years and under 20	$2.47	$2.40
18 years and under 19	$2.21	$2.15
17 years and under 18	$1.95	$1.90
16 years and under 17	$1.69	$1.64
Under 16 years	$1.43	$1,39

(iii) Overtime
For permanent workers, time worked in excess of 8 hours in any one day or 40 hours in any one week, and for casual workers all time worked in excess of 10 hours per day or 44 ordinary hours per week, shall be overtime, and shall be paid at 1½ times for the first three hours and at double time thereafter.

For permanent workers, all work performed on Sundays is paid at double time.

4.1.6 Nurserymen and Gardeners

Minimum rates of wages

		per week
(i)	Nursery technicians	$154.21
(ii)	Grade 1 Workers: - Landscape or garden adviser, or hire plant adviser - Propagation assistant, class (a) - Florist - Journeyman/nurseryman	$145.09
(iii)	Grade II Workers - Agricultural machine operator, class (b) - Landscape assistant - Nurseryman assistant, class (a) - Packer, class (a) - Garden centre assistant, class (a) - Senior Floral worker - School or recreational groundsman - Hire plant operative	$132.72
(iv)	Grade III Workers: - Agricultural machine operator, class (b) - Nursery assistant, class (b) - Propagation assistant, class (b) - School and recreational groundsman's assistant - Garden centre assistant class (b) - Senior floral workers assistant - Grafter - Budder - Hire plants assistant, class (a)	$123.83
(v)	Grade IV Workers: - Nursery assistant, class (c) - Propagation assistant, class (c) - Potter - Floral worker - Packer - Hire plant assistant class (b) - Workers not elsewhere specified.	$114.95

(vi) Extra rates for Qualifications Held.

A nurseryman or gardener holding a trade certificate in Horticulture or gardening shall be paid 13.8 cents extra per hour.

Workers who have completed their apprenticeship shall be paid an additional 11.5 cents per hour. Extra rates for the holder of certificates issued under the R.N.Z.I.H. Act 1953 are:

	per week
Junior	$2.30
Intermediate or National Certificate	$3.45
Full Diploma	$4.60

Holders of the Diploma of Horticulture (Massey or Lincoln) shall be paid an extra $1.57 per week.

(vii) A foreman or leading hand in charge of 3 or more workers shall be paid $4.40 per week extra.

(viii) Service allowances

For continuous service with the same employer exceeding:

one year	$2.61 per week
two years	$5.23 per week
four years	$7.84 per week

N.B. This award only operates throughout the Northern, Taranaki, Wellington, Marlborough, Nelson, Westland, Canterbury and Otago Industrial Districts.

4.2 ANIMAL HEALTH

4.2.1 Dog Registration and Hydatid Control Fees.

These vary depending on the Local Body involved. However, a typical fee would be $15.00 per dog or bitch over 3 months of age. Fees are usually reduced to half price after October.

4.2.2 Contract Dipping

(i) Sheep Dipping –

Plunge: total cost, including materials –

1 to 500	27.0 cents per sheep
500 to 1 050	25.0 cents per sheep
1 050 to 2 050	23.0 cents per sheep
2 050 to 4 000	22.0 cents per sheep
Over 4 000	21.0 cents per sheep

Mobile Shower:

The basic cost is $7.00 per 100 head, with materials extra. The length of wool on the sheep affects the amount of dip chemical required. The total price ranges from $14.00 - $18.50 per 100 head.

4.2.3 Sheep and Cattle Dipping Guide

(i) Sheep

Cost per 100 based on 2 litres of wash per head (these costs can vary depending on wool length).

Parasite	Dip to use	Price	Size	Method of Application	Dilution	Average cost per 100 Sheep
Lice	Trigon D.F,F	$300.00	10 l	Plunge	1:2000	$3.00
Ked					1:4000	$1.50
Fly				Shower	1:2000	$3.00
					1:4000	$1.50
				C.R. Shower	1:1280	$4.68
					1:2560	$2.34
Lice	Asuntol	$225.00	20 l	Plunge	1:2000	$1.13
Ked						
Fly				C.R. Shower	1:2000	$1.13
Lice	Diaz-O-Spray	$317.19	10 l	Plunge	1:4000	$1.58
Ked	D.F.F.				1:8000	$0.79
Blowfly				Shower	1:4000	$1.58
					1:8000	$0.79
				C.R. Shower	1:2000	$3.17
					1:4000	$1.58
Lice	Numix	$8.12	5 kg	Plunge	1kg:1000 l	$2.32
Ked				Shower	1kg:1000 l	$2.32
				C.R. Shower	1kg: 750 l	$3.09

(C.R. shower denotes continuous replenishment).

From the above guide it can be seen that cost per 100 head on average varies from 79 cents to $4.68 with an average overall cost of $2.00 per 100 head.

(ii) Cattle

MSD Ridlice 2 litres $89.16

51 - 100 kg	666 Doses of 3 mls per head	13.3
100 - 150 kg	444 Doses of 4.5 mls per head	20.1
150 - 200 kg	333 Doses of 6 mls per head	26.7
200 - 250 kg	266 Doses of 7.5 mls per head	33.5
250 - 350 kg	200 Doses of 10 mls per head	44.5
350 - 450 kg	154 Doses of 13 mls per head	57.8
450 and over	133 Doses of 15 mls per head	67.0

4.2.4 Sheep and Cattle Dips, Sprays & Dressings

Trigon D.F.F. Powerpack	6x500 ml	$ 99.84
Diaz-O-Spray D.F.F. Powerpack	6x500 ml	$105.73
Supreme D.F.F. Powerpack	6x500 ml	$143.51
Supreme D.F.F.	10 litre	$403.53
Bacteriostat Powder	600g	$ 5.08
Diaz-O-Dust	25kg	$ 45.95
Asuntol Powder	4x1 kg	$ 79.20
Asuntol Liquid	200ml	$ 4.46
	5 litre	$ 73.53
Celbar 10%	100 ml	$ 12.00
Diazinon 40%	5 litre	$ 59.79
	20 litre	$238.83
Lucijet	1 litre	$ 25.00
Mansonil	1 kg	$ 26.90
Bash Sheep Pour-on	2.5 litre	$ 47.80
	10 litre	$182.08
Crumate Pour-on	2 litre	$ 16.24
	5 litre	$ 39.15
	5 litre	$ 10.45
Rolac Pour-on	20 litre	$ 39.20
Dursban 10E	2 litre	$ 31.58
	5 litre	$ 78.10
Entoban 40	5 litre	$ 65.05
	20 litre	$252.20
Ridlice (cattle)	2 litre	$ 89.16
	6x500 ml	$144.00
Cythion (cattle)	5 litre	$ 19.35
	20 litre	$ 75.47
Warbex (cattle)	1 litre	$ 14.38
	5 litre	$ 68.50
Tiguvon Pour-on	5 litre	$ 13.50
Tiguvon Spot-on	500 ml	$ 13.50
	2.5 litre	$ 60.75
Defiance Blowfly Dressing	5 litre	$ 13.60
Ciodrin Animal Spray	6x0.5 litre	$ 36.30
Ectokil Cattle Spray	5 litre	$ 25.61
Lypor	2 litre	$ 31.90
	5 litre	$ 72.50
Paraban	5 litre	$ 43.16
	20 litre	$162.50
Mange and Lice Dressing	2 kg	$ 8.31

4.2.5 Sheep and Cattle Drenching Guide

(i) Sheep Drenching (Cost in cents per dose)

Nilverm

Type of Animal	Weight Range	Dose Rate	Pack Size & Cost of Pack 45 l $517.44	24 l $283.33	12 l $144.43	5 l $64.80
Sheep	up to 22.5kg	4 ml	4.60	4.72	4.81	5.18
	22.5 - 34kg	6 ml	6.90	7.08	7.22	7.78
	34kg and over	8 ml	9.19	9.44	9.62	10.37

Panacur

Type of Animal	Weight Range	Dose Rate	Pack Size & Cost of Pack 30l $310.00	20l $230.00	5l $61.00
Lambs	15kg	3 ml	3.10	3.45	3.81
Lambs & Hoggets	21 - 30kg	6 ml	6.20	6.90	7.32
	30 - 40kg	8 ml	8.26	9.20	9.76
Sheep	40kg and over	9 ml	9.30	10.35	10.99

Thibenzole

Type of Animal	Weight Range	Dose Rate	Pack Size & Cost of Pack 30 l $313.33	20 l $218.96	10 l $116.27	5 l $60.18
Lamb	Up to 20kg	4 ml	4.20	4.37	4.65	4.81
Lambs & Hoggets	21 - 30kg	6 ml	6.30	6.57	6.97	7.22
Hoggets	31 - 40kg	8 ml	8.40	8.75	9.30	9.63
Sheep	over 41kg	10 ml	10.51	10.94	11.63	12.04

Rintal – 2½% suspension

Type of Animal	Weight Range	Dose Rate	Pack Size & Cost of Pack 20 l $200.00	2.5 l $30.00
Lambs	Up to 25 kg	5 ml	5.00	6.00
Hoggets	25 to 35kg	7 ml	7.00	8.40
Adults	over 35 kg	9 ml	9.00	10.80

(ii) Cattle Drenching (cost in cents per dose)

Nilverm

Weight Range	Dose Rate	Pack Size & Cost of Pack 45 l $517.44	24 l $283.33	12 l $144.43	5 l $ 64.80
Up to 100kg	20 ml	23.00	23.60	24.05	25.90
100 to 200kg	40 ml	46.00	47.20	48.10	51.80
200 to 300kg	60 ml	69.00	70.80	72.20	77.80
over 300kg	80 ml	91.90	94.40	96.20	103.70

Thibenzole

Weight Range	Dose Rate	Pack Size & Cost of Pack 30 l $315.33	20 l $218.96	10 l $116.27	5 l $ 60.18
Up to 50 kg	17 ml	17.86	18.61	19.77	20.46
50 to 150kg	50 ml	52.55	54.74	59.14	60.18
150 to 200kg	70 ml	73.67	76.82	81.88	86.00
200 to 300kg	100ml	105.11	109.48	116.27	120.40

Noviben Paste

10 cartridge pack $155.17 ($15.51 per cartridge)
20 cartridge pack $307.27 ($15.36 per cartridge)

	Doses per cartridge	Cost per dose (cents)
Up to 100 kg	50	31.16
100 to 150 kg	33	47.21
150 to 200 kg	25	62.32
200 to 250 kg	20	77.90
250 to 300 kg	16	97.37
300 to 250 kg	14	111.29
350 to 400 kg	12	130.00

Rintal 10% suspension

	Dose rate	Cost per dose (cents)
Up to 40 kg	3 ml	11.46
40 to 100 kg	7.5 ml	28.65
100 to 160 kg	12 ml	45.84
160 to 200 kg	15 ml	57.30
200 to 300 kg	22.5 ml	85.95

4.2.6 Bloat Control

Product	Pack Size	Price
Blogon	20 litre	$ 61.96
	200 litre	$573.00
No Bloat (N.I.)	20 litre	$ 32.43
	200 litre	$240.58
(S.I.)	20 litre	$ 38.55
	200 litre	$268.80
Blokure	20 litre	$ 57.80
	200 litre	$541.31
Bloatas	20 litre	$ 60.13
	200 litre	P.O.A.
Bloatenz Two in One	20 litre	$ 63.09
	200 litre	$498.08
Bloatenz Premix Drench	200 litre	P.O.A.

4.2.7 Facial Eczema Control

Product	Pack Size	Price	Price/Litre
Sporex	5 litre	$ 66.80	$13.36
	20 litre	$264.80	$13.24

4.2.8 Vaccines

Vaccine	Size of Pack	Cost	Dose Rate	Cost per Head (cents)
Pulpy Kidney	200ml	$ 3.73	Sheep & Lambs	3.73
	500ml	$ 8.87	2cc	3.54
PK-Tetanus	200ml	$ 6.13	Sheep & Lambs	6.13
	500ml	$14.64	2cc	5.85
Black leg-Malignant Oedema	100ml	$ 2.67	Sheep & Lambs	5.34
	200ml	$ 5.12	2cc	5.12
	500ml	$12.45		4.98
Triple	200ml	$ 8.12	Sheep & Lambs	8.12
(Pk, Bl, Mo)	500ml	$19.31	2cc	7.72
Multine 4 (Pk, Bl, Tet, Mo)	200ml	$ 8.83	Sheep & Lambs	8.83
	500ml	$21.01	2cc	8.40
Multine 5 (Pk, Bl, Tet, Mo,	100ml	$ 5.15	Sheep & Lambs	10.30
Black Disease)	200ml	$10.20	2cc	10.20
	500ml	$24.31		9.72
	1000ml	$46.16		9.23
Scabine	150dose	$ 2.64		1.76
Foot Rot	100dose	$17.36		17.36
Scabby Mouth	125dose	$ 2.87		2.30

4.2.9 Penicillin

	Size of Pack	Price $
Durapen 3 in 1	12 tubes	7.28
	30 tubes	17.22
Procal 100	12 tubes	3.60
Procal 500	12 tubes	5.01
	36 tubes	14.34
Procal 1500	6 tubes	5.12
	12 tubes	9.71
Penicillin Udder Injection 50	12 tubes	1.80
P.U.I. 100	12 tubes	3.09
	36 tubes	8.49
Adpen 100	12 tubes	4.26
Penetha-Pen 100	12 tubes	3.57

4.2.10 Disinfectants

Hibitane	25 l	$ 44.02
	5 l	$ 8.83
Hibitane MCC Mastitis Control and	25 l	$102.08
Hibitane MCC Plus (with Glycerine)	5 l	$ 23.54
Syvel	200 l	$307.00
	5 l	$ 10.40
Anisep	20 l	$ 39.75
	5 l	$ 10.35

4.2.11 Metabolics

ICI – Tasman Borophos	450 ml	$ 3.73
Calcium Borogluconate	450 ml	$ 2.87
Boromag	450 ml	$ 3.20
Boromag Plus	230 ml	$ 1.13
Sulphamag Injectable	230 ml	$ 1.73
Ketol (for Sleepy Sickness & Ketosis)	5 litre	$16.09
	20 litre	$60.80

4.2.12 Poultry Remedies

Antibiotics	Tylan 100	10 kg	$194.55
	Tylan injectable (powder)	500 ml	$ 4.50
	Tylan soluble	100 gm	$ 23.58
Anticoccidial	Elancoban	20 kg	$240.00
Anthelmintic	Hygromix – 8	22.68 kg	$107.80

4.2.13 Stock Identification

(i) Eartags

'Allflex' Plastic Delta Plastics Ltd

	Blank ¢ each	Stamped ¢ each
Small – male (round)	9	12
– female (round)	7	-
Medium – male	15	21
– female	12	18
Large – male	21	28
– female	18	25
Maxi	25	33
Hi-Vu	39	49

All these types can be combined for use on sheep and pigs, and for beef and dairy cattle. All tags are available stamped from 1 - 999, individually or in sequence. Special stampings – names, codes, brands, logos, and 4 or more digits are also available. Colours are orange, yellow, white and green. Tag Paint $1.35 in black, white and yellow. Applicator $7.95. Spare applicator pins $0.70 each.

'Kenmor' Nylon Mainspan Enterprises

One-piece self piercing eartags available in 9 colours – red, blue, yellow, green, orange, purple, white, brown and black. Up to 18 letters, and numerals (incl. spaces) available.

Tags	$6.90 per 100
Stamping – repetitive or consecutive numbers	$2.60 per 100
– name and consecutive numbers	$5.20 per 100
Applicator pliers	$6.83

'Farm-Acy'

Brass eartags stamped with year date, consecutive numbers and station/stud name.

stamped	$9.00 per 100
stamped, nickel plated	$11.50 per 100
Ear punch	$9.00
Tag Closing pliers	$2.50

Aluminium 'Kurl-lock' eartags stamped with prefix or name to 12 letters or figures, and year date and consecutive numbers to 9999.

stamped	$8.00 per 100
Applicators	$8.50

(ii) Brands and Tattoos

'Farm-Acy' stainless Steel Fire Brands	$66.40
Tattoo Outfits 5-letter	$29.35

(iii) Raddles and Markers

Ford's Raddle (Blue, Red, Green Yellow, Black) each	$0.44
'Brightline' Raddle (Blue, Red, Green, Orange, Violet, Yellow, Black) each	$0.41
'Anibrand' Light	$32.00
'Animark' Dark	$15.26
'Sprayline' Aerosol Markers (Red, Blue,Green Orange, Purple, Black, Yellow) – 400 gm	$ 3.20
– 170 gm	$ 1.93
'Top-Mark' Aerosol Markers (Purple, Red, Blue, Green, Yellow, Orange, Black) – 400 gm	$ 3.45
– 170 gm	$ 1.98

4.2.14 Mating Management Aids

ICI – Tasman Heat Detection Tail Paint 1 litre	$ 5.99
Chinball Mating Device for bulls	$26.56
Yellow, black, orange marking fluid 2 litre	$ 8.25
Ford's Ram Harness	$10.80
Fergus Ram Harness (Long Strap)	$ 9.60
Matingmark Crayons (Red, Blue, Green, Yellow, Purple)	$ 1.98

4.2.15 Lambing and Calving Requisites

Maskit Aerosol	$ 3.25
'Acceptron' Aerosol	$ 3.60
Bay Lambing Instrument	$ 3.00
'Lamb - Dry' lamb covers (roll of 100)	$14.95
twin marked (numbered 1 - 100; pk. of 4 rolls)	$35.00
'Lambjel' Ewe Ointment (per tube)	$ 2.15
'Lamblac' Ewe Milk Replacer 3 kg	$ 6.60
Denkavit 12 kg	$18.60
Ancalf 12kg	$16.40
Anlamb 2 kg	$ 4.80

4.2.16 Miscellaneous Animal Health Equipment

'Farm-Acy' Daroux Emasculators	$ 39.95
'Eye Witness' Lamb Castrators	$ 5.50
NZIG 'Jason' Lambtailer	$ 59.50
with hoses, regulators and spanner	$118.00
Hayes Lamb Tailing Iron	$ 5.47
Rubber Docking Rings (per packet of 500)	$ 6.80
ICI - Tasman - P20 Drench Gun	$ 52.64
- P20 Injection Attachment	$ 4.87
Flutter valve	$ 1.54
Bainbridge 56 ml Drench Gun	$ 52.00
MSD Cattle Gun 120 ml	$ 28.00
MSD Paste Gun	$ 19.76
MSD Sure-Shot Drench Gun 15 ml	$ 40.00
Mannings Cattle Gun 56 ml	$ 40.00
MSD Ridlice Applicator	$ 36.00
Phillips Horse Drencher	$ 35.63
Bash Gun	$ 40.75
Vaccinators – Cooper (plastic)	$ 3.20
– Mannings	$ 3.93
– ICI - Tasman	$ 3.41
Cow Covers – Brown jute: Lined	$ 24.00
Unlined	$ 20.00
– Green jute: Lined	$ 26.00
Unlined	$ 23.00
'Farm - Acy' Hoofcutters	$ 31.60
'Vasco' S.S. Footrot shears	$ 24.50

4.2.17 Miscellaneous Animal Health Products

'Hornex' dehorning paste (per tube)		$ 1.35
'Vigest' Predigested Tonic	2 litre	$ 12.00
'Dexolyte' Enteritis & Diarrhoea Remedy	3 kg	$ 10.98
Quixalud Scour Tablets	Pkts of 20	$ 3.95
'Zawbolyte' Diarrhoea & Scours Remedy	1 kg	$ 7.46
'Vetadine' P.V.P. Iodine Spray	150 gm	$ 3.50
'Vetnuvan' aerosol flea & tick control	170gm	$ 2.40
'Seleen' Suspension non-specific dermatoses control	125 ml	$ 4.75
Copper Injection (Cattle)	12 Tubes	$ 4.66
	36 Tubes	$ 11.28
	250 Tubes	$ 59.33
Flystrike Dressing	350 g	$ 1.67
Formalin	20 litre	$ 22.35
	200 litre	$143.50
'Ban Mag'	500 m	$ 5.92
Flea powder	100 gm	$ 1.26
Mange and Lice dressing	2 kg	$ 8.31
'Lypor'	5 litres	$ 72.50
'Paraban'	20 litres	$162.50
Parasite powder	450 gm	$ 2.25
Nilverm Pig Wormer	5 kg	$169.23
Equine Iron tonic	5 litres	$ 14.60

4.2.18 Veterinary Club Membership

Veterinary club charges vary from club to club. A typical membership fee would be $14.00.

Standard Visit Fee	$8.00
Examination Fee	$5.00

Annual animal health expenditure is generally in the range of 50 to 70 cents per stock unit.

4.3 BREEDING EXPENSES

4.3.1 Artificial Breeding Fee (Canterbury)

For the 6 week group membership, the fee is $30.00 plus $4.95 per cow. The seventh week, if required, is at cost.

If a Herd Testing Membership fee is not applicable then the following charges apply.

Cow Numbers	Cost
5	$ 54.75
10	$ 79.50
20	$129.00
30	$178.50
40	$228.00
50	$277.50
60	$327.00
70	$376.50
80	$426.00
90	$475.50
100	$525.00
110	$574.50
120	$624.00
130	$673.50
140	$723.00
150	$772.50
160	$822.00
170	$871.50
180	$921.00
190	$970.50
200	$1020.00

Deduct $30.00 from the above fees it Herd Testing is carried out. With the Premier Sire Service, 2 free returns with subsequent returns at $2.00 each.

4.3.2 Herd Testing Charges

With monthly testing, all cows tested twice or more are charged for. With alternate monthly testing, each cow tested more than once is charged for.

Cow No.	Monthly	Alternate Monthly	Production Ranking Test
Basic Herd Fee	$ 50.00	$ 30.00	$ 23.00
Minimum Charge	$100.80	$ 60.50	$ 42.80
	11 to 100 $5.08 each	11 to 100 $3.05 each	$1.78 each
20	$151.60	$ 91.00	$ 60.60
30	$202.40	$121.50	$ 78.40
40	$253.20	$152.00	$ 96.20
50	$304.00	$182.50	$114.00
60	$354.80	$213.00	$131.80
70	$405.60	$243.50	$149.60
80	$456.40	$274.00	$167.40
90	$507.20	$304.50	$185.20
100	$558.00	$335.00	$203.00
	101 to 149 $4.58 each	101 to 149 $2.75 each	
110	$553.50	$332.50	$220.80
120	$599.60	$360.00	$238.60
130	$645.40	$387.50	$256.40
140	$691.20	$415.00	$274.20
149	$732.42	$439.75	$290.22
	150 onwards $4.08	150 onwards $2.45 each	
150	$662.00	$397.50	$292.00
160	$702.80	$422.00	$309.80
170	$743.60	$446.50	$327.60
180	$784.40	$471.00	$345.40
190	$825.20	$495.50	$363.20
200	$866.00	$520.00	$381.00

4.3.3 Beef Plan (National Beef Recording Service).

Fees are $1.00 per animal entry for calving and including 200 day figures (20 animal minimum), plus 30 cents per animal entry for further options of 400 or 550 day. Progressive weight gain option is 10 cents.

4.4 CASH CROPPING EXPENSES

4.4.1 Sacks

(i) Prices 1979 / 80 (cents per sack)

For sack capacities see Part 1 Technical 1979, Section 17.2.6 Grain and Seed.

	94cm	104cm	116cm	122cm
New Sacks -				
ex wharf	73	78	84	98
ex Christchurch	75	80	87	100
Buying Back	44	47	52	65
Once shot sacks	60	64	72	84
Buying Back	20	35	45	52
Second - Hand Sacks incl. chaff sacks	35	50	60	66

N.B. Seeds for export must be put in new sacks.

(ii) Quantities of Sacks Required by Farmer

The farmer usually requires sacks to transport his F/D product to the store, and having been M/D there, a heavier weight can be put into the sack. Clovers, phalaris and timothy are delivered in single sacks but when M/D are put into double sacks.

The sacks containing seed bought by the farmer would be used for the seconds off the header and for storing seed held onto by the farmer for future sowings, so discount them in working out a budget.

4.4.2 Seed Certification Fees

All seed certification fees were cancelled by the 1978 Budget. The only exception is the 'Late Entry' Fee for all crops including potatoes.

A late entry fee of $10.00 (covering all entries of any one crop on one farm) is payable by the grower in respect of any application for certification received and accepted after the closing date fixed for a particular crop.

4.4.3 Seed Testing Fees

Seed testing charges set by the M.A.F. this season are $22.00 per test.

4.4.4 Consolidated Dressing and Store Handling Charges

These rates include receiving, delivering, sampling weighing, dressing, brushing of sacks and disposal of offal.

Ryegrasses – Ruanui, Tama, Manawa, Ariki, Paroa and Nui	5.6 cents per kg
Each additional time through	2.8 cents per kg
Cocksfoot	16.7 cents per kg
Clovers – White, Red and Alsike	16.7 cents per kg
Lucerne	16.7 cents per kg
Grass Seed (Fine) – Browntop, Fescue, Dogstail and Timothy	16.7 cents per kg
Turnips, Chou Moellier, Kale and Mustard	15.7 cents per kg
Rape	11.5 cents per kg
Prairie Grass	25.0 cents per kg
Yarrow	30.0 cents per kg

Separating White clover and Ryegrass		87.0 cents per sack
Separating mixed oats and Ryegrass		87.0 cents per sack
Slurry treating	(Captan) Wheat & barley	$19.57 per tonne
	(Captan) Oats & Peas	$21.00 per tonne
	(Vitaflow 200) Barley	$34.57 per tonne
Blending clovers and blending grass seeds		$ 1.56 per sack

Wheat and Ryecorn	$22.11 per tonne
Barley	$25.85 per tonne
Field Peas and Lupins	$27.50 per tonne
Garden Peas and Beans	$34.65 per tonne
Oats (dressing and clipping)	$30.80 per tonne
Linseed	$45.65 per tonne

Farmers usually only get their small seeds dressed and under ordinary circumstances seed goes once through the dressing machines.

Field dressed ryegrasses, clovers and timothy usually dress out approximately 25 percent offal and field dressed cocksfoot from 25 to 33 percent offal.

4.4.5 Box Hire

Approximately $4.00 per box depending on size.

(For capacities see Part 1 Technical 1979, Section 17.2.6, Grain and Seed.

4.4.6 Grain and Seed Drying Charges

Peas	to 17% moisture	$10.00 per tonne
	17-18% moisture	$12.00 per tonne
	over 18% moisture	$14.00 per tonne
	second time over	$ 7.00 per tonne
Wheat, Oats and Barley	to 17% moisture	$ 9.00 per tonne
	17-18% moisture	$10.00 per tonne
	over 18% moisture	$12.00 per tonne
	second time over	$ 6.00 per tonne
Small Seeds	to 17% moisture	5.00 cents per kg
	17-18% moisture	6.00 cents per kg
	over 18% moisture	7.20 cents per kg
	second time over	3.60 cents per kg

4.5 CONTRACTING

4.5.1 Contract Heading

Minimum charge in all cases where the crop runs under the specified yield per ha must not be less than $28.00 per header metre front per hour.

2.4m header	$ 67.20/hr
3.0m header	$ 84.00/hr
3.6m header	$100.80/hr
4.2m header	$117.60/hr

Wheat:	When the crop runs 2.35 tonne/ha or over, $18.40/tonne
Barley:	When the crop runs 1.95 tonne/ha or over, $22.05/tonne
Oats:	When the crop runs 1.55 tonne/ha or over, $27.55/tonne
Peas and Lupins:	When the crop runs 2.0 tonnes/ha or over, $23.90/tonne
Linseed and Clover:	$60.20 per ha or hourly rates according to the size of header, whichever is the greater.
Grass Seed:	$56.20 or hourly rates according to the size of header, whichever is the greater.

In all cases where heading is carried out on hill country the rate shall be increased by 20%.

All bagging, standing time for trucks and labour requirements are to be by arrangement.

Cartage is to be at Transport Schedule Rates.

4.5.2 Contract Mowing, Raking and Baling

Mowing Hay – Cutterbar	$21.50 per hour
– Disc mowing	$24.00 per hour
Raking, once over	$21.50 per hour
Baling hay or straw	$ 0.34 per bale
Half tonne bales (round)	$ 5.50 per bale
Sledging by contractor	$ 0.02 per bale
Picking up bales (hay or straw)	$ 0.40 per bale

For any quantity less than 20 tonne, price is by arrangement. On hill country there is a 20% surcharge.

4.5.3 Contract Chaff Cutting

Prices include machine and 6 men.

Oatsheaf	$0.70 per bag
Straw Chaff	$1.20 per bag
Oaten Hay	$1.20 per bag
Lucerne	$1.20 per bag

4.5.4 Contract Windrowing

$31.50 per ha for 10cm and above, $33.05 with conditioner.
$33.05 per ha under 10cm, $34.70 with conditioner.

4.5.5 Potato Contracting

Planting	$24 - 26/hour
Digging and Picking	85 cents/bag in paddock (14 bags/tonne; cartage extra)
Roguing	$28/ha $30/hr. for tractor and digger
Grading	$22 - $24/bin (11 sacks/bin) $28 - 30/tonne

Note: These costs are for an average crop in reasonable conditions.

4.5.6 Miscellaneous

Saw Bench	$22.00 per hour with one operator
Gorse cutting	$18.50 per hour
Tree topping	$40.00 to $45.00 per hour
Stonepicking	$29.00 per hour
Potato harvesting	$17.75 per tonne or $65.00 per hour, whichever is the greater, plus labor
Drilling	$19.40 per ha
Direct drilling	$25.50 per ha
Precision drilling	By arrangement

4.5.7 Cultivation Contracts

(i) Wheeled Tractors

P.T.O. Power kW	(H.P.)	Hourly Rate of Hire
Up to 21	(Up to 29)	$16.00
22 - 30	(30 - 40)	$17.50
31 - 36	(41 - 49)	$18.50
37 - 44	(50 - 59)	$19.50
45 - 50	(60 - 69)	$21.50
51 - 58	(70 - 79)	$22.00
59 - 62	(80 - 85)	$25.00
63 - 73	(86 - 99)	$27.50
74 - 88	(100 - 110)	$29.50
89 - 103	(102 - 140)	$32.50
104 - 118	(141 - 160)	$39.00

(ii) 4 Wheel Drive Tractors

Up to 11	(Up to 20)	$14.00
12 - 22	(21 - 39)	$16.50
23 - 41	(40 - 55)	$19.50
42 - 48	(56 - 65)	$21.00
49 - 55	(66 - 75)	$23.00
56 - 63	(76 - 85)	$26.00
64 - 74	(86 - 100)	$29.00
75 - 88	(101 - 120)	$32.00
89 - 103	(121 - 140)	$34.50
104 - 118	(141 - 160)	$40.00
119 - 136	(161 - 180)	$43.00
Over 136	(Over 180)	$48.00

(iii) Track Machines

23 - 41	(40 - 55)	$18.50
42 - 48	(56 - 65)	$22.00
Over 48	(Over 65)	$25.50

(iv) Extra Implements

Plus the following extra charges for implements

Up to 30	(Up to 40)	$2.50
31 - 45	(41 - 60)	$3.00
46 - 60	(61 - 80)	$4.00
61 - 75	(81 - 100)	$5.00
Over 75	(Over 100)	$6.50

(v) Or plus the following extra charges for Rotary Hoes.

Up to 1.3 metres	$ 3.50
1.3 - 1.5 metres	$ 4.00
1.5 - 1.8 metres	$ 4.50
1.8 - 2.0 metres	$ 6.00
2.0 - 2.3 metres	$ 7.50
2.2 - 2.5 metres	$ 9.00
Over 2.5 metres	$11.50

4.6 DAIRY SHED SUPPLIES

4.6.1 Milking Shed Equipment

Inflations –	Efco Monobloc No. 5	$1.20 each
	Monokura No. 6	$1.25 each
	Monobloc No. 15 (with petal mouthpiece)	$1.25 each
	Monokura No. 11 (with petal mouthpiece)	$1.26 each
	Smith No. 2 (for telescopic or universal cups)	$0.96 each
	No. 4B (for Smith 4-6 cups only)	$1.19 each
	No. 6B (as No. 4 but with larger mouthpiece)	$1.19 each
	4 - 6 rubber Cup base	$0.80 each
	4 - 6 S/S Cup Shell	$2.36 each
	4-6 S/S Cup set (complete)	$17.37 set
	(All Smith inflations have petal mouthpiece)	
Cups and Claws – Efco	Monokura Cups Bare	$16.00 set
	No. 8 Cluster Claws	$14.50 each
	No. 9 Cluster Claws	$15.00 each
	No. 10 Look -in Claw	$18.00 each
Rubber Tubing – Blue Line		
Claw (black and white)	152mm x 7.9mm x 4mm	$5.56 pkt.
	178mm x 7.9mm x 4mm	$6.08 pkt.
	3.6m x 7.9mm x 4mm	$4.78 each

Claw (Black Moulded Reinforced)	152mm	$7.66 pkt.
	178mm	$8.10 pkt.
Air (Black and white)		
	9.5mm x 4.8mm x 840mm	$1.26 each
	9.5mm x 4.8mm x 1.07m	$1.59 each
	9.5mm x 4.8mm x 1.22m	$1.89 each
	9.5mm x 4.8mm x 1.42m	$2.46 each
	9.5mm x 4.8mm x 1.73m	$2.99 each
	9.5mm x 4.8mm x 4.27m	$7.10 each
Milk (black and white)		
	12.7mm x 5.6mm x 840mm	$1.74 each
	12.7mm x 5.6mm x 1.07m	$2.26 each
	12.7mm x 5.6mm x 1.22m	$2.58 each
	12.7mm x 5.6mm x 1.42m	$3.11 each
	12.7mm x 5.6mm x 1.73m	$3.47 each
	12.7mm x 5.6mm x 3.66m	$7.96 each
	12.7mm x 5.6mm x 4.27m	$9.41 each
Milk Pump (black and white)		
	suction: 4.27m x 15.9mm x 6.4mm	$12.83 each
	delivery: 3.66m x 19.1mm x 7.9mm	$15.89 each
	suction: 3.66m x 22.2mm x 9.5mm	$24.90 each
	delivery: 1.83m x 19.1mm x 7.9mm	$7.94 each
Sleeve Tubing (black)		
	1.675m x 28.6mm x 6.4mm	$10.68 each
	1.675m x 35mm x 6.4mm	$13.03 each
Sleeves		
	76mm x 22.2mm x 4.8mm for 25.4mm tubing	$0.50 each
	102mm x 28.6mm x 6.4mm for 32mm tubing	$0.68 each
	102mm x 35mm x 6.4mm for 38mm tubing	$0.78 each
Spring Bends		
	11.1mm x 5.6mm	$1.13 each
	12.7mm x 7.1mm	$1.13 each
	12.7mm x 22.2mm x 6.4mm	$1.34 each
	12.7mm x 28.6mm x 6.4mm	$1.44 each

	12.7mm x 35mm x 6.4mm	$1.65 each
Longtail Bends		
	9.5mm x 7.9mm	$1.21 each
	12.7mm x 6.4mm	$1.08 each
Milk Pump Diaphragms	Efco No. 2 (for Efco 177mm pump)	$2.20 each
	Efco No. 16A (for Efco 177mm pumps - female thread - moulded insert Piston plate)	$6.00 each
	Efco No. 18A (for Efco 228mm pumps - male thread - moulded insert piston plate)	$7.60 each
Union Seals	Efco 25.4mm - 50.8 mm nitrile cone seals	$0.40-$0.47
Milking Machine Plugs	(for 12.7mm to 50.8mm tubing)	$0.25-$0.67
Strap Plugs	12.7mm to 50.8mm	$0.79-$2.35
Rubber rings		
	- vacuum tank	$0.83
	- tinned steel test bucket	$1.39
	- stainless steel test bucket	$0.95
Sluicing Nozzles		
	-25mm, 31.7mm with tap	$15.50
	-25mm, 31.7mm, without tap	$4.30
Calfetaria Equipment		
	- Calf valves	$0.60 each
	- 15 teat calfetaria	$61.50
	- Calf teats - old type and self sealing	$0.54
	- calfetaria tubing - 30m coils	$8.70
Twinflex plastic shed hose		
	- 25mm x 50m coil	$83.50
	- 32mm x 30m coil	$57.60
	- 38mm x 30m coil	$77.70
R.D.L. 7 Spray hose (black)		
	- 9.5mm per metre	$1.43
	- 12.7mm per metre	$2.01

Reverse flow clamps	$2.40
Snap clamps	$2.10
P.H.I. Jenson valves	$2.00
228mm S/S pump head (complete)	$62.50

Milk Filters (Northland Milk Filters)

	Regular	Heavy
10cm x 61cm	$14.60	$15.80
8cm x 61cm	$14.35	$14.75
7cm x 58cm	$14.30	$14.70
6cm x 61cm	$13.80	$14.10
6cm x 30cm	$ 8.00	$ 8.40

Plate Coolers (N.Z. Dairy & Industrial Supplies)

Model M & MC/MM	No. of plates	Milk Cooled litres/hr	Water Required litres/hr	Cost $
200	18/33	900/ 900	2700/2700	400/ 600
250	20/39	1150/1150	3450/3450	430/ 650
300	24/45	1350/1350	4050/4050	460/ 740
350	26/51	1600/1600	4800/4800	490/ 830
400	30/57	1850/1850	4700/4700	545/ 915
500	36/67	2300/2300	5800/5800	635/1060
600	42/79	2750/2700	6900/6800	720/1240
700	48/-	3200/-	6400/-	810/-
800	54/95	3700/3700	7200/7400	895/1450

Zelos Energy Converters (NZDIS) -- for water heating

Copper tube models	V1 - Standard with pressure reducing valve	$385
	R2 - Zelos with Recirculating pump	$445
	P3 - Standard - no flow controls - suitable for thermosyphon systems; where external recirc. pumps are used; in series with V1 or R2	$325
	PP4 - Recirculating Pump (240V or 110V) withstands 85°C plus	$105
Stainless Steel	SR5 - S/S inner core, corrosion resistant filted with recirc. pump	$515
	SP6 - S/S inner core, no flow controls - suitable for use in series with SR5; where external recirc. pump is used; direct expansion cooling of liquid food products	$395

SSR7 - S/S inner and outer cores with circulating pump; suitable for ammonia refrigeration	$560
SSP8 - S/S inner and outer cores without circulating pump - suitable for use in series with SSR7; with external cir. pump; in thermosyphon systems	$440

4.6.2 Dairy Hygiene

(i) Detergents and Sanitizers

Mycorinse	5 litre	$ 12.65
	20 litre	$ 49.00
	180 litre	$430.20
Klenz - Iodophor	5 litre	$ 9.76
	20 litre	$ 36.27
	200 litre	$ 76.68
Klenzade Iodovat	5 litre	$ 10.91
	20 litre	$ 40.79
	200 litre	$318.25
Q - Klenz	5 litre	$ 11.50
	20 litre	$ 44.50
	200 litre	$405.50
Klenzaid	5 litre	$ 5.59
	20 litre	$ 22.66
	200 litre	$161.94
Klenzade Stainless Steel Detergent	4.5 kg	$ 9.43
	5 kg	$ 9.00
	6 kg	$ 12.20
	20 kg	$ 37.40
Nu - Klenz Low Foam	4.5 kg	$ 8.97
	5 kg	$ 8.46
	6 kg	$ 11.54
	20 kg	$ 35.88
Tri - Klenz	5 litre	$ 7.20
	20 litre	$ 27.85
	200 litre	$198.00
Klenzphos Super 60	5 litre	$ 11.00
	20 litre	$ 42.72

(ii) Dairy Ointments, Soaps and Teat Protectants

Elthamol Ointment	1.5 kg	$ 4.55
	5 kg	$12.12
	10 kg	$23.08
	17 kg	$36.81
Milkeeze Ointment	450 gm tin	$ 2.60
	1.75 kg tin	$ 6.54
	18 kg pail	$53.75
Hibitane Antiseptic Dairy Cream	3.5 kg	$11.62
	17 kg	$44.40
Elthamol Soap	100 x 85 gm	$10.80
Teatsan Teat Sanitizer	5 litre	$18.20
	20 litre	$71.20
Healex	4 litre	$10.28
Klenzade Teat Guard	5 litre	$18.20
	20 litre	$69.64

4.6.3 Miscellaneous

Yard Broom	$7.50
Rubber Scraper 300mm – 750mm	$6.75 - 14.00
Scrubbing Brushes – wooden handle	$3.24
– plastic handle	$7.30
Gumboots – Marathon knee	$24.00 per pair
– Redband short	$17.00 per pair
Dairy Aprons – with pocket	$10.36
– no pocket	$ 9.27
Buckets 23 litre – plastic	$ 6.50
– with lid	$ 8.25
– galvanized	$10.00
'Teatmaster' Teat sanitizer Spray Kit – including Fox diaphragm pump, 0.2KW electric motor and 45 litre spray tank	$285
Kit plus 3 spray guns, 30m outlet hose, wall mounting brackets and other necessary fittings	$315
Bloatenz Trough feeder – 12 hour	$26.08
– 24 hour	$16.57
Klenzade Magnesium Dispenser – 12 hour	$25.52
– 24 hour	$35.76
Carlyle Bloatenz Dispenser	$225.00
AHI Mastitis Detector – Electronic conductivity - measuring apparatus	$78.00

4.7 ELECTRICITY

(i) Central Canterbury Electric Power Board Farm Tariffs
(N.B. These tariffs apply from 1 May 1979 but a new schedule of charges is due in April 1980. It is suggested in the mean time that when budgeting for periods after this date, figures be increased by 10%)

E. 1 Applicable to all farm installations.
Up to 5kW installed, fixed charge $4.55. Plus all units at 8.199¢ each.

Each standard 10 Amp socket for portable appliances will be assessed at 1kW but consumers with installed load of 5kW may have 5kW load limiter fitted and remain on Tariff E. 1.

E. 2 Installed load over 5 kW kVA to be measured. Demand charge $3.03 per kVA with minimum of $6.06. Plus all units at 4.6¢ each.

E. 3 Available to all permanently connected water heaters over 12 gallons capacity of the heat storage type used for culinary or ablutionary purposes. All waterheater installations on this tariff must comply with N.Z. Standard Specifications 4602 & 4603. Dairy type water heaters must comply with E.S.A.E.I. Specifications and all will be controlled off-peak at the discretion of the Board.

All units at 3.264c each.

E. 4 Available for all farm purposes except controlled water heating, between hours of 8.00 p.m. and 6.30 a.m.

All units at 2.519c each.

The Board will install and maintain an approved time switch or other means of control at a monthly rental of 73c. Any device required to make the demand metering inoperative during the above night hours will be the responsibility of the consumer.

Where supply is on night rate only, fixed charge $4.55.

(ii) Some Examples of Electricity usage.
(N.B. These are approximate only and should only be used where no other figures are available).

Milking machine 15 - 25 kWh per cow per 10 month lactation.
Milk Cooler 45 kWh per annum
Water heater (dairy shed) 60 kWh per cow per 10 month lactation
Pressure Water supply (pump) 50 kWh per annum
Average home 6000 kWh per annum
Outbuildings $120 - $160 per annum depending very much on the type and number of power tools used.

For further information see Lincoln College Budget Manual Part 1 Technical Section 11.3 – Electric Consumption Unit Performance Data.

4.8 FEED

4.8.1 Baler Twine

Heavy Sisal	4 spools: 200 conventional bales	$65.16
Medium Sisal	6 spools: 139 large round bales	$59.84
Superfilm Polyprepylene	6 spools: 1270 conventional bales or 129 large round bales	$84.50
Howard Big Baler	6 spools: 139 large square bales	$84.50

4.8.2 Stock & Poultry Feeds

(i) Cattle

	Price per 40kg bag ex store	Price per tonne delivered Bulk	Bagged
Peerless Calf Growa	$ 8.47		
Dairy Ration	$ 6.93		
Dairy Ration	$ 6.93		
Dairy Meal	$ 6.88		
Barley Meal	$ 6.71		
Beef Finisher	$ 6.94		
Fleming-NRM Calf Crumbles	$ 8.00		$185.90
Dairy Meal	$ 7.00	$144.90	$161.60
Cattle Pellets	$ 7.90	$166.40	$183.10

(ii) Sheep

Peerless Sheep Nuts	$ 6.80		
Hogget Grower Nuts	$ 6.84		
Fleming - NRM Sheep Nuts			$163.50
Sheep Nuts (Linseed)			$197.00

(iii) Pigs

Peerless Weena Growa Pellets	$ 8.83		
Porker Pellets	$ 8.83		
Baconer Feed	$ 7.52		
Fleming - NRM			
Pig Creep Crumble	$12.40	$283.80	$300.60
Pig Weaner Meal	$ 9.20	$198.90	$215.70
Pig Grower Meal	$ 8.60	$185.60	$202.40
Pig Baconer Meal	$ 8.00	$169.60	$186.40
Pig Breeder Meal	$ 7.70	$165.70	$182.50

(iv) Deer

Peerless Deer Nuts 1	$ 6.80	
Deer Nuts 2	$ 7.66	
Fleming - NRM Deer Nuts		$175.70

(v) Horses

	Price per 40kg bag ex store	Price per tonne delivered Bulk	Bagged
Peerless Horse Pellets	$ 7.35		
Fleming - NRM			
Stud horse Pellets	$ 8.80		$199.90
Horse & Pony Pellets	$ 7.90		$176.40
Pony Meal	$ 4.50(25kg)		$166.70
Racehorse Pellets	$ 8.20		$186.90

(vi) Rabbits

Peerless Rabbit Ration No.1	$ 8.42
Rabbit Ration No.2	$ 7.80

(vii) Dogs

Peerless Top Dog Nuts	$3.34(5kg)
Shep dog Biscuits	$24.00(35kg)
Tux Dog Biscuits	$25.20(35kg)

(viii) Poultry

Peerless			
Chick Pex	$ 9.52		
Grower Pex	$ 7.86		
Layer Pex	$ 7.91		
H.E. Layer Pex	$ 8.15		
Breeder Pex	$ 8.50		
Finisher Crumbles No.1	$11.71		
Turkey Starter Crumbles	$13.52		
Turkey Grower Pellets	$12.01		
Turkey Finisher Pellets	$11.22		
Turkey Breeder Pellets	$ 8.90		
Duck Starter	$11.59		
Duck Finisher/Grower	$10.73		
Duck Breeder	$ 8.99		
Fleming-NRM			
Chick Crumble	$10.10	$225.40	$242.20
Pullet Grower Pellets	$ 8.10	$174.30	$191.10
Pullet Rearer Pellets	-	$177.20	$194.00
Hi-Lay Super Pellets	-	$184.20	$201.00
Hi-Lay Pellets	$ 8.50	$179.50	$196.30
Layer Pellets	$ 8.30	$177.00	$193.80
Turkey Starter		$329.80	
Turkey Grower		$266.60	
Turkey Finisher		$248.00	
Turkey Breeder		$194.20	
General Purpose (Not Ducks)			
Starter	$13.30		
Finisher	$11.20		

(ix) Miscellaneous

Molasses 28kg pail	$11.50 (approx.)
250kg drum	$56.50 (approx.)
Agricultural Salt 50 kg	$ 8.00
Bran 50kg	$ 7.00
Summit Salt Blocks	
Standard - Co,I	$ 6.24
Copper (Sheep) - Cu, Co, I	$ 6.27
Copper (Cattle) - Cu, Co,I	$ 6.34
Magnesium - Mg, Co,I	$ 6.69
Solar Blocks - no trace elements	$ 6.08

Bell Booth Seaweed Salt Blocks

Nutriex	$ 8.10
(1 tonne lot	$ 6.32)
Nutriex Magnesium	$ 8.90
(1 tonne lot	$ 6.94)

4.8.3 Grazing Fees

Payment for grazing varies according to the class of livestock, the time of year, seasonal conditions and the district.

Current rates are approximately 15¢ - 20¢/head/week for sheep, and 60¢ - $1.00/head/week for cattle.

4.9 FREIGHT AND CARTAGE

4.9.1 Railway Transport Rates

Railway charges are obtained from the Railways Department Tariff book and classifications book.

Type of Wagon	Stock Capacity	Freight Charge Rate
Cattle		
H wagon	8	M
HC (⅓ bigger than H)	11 - 12	M plus ⅓
T (Twice as big as H)	17	M double rate
Sheep		
J wagon	60	M
JC (⅓ bigger than J)	80 - 90	M plus ⅓

For explanation of M freight charge rate see Goods: Classified Rates below.

(i) Classification of Goods Carried.

Class B	Agricultural implements.
Class C	Tractors, Front end loaders, gates
Class D	Binder twine, Insecticides, Clover Seed, Fencing materials (not including wooden posts, stays, strainers and battens which are class E.)
Class E	Bags, Grain, Seed, Potatoes, Peas, Daggings, Wooden Posts, Stays, Strainers and Battens, Concrete products and Field tiles.
Class E +50%	Hay, Straw, Chaff and Lime
Class H	Wool
Class K	Timber
Class M	Livestock
Class R	Artificial Fertilizers

(ii) Goods: Classified Rates

Distance Kilometre	B Per tonne	C Per tonne	D Per tonne	E Per tonne	E + 50% Per tonne	H Undumped per bale	K Per cubic metre	M Per wagon	R Per tonne
	$	$	$	$	$	$	$	$	$
65	34.53	23.02	18.42	8.31	12.47	2.73	9.54	53.55	6.98
80	37.32	24.88	19.90	9.06	13.59	2.95	10.46	59.72	7.69
95	40.10	26.73	21.38	9.81	14.72	3.16	11.37	65.88	8.39
110	42.89	28.59	22.87	10.56	15.84	3.39	12.29	72.05	9.10
146	49.68	33.12	26.50	12.35	18.53	3.92	14.57	88.09	10.92
186	61.83	41.22	32.98	15.47	23.21	4.88	18.45	113.55	13.93
226	72.44	48.29	38.63	18.10	27.15	5.72	21.34	136.25	16.60
266	80.72	53.81	43.05	19.99	29.99	6.37	22.72	154.83	18.40
306	87.59	58.39	46.71	21.89	32.84	6.92	24.11	171.63	19.67
358	93.92	62.61	50.09	24.49	36.74	7.42	26.07	190.89	21.34
438	104.27	69.51	55.61	28.41	42.62	8.24	29.07	221.13	24.02
518	114.62	76.41	61.13	32.34	48.51	9.05	32.07	251.38	26.70
598	124.97	83.31	66.65	36.26	54.39	9.87	35.07	281.62	29.39
662	133.25	88.83	71.06	39.40	59.10	10.53	37.47	305.82	31.53

4.9.2 Road Transport Rates

N.B. The following figures are for the Canterbury area - in other areas the rates may differ slightly. Rates are available on application to the local branch of the New Zealand Contractors Federation (Incorporated).
Rates are as at 12 October, 1979 but changes are inevitable due to recent increases in fuel prices.

(i) Lime (Bulk) Minimum load 4000 kg.

	Per Tonne		Per Tonne
8 km	$ 3.68	16 km	$ 4.87
24 km	$ 5.79	32 km	$ 6.64
40 km	$ 7.57	48 km	$ 8.47
56 km	$ 9.30	64 km	$ 9.96
72 km	$10.63	80 km	$11.29

For Transport Subsidies on Fertiliser and Lime, see Subsidies Section, 1.4.3.

(ii) Fertiliser (Bulk) Minimum load 4000 kg.

	Per Tonne		Per Tonne
8 km	$ 4.08	16 km	$ 5.26
24 km	$ 6.44	32 km	$ 7.57
40 km	$ 8.50	48 km	$ 9.30
56 km	$10.10	64 km	$10.89
72 km	$11.69	80 km	$12.49

(iii) Fertiliser and Lime (Bagged) Minimum load 3000 kg.

	Per Tonne		Per Tonne
8 km	$ 5.66	16 km	$ 7.10
24 km	$ 8.29	32 km	$ 9.57
40 km	$10.63	48 km	$11.69
56 km	$12.75	64 km	$13.68
72 km	$14.48	80 km	$15.28

For Transport Subsidies on Fertilizer and Lime, see Subsidies Section, 1.4.3.

The subsidy is calculated on the distance from the farm to the nearest fertiliser works, or, in the case of an ordered imported line to the port of entry.

(iv) Hay Truck and Driver only. Minimum load 120 bales.
40 bales or more per tonne – less 3¢ per bale.
Picking up unsledged bales or extra high stacking by arrangement.
No charges included for extra labour which is to be arranged.

	Per Bale		Per Bale
8 km	$0.25	16 km	$0.316
24 km	$0.381	32 km	$0.438
40 km	$0.485	48 km	$0.531
56 km	$0.571	64 km	$0.611
72 km	$0.644	80 km	$0.678

(v) Grain (Bagged) Ex shed or store. Minimum load 39 bags.

	Per Sack		Per Sack
8 km	$0.355	16 km	$0.46
24 km	$0.539	32 km	$0.611
40 km	$0.664	48 km	$0.717
56 km	$0.771	64 km	$0.824
72 km	$0.877	80 km	$0.93

Ex paddock – schedule rate plus $0.086 per sack, includes bag loaded and all labour. Ex heap in paddock – schedule plus $0.04 per sack.

(vi) Grain (Bulk) Ex acceptable silo. Minimum load 4000 kg.

	Per Tonne		Per Tonne
8 km	$ 3.81	16 km	$ 5.00
24 km	$ 6.05	32 km	$ 7.04
40 km	$ 7.97	48 km	$ 8.77
56 km	$ 9.57	64 km	$10.23
72 km	$10.89	80 km	$11.56

Where silos are not completely self emptying, add $0.35 per tonne.

Auger charges $0.53 per tonne.

Ex header $1.33 per tonne by arrangement.

Converting bags to bulk $1.33 per tonne

(vii) Grass Seed Boxes over 1000kg. Minimum 8 boxes

	Per Tonne		Per Tonne
8 km	$ 5.33	16 km	$ 6.51
24 km	$ 7.56	32 km	$ 8.57
40 km	$ 9.50	48 km	$10.30
56 km	$11.09	64 km	$11.56
72 km	$12.42	80 km	$13.09

Boxes under 1000 kg. Minimum 16 boxes.

	Per Tonne		Per Tonne
8 km	$ 6.85	16 km	$ 8.04
24 km	$ 9.09	32 km	$10.11
40 km	$11.04	48 km	$11.84
56 km	$12.63	64 km	$13.30
72 km	$13.96	80 km	$14.63

If farmer loads boxes efficiently, deduct $1.99 per box. For less than minimum loads add $1.33 per box for first 5 boxes and $0.66 per box thereafter.

Empty Boxes

	Each		Each
8 km	$1.58	16 km	$1.71
24 km	$1.84	32 km	$1.99
40 km	$2.13	48 km	$2.26
56 km	$2.39	64 km	$2.52
72 km	$2.66	80 km	$2.79

(viii) Grass Seed and other small seeds (Bagged)

16 bags and over to the tonne. Minimum load 48 bags.

	Per Bag		Per Bag
8 km	$0.316	16 km	$0.395
24 km	$0.460	32 km	$0.518
40 km	$0.565	48 km	$0.611
56 km	$0.658	64 km	$0.704
72 km	$0.751	80 km	$0.797

Ex paddock add $0.064 per sack.
Ex heap in paddock add $0.041 per sack.

(ix) Wool by Road. Minimum load 14 bales.

	Per Bale (150 kg)		Per Bale (150 kg)
8 km	$1.31	16 km	$1.71
24 km	$2.01	32 km	$2.32
40 km	$2.59	48 km	$2.86
56 km	$3.03	64 km	$3.19
72 km	$3.32	80 km	$3.45

Add $0.29 per bale off ground.

(x) Potatoes

	Per Bag		Per Bag
8 km	$0.355	16 km	$0.46
24 km	$0.539	32 km	$0.611
40 km	$0.664	48 km	$0.717
56 km	$0.771	$64 km	$0.842
72 km	$0.877	80 km	$0.930

These prices are for ex shed or store.
Ex paddock add 8.5¢ per bag unless farmer supplies labour in which case only add 3¢ per bag.
Ex heap in paddock add 4¢ per bag unless farmer supplies labour in which case normal rates apply.
Minimum load 39 bags.

(xi) Sheep, Lambs and Hoggets by Road (all per head)

	Store Lambs	Fat Lambs	Hoggets
8 km	$0.197	$0.204	$0.224
16 km	$0.243	$0.270	$0.293
32 km	$0.339	$0.385	$0.416
48 km	$0.425	$0.478	$0.522
64 km	$0.505	$0.558	$0.618
80 km	$0.571	$0.624	$0.684
97 km	$0.631	$0.700	$0.778
113 km	$0.684	$0.765	$0.839
129 km	$0.738	$0.832	$0.912
145 km	$0.792	$0.899	$0.980
161 km	$0.850	$0.971	$1.052
Minimum load			
Under 40 km	100	100	90
Over 40 km	140	120	100

	Store Sheep	Fat Sheep
8 km	$0.243	$0.250
16 km	$0.316	$0.329
32 km	$0.445	$0.485
48 km	$0.565	$0.631
64 km	$0.678	$0.757
80 km	$0.771	$0.883
97 km	$0.859	$1.103
113 km	$0.912	$1.120
129 km	$0.993	$1.228
145 km	$1.060	$1.315
161 km	$1.133	$1.402
Minimum load		
under 40 km	85	80
over 40 km	100	90

A lamb becomes a hogget on 1 September. A hogget becomes a sheep on 1 January.

Penal rates for Sheep and Lambs:

These will apply where the farmer does not give the cartage contractor 24 hours notice of the job to be done.

Lambs per head $0.039

Sheep per head $0.052

Where facilities for loading are inadequate, an additional charge of $0.013 per head shall be made for sheep and lambs.

(xii) Cattle (all per head)

	Weaners	Yearlings	18 Month Cattle
8 km	$1.08	$1.28	$1.68
16 km	$1.46	$1.76	$2.31
32 km	$2.17	$2.64	$3.29
48 km	$2.76	$3.43	$4.44
64 km	$3.35	$4.12	$5.25
80 km	$3.88	$4.78	$5.89
97 km	$4.41	$5.38	$6.53
113 km	$4.83	$5.82	$7.07
129 km	$5.14	$6.23	$7.50
145 km	$5.41	$6.53	$7.88
161 km	$5.70	$6.84	$8.24
Minimum load			
under 40 km	14	12	10
over 40 km	20	16	14

	2 Year Cattle	Fat Cattle
8 km	$ 2.00	$ 2.16
16 km	$ 2.71	$ 2.96
32 km	$ 3.96	$ 4.44
48 km	$ 5.02	$ 5.77
64 km	$ 6.07	$ 7.09
80 km	$ 7.03	$ 8.06
97 km	$ 7.98	$ 9.15
113 km	$ 8.69	$10.00
129 km	$ 9.20	$10.57
145 km	$ 9.66	$11.07
161 km	$10.11	$11.54
Minimum load		
under 40 km	8	8
over 40 km	12	10

Penal rates for cattle: $0.39 per head where the farmer does not give 24 hours notice of job to be done.

Bulls over 2 years, an additional $3.15 per head.

Where loading ramp is not provided or is not usable, for loading and unloading, then a charge of $1.74 per head of cattle shall be made.

4.10 FERTILISERS

4.10.1 Fertiliser Subsidies

For price and freight subsidies see "Assistance and Incentives for Farmers", Section 1.3.

4.10.2 Ravensdown Fertiliser Co - operative Ltd.

(ex Works Christchurch)

As at 1 April 1980.

N	P	K	S		Farmers Bulk Per Tonne	Farmers Bags Per Tonne
	RATING					
	8	0	10	Flowmaster Super	77.65	87.15
0	9	0	11	Super	78.10	87.60
0	7	0	8	Serpentine Reverted Super	76.95	86.45
0	8	0	10	Boron Super	89.75	99.25
0	8	0	10	Cobalt Super	103.85	113.35
0	8	0	10	Copper Super	97.15	106.65
0	8	0	10	Molybdate Super	95.95	105.45
0	8	0	10	Legume Establishment Fertiliser	113.20	122.70
0	7	7	9	15% Potash Super	87.95	97.45
0	6	14	7	30% Potash Super	97.20	106.70
0	6	14	7	30% Potash Boron Super	107.65	117.15
0	6	14	7	Potash Molybdate Super	114.45	123.95
0	4	24	5	50% Potash Super	109.50	119.00
0	4	24	5	50% Potash Boron Super	120.60	130.10
0	7	0	18	Sulphur Super	80.35	89.85
0	7	0	26	Sulphur Super Extra	81.95	91.45
0	6	11	14	22% Potash Sulphur Super	93.55	103.05
0	5	14	15	30% Potash Sulphur Super	98.85	108.35
0	7	0	15	Westland Pakihi Starter	103.80	113.30
6	6	0	14	Nitrogen Super	104.15	113.65
6	6	0	14	Nitrogen Super with Double Boron	123.70	133.20
6	5	5	13	Cropmix	107.75	117.25
6	5	5	13	Cropmix with Double Boron	129.90	139,40
2	7	0	11	Cropmix T & R	87.15	96.65
8	4	8	14	Orchard Regular	121.40	130.90
8	4	8	14	Orchard Regular with Boron	124.65	134.15
6	4	12	12	Orchard High K	119.55	129.05
6	4	12	12	Orchard High K with Boron	122.80	132.30
8	4	8	13	Berryfruit Fertiliser	170.55	180.05
18	20	0	0	Cropmaster DAP	467.90	478.75
46	0	0	0	Urea	-	320.05
20	0	0	1	Liquid Nitrogen	168.00	-
26	0	0	0	C A N	-	256.00
21	0	0	24	Ammonium Sulphate	162.50	172.00
0	0	48	0	Potassium Chloride	139.30	148.80
0	0	40	17	Potassium Sulphate	-	296.75

SPECIAL MIXTURES:

Orders for Special Mixtures will be accepted ONLY for 2 Tonnes or more.

***** DO NOT SOW BORATED FERTILISERS IN CONTACT WITH SEED.**

ALL PRICES ARE SUBJECT TO ALTERATION WITHOUT NOTICE

4.10.3 Yates Fertilisers

As at 31 January 1980

Liquifos N P K		
10 - 3 - 6	200 litre	$187.00
8 - 5 - 10	200 litre	$212.20
0 - 7 - 14	200 litre	$228.00
16 - 2 - 4	200 litre	$182.50
Liquid Seaweed	24 litre	$ 66.78
Sporumix A Trace Element Mix	45 kg	$ 26.67
Sporumix B Trace Element Mix	45 kg	$ 22.69
Optigrowth (Micro Nutrient supplement)	200 litres	$338.00
Plus S (Sulphur based soil conditioner)	200 litres	$169.00
Keiserite	per bagged tonne	$372.43
Sulphur Flowers	35 kg	$ 39.60
Zinc Sulphate	25 kg	$ 17.26
Sulphate Ammonia 21% N	per bagged tonne	$167.77
Urea 46% N	per tonne	$320.04
IBDU 31% N	25 kg	$ 23.83
	per bagged tonne	$732.38
Rustica N P K		
12 - 5 - 14	50 kg	$ 18.66
	per bagged tonne	$286.68
15 - 7 - 4	50 kg	$ 26.90
	per bagged tonne	$413.25
Acid Gro Plus	per bagged tonne	$229.08
	bulk tonne	$140.59
Bulb Gro Plus	per bagged tonne	$259.38
Crop Plus	per bagged tonne	$182.21
Crop Gro Plus	per bulk tonne	$171.72
Grass Gro Plus	per bulk tonne	$171.72
Grass Organic Gro Plus	per bulk tonne	$183.93
Grass Potassic	per bagged tonne	$153.96
Haypaddock Gro Plus	per bagged tonne	$202.80
	per bulk tonne	$165.45
Lawn tone Gro Plus	per bagged tonne	$263.18
Lucerne Estab. Fert.	per bagged tonne	$234.18
Lucerne Maint. Fert.	per bagged tonne	$230.64
Maize Basal Fert.	per bagged tonne	$263.18
Rose Gro Plus	per bagged tonne	$301.63
Strawberry Gro Plus	per bagged tonne	$316.62
	per bulk tonne	$223.08

4.10.4 Olin 'Ammo-Phos'

All prices quoted ex Napier Warehouse. Those marked * are also available from Brightwater (Nelson) Warehouse.

N	P	K	S	Per tonne Bulk	Bagged
16	9	0	14	$205.95	$218.75
15	7	5	13	$213.00	$225.80
13	6	11	12	$207.50	$220.30
*12	10	10	9	$226.70	$239.50
10	18	8	2	$248.55	$261.35
10	18	0	2	$218.25	$231.05
* 8	14	13	3	$240.50	$253.30
6	10	20	3	$221.50	$234.30

4.10.5 Canterbury Bye Products

Meat and Bone Meal	$14.75 per 50 kg
Dried Blood	$26.00 per 50 kg

4.10.6 Bell - Booth

Maxicrop	5 litres	$ 11.75
Maxicrop (Agricultural packs)		
Multiple Concentrate	20 litres	$ 66.25
	200 litres	$595.50
N.P.K. 556	20 litres	$ 43.75
	200 litres	$429.50
Tom Cook's (liquid)	5 litres	$ 2.45
(solid)	10 litres	$ 3.90

4.10.7 New Zealand Farmers' Fertilizer Company Limited. as at 1 January 1980 - ex Auckland Works

N.P.K.S.	PRODUCT	$ BULK PER TONNE	$ BAGGED PER TONNE
0.10.0.11	Superphosphate	73.65	81.90
0. 7.0. 8	Serpentine Superphosphate	72.90	81.15
0. 7.0. 8	Reverted Super	58.65	66.90
0. 5.0. 5	Super Lime 1/1	42.60	50.85
0. 6.0. 7	Super Dolomite 2/1	74.25	82.50
0.10.1.11	Cobalt Superphosphate	91.10	99.35
0.10.0.11	Copper Superphosphate	83.50	91.75
0.10.0.11	Superphosphate with Molybdenum	84.85	93.10
7. 6.0.15	Ammoniated Superphosphate	109.15	117.40
6. 6.5.13	Crop Fertilizer	109.05	117.30

0. 9. 7. 9	15% Potash Superphosphate	79.60	87.85
0. 8. 7. 9	15% Potash Cobalt Superphosphate	97.10	105.35
0. 8. 7. 9	15% Potash Copper Superphosphate	89.40	97.65
0. 8. 7. 9	15% Potash Super with Molybdenum	90.85	99.10
0. 6. 7. 7	15% Potash Serpentine Superphosphate	79.20	87.45
0. 6.10. 7	20% Potash Serpentine Superphosphate	80.90	89.15
0. 7.14. 7	30% Potash Superphosphate	84.70	92.95
0. 7.14. 7	30% Potash Copper Superphosphate	94.45	102.70
0. 7.14. 7	30% Potash Super with Molybdenum	95.95	104.20
0. 5.14. 6	30% Potash Serpentine Superphosphate	84.45	92.70
0. 5.24. 5	50% Potash Superphosphate	91.80	100.05
0. 4.24. 4	50% Potash Serpentine Superphosphate	91.40	99.65
0. 0.50. 0	Fre Flo Muriate of Potash	107.85	116.10
21. 0. 0.24	Sulphate of Ammonia	117.10	185.35
0. 0.40.18	Sulphate of Potash (in bags)		418.05
46. 0. 0. 0	Urea (in bags)		334.65
20. 0. 0. 0	Liquid Nitrogen		150.70
8. 6.20. 9	Top Crop Green		195.20
8. 6.20. 9	Top Crop Green plus 5% Magnesium		232.60
10. 9.16. 6	Top Crop Blue		230.25
10. 9.16. 6	Top Crop Blue plus 5% Magnesium		255.00
12.12.12. 5	Top Crop Red		271.15
12.12.12. 5	Top Crop Red plus 5% Magnesium		285.45
14.14. 8. 4	Top Crop Brown		299.50
14.14. 8. 4	Top Crop Brown plus 5% Magnesium		330.10
16. 9. 0.15	Ammonium Phosphate Sulphate		215.45
18.20. 0. 2	Di-Ammonium Phosphate		350.65
BAGS ONLY			
0.10. 0.11	Hormophos		P.O.A.
0.10. 0.11	Cobalt Hormophos		P.O.A.
0.10. 0.11	Aerial Hormophos		P.O.A.

These Hormophos lines are available only from 1st May to 31st August each year. Prices are plus railage and less transport subsidy ex New Plymouth Works.

4.10.8 Spreading Fertiliser and Seed

(i) Ground Spread Fertiliser

Average Paddock Size	Cost per hectare
Under 4 hectares	$3.05
4 - 8 hectares	$2.80
8 - 16 hectares	$2.50
Over 16 hectares	$2.35

Minimum cartage as for 3 tonnes.

Stoney, Swampy and hill country – extra by arrangement.

(ii) Aerial Spreading Fertiliser

In the year to 31 March, 1979 the average tonnage of lime and fertiliser applied per revenue hour flown was 11.07 tonnes, this being slightly below the average for the

preceding years. However the range varies from 8 tonnes to around 16 tonnes per hour depending on the position of the airstrip, prevailing weather conditions and the nature of the country to be oversown.

Therefore, it is suggested for budgeting purposes that an average figure of 12 tonnes per hour be used.

	per hour	per tonne
Airwork (N.Z.) Ltd.		
Fletcher, Beaver, Pawnee, Brave 375 (1 tonne payloads)	$250	$20.83
James Aviation		
Agwaggon	$220.00	
Airtruk 300	$250.00	
Fletcher 300	$225.00	
Fletcher 400	$270.00	
Airtruk	$270.00	

With some companies there are discounts for heavy sowings or large amounts and penalty rates for light sowings or small amounts.

(iii) Aerial Sowing of Seeds and Prills.

All the costs listed below are on a per 100 kg basis. The costs are variable according to the application rate per hectare and the total weight of seed or prills.

Total Weight of Seed or Prills	Rates per hectare 9 - 14 kg	15 - 29 kg	Over 30 kg
Under 225 kg	$60.05	$50.65	$45.55
226 - 905 kg	$50.65	$38.95	$33.80
Over 905 kg	$45.55	$31.15	$26.00

Minimum charge per job $77.00
Under 8 kg per ha $93.50 per 100 kg.

4.11 LIME

4.11.1 Cost per tonne ex quarry. (North Canterbury)

Green Lime	$4.80
Dry Lime	$7.20

4.11.2 Spreading per hectare.

	Flat Grassed	Flat Worked & Rolled	Hill worked &Grassed
Under 2½ tonnes/ha	$3.40	$3.60	Flat rates plus
2½ tonnes/ha	$3.60	$4.20	up to 73 cents
Over 2½ tonnes/ha	$4.20	$4.70	per hectare extra

Worked paddocks not rolled, orchards, swampy and boulder country are all subject to additional rates by arrangement.

4.12 SEEDS

The prices quoted in this section are as at late December 1979. All prices are inclusive of seed treating, unless stated otherwise.

4.12.1 Wheat

Variety	Cost of Seed per tonne Certified 2nd Generation	
	North of Rakaia	South of Rakaia
Kopara, Aotea, Gamenya, Raven, Cross 7-61, Takahe	$238.50	$236.50
Hilgendorf	$264.50	$262.50
Karamu	$229.50	$227.50
Arawa	$228.50	$226.50
Extra for 1st generation	$ 2.00	$ 4.00

4.12.2 Barley

Cost of seed per tonne for Certified 2nd Generation.

Manapou, Mata, Zephyr	$220.00
Kaniere	$260.00

4.12.3 Oats

Mapua, Amuri, Taiko	$210.00	per tonne

4.12.4 Lupins

Uniwhite, Uniharvest	$210.00	per tonne
Bitter blue, Borre	$215.00	per tonne

4.12.5 Ryecorn

Rahu	$180.00	per tonne U/D

4.12.6 Linseed

Redwood	$500.00	per tonne

4.12.7 Maize

Various hybrids (treated)	$396.00	per tonne

4.12.8 Peas

(i) Field	$240.00	per tonne
Maples	$240.00	per tonne
Blue	$240.00	per tonne
White	$240.00	per tonne
(ii) Garden		
Various varieties	**$240.00**	per tonne

4.12.9 Small Seeds

The following can only be a rough guide as the small seeds market is extremely variable, with almost daily fluctuations in prices. All prices are per kilogram of basic seed.

Rape	$3.10
Swedes	$2.70
Turnips	$2.70
Kale Medium stemmed	$3.00
Giant	$3.00
Fodderbeet Monogerm	
Yellow Daeno	
Lucerne (Uncertified)	
Wairau	$3.70
Saranac	
Washoe	
Rere	
Ryegrasses	
Ruanui	$1.50
Nui	$2.20
Ariki	$1.40
Manawa	$0.95
Paroa	$0.85
Tama	$1.05
Apanui Cocksfoot	$4.50
Clovers	
Hamua	$3.00
Turoa	$3.50
Huia	$2.30

4.12.10 Seed Coating

Prebble Seeds Ltd.	¢/kg
Ryegrasses, dogstail, timothy*	55
Cocksfoot*	58
Lucerne**	60
Red, white and subclover***	60

* Phosphatic coat
** Calcium coat + inoculant
*** Gassodolomite + inoculant

4.13 SHEARING SHED EXPENSES

4.13.1 Plant

(i)	Shearing Machines	
	Sunbeam Heavy Duty S.G.V.	$460
	Multi - purpose Farm Model	$318
	Lister Golden Electric	$469
(ii)	Electric Grinders	
	Sunbeam Double - ended 37cm	$642
	Lister Double - ended Singlephase	$588
(iii)	Handpieces	
	Sunbeam 'Super - grip'	$150
	Lister 'Super 70'	$170
(iv)	Woolpresses	
	Donald 'Sandow' Manual Vert. Hoist - wood	$785
	- steel	$830
	Electric 0.5KW Tipover - steel	$1775
	with castors	$1850
	Electric 1.5KW Tipover - steel	$2180
	Hayes 'Stevlyon' Auto. Hydraulic Press	$3750
(v)	Wool Tables	
	Hayes 'Stevlyon' Fleece Weigher Table	$602
	Circular wool table	$266
	Aabaas Round wool table	$218
(vi)	Wool Pack Holders	
	Cyclone On skids	$34.93
	On 2 Shepherd Castors	$54.65
	On 4 Shepherd Castors	$64.54
(vii)	Dagging Plant	
	Sunbeam portable petrol	$300
	Lister portable petrol	$266
	Tas portable petrol	$229
	Cam portable 12V	$280

(viii) Miscellaneous

Donald Woolbale barrow	$ 56.50
Fleece weigher	$130.00
Hand Shears – Small	$7.90
– Large	$9.60

4.13.2 Shed Expenses

Wool packs (1per 150 kg) Jute	$ 3.51
Synthetic	$ 2.95
Twine (per hank)	$ 2.10
Bale Needles (average price)	$ 0.35
'Stendye' Aerosol Markers (Black, red, green, blue)400gm	$ 3.50
Wool Bale Stencils - Circular Numerals 75mm	$13.45
- Circular Letters 75mm	$28.86
- Wool store Interlocking 75mm 0-9	$ 9.85
A-Z	$24.72
Grinder Papers (each)	$ 1.90

4.13.3 Wool Charges

Wool Charges Incurred by the Grower as at 1.12.79.

(i) Compulsory for all growers:

Receiving, Warehousing, Weighing, Lotting, etc.	6.127 cents/kg
Wool Board Levy	3% of Gross Proceeds
Wool Stabilization Levy	2% of Gross Proceeds
Earthquake Insurance	½¢/$100/month
Testing Clients' Lots	Yield: $18 per lot Yield Micron: $24 per lot

(ii) Optional

Reclassing and Binning Fleece	5.86 cents/kg
Reclassing and Skirting	9.104 cents/kg
Reclassing and Binning Oddments	9.104 cents/kg
Blending all wools	4.4 cents/kg
Grouping	$4.42 per bale
Lot-Building	$3.20 per bale
Re-offering	$3.31 per bale
Straight Repacking	$2.88 per bale
Repacking Overweight Bales	$3.31 per bale
Sheepsback to Store Insurance	12 cents per $100
Extra Choice Lots under 4 bales Handling Charge	4.09 cents/kg

4.14 WATER CHARGES

4.14.1 Irrigation

Charges for irrigation vary depending on the length of time the scheme has been in operation, the size of the scheme, the source of water and the number of farmers participating in the scheme.

With older schemes such as the Ashburton-Lyndhurst or Mayfield-Hinds, the rate for irrigation water is $5.88 per ha of land contracted to irrigate. This may be from none to 100 percent of the farm areas.

Newer schemes such as the Valetta, Levels or Morven-Glenavy use a system where the cost of water increases over an initial period of time to a final static charge. The Morven-Glenavy scheme, which started operation in 1974, has a 10 year build up period to a final charge of $4.50 per ha. However it has only been 6 years since the scheme began to operate so charges this year are $2.70 per ha.

Where a farmer is going to sink a well for irrigation or stock water supply on his own property, the only cost for water is with his 'Water Rights' application which must be made to the local board e.g. North Canterbury Catchment Board. $40.00 per application.

4.14.2 Stock Water Supplies

(i) Community Water Supply Schemes: Here the cost to the farmer varies so we have taken the Malvern Hills Rural Water Supply Scheme as being reasonably representative.

The current charges for the Malvern Hills scheme for the rating year 1 April 1979 to 31 March 1980 is $37.00 per unit per year where a unit equals 1000 litres. The number of units used varies depending on the size of the farm, stocking rate and other sources of stock water. This cost per unit could be increased for the next rating year in view of increased charges for electricity.

(ii) County Stock Water Races: The following table shows the charges made by the Paparua County Council, effective to March 31st 1980.

Area	Initial Charge	Charge per ha
0.5 – 8 ha	$ 33.90	$0.71
8 – 40 ha	$ 47.39	$1.41
40 – 80 ha	$141.88	$1.27

80 – 120 ha	$269.58	$1.14
120 – 160 ha	$383.08	$0.99
160 – 200 ha	$482.40	$0.85
200 – 240 ha	$567.53	$0.70
240 – 280 ha	$638.48	$0.56
280 – 320 ha	$695.23	$0.42
320 – 360 ha	$737.80	$0.28
360 – 400 ha	$766.17	$0.14
400 ha and over	$780.36	$0.11

Examples of this rating system are as follows:

Farm Area = 4 ha; Charge = $33.90 + (4 x $0.71) = $36.74

Farm Area = 20 ha; Charge = $47.39 + (20 x $1.41) = $75.59

Farm Area = 287 ha; Charge = $695.23 + (287 x $0.42) = $815.77

Farm Area = 634 ha; Charge = $780.36 + (634 x $0.11) = $850.10

4.15 WEED AND PEST CONTROL

Many herbicides, fungicides, and insecticides are produced by the various chemical companies and these come in ranges of strengths. This Budget Manual doesn't endorse any particular product or company and the trade names given are to serve only as examples of the chemical concerned.

All prices are per litre or per kilogram being determined from the smallest pack size of the chemical available. The second figure in each case is a price for a large pack – 20 litres or 25 kg unless otherwise stated.

4.15.1 Herbicides

For the prescribed rates of application for the various chemicals and the weeds they control, see Section 14 in the Technical Manual, "Weed and Pest control".

Trade Name	Chemical Name	Price per kg or per litre	Price of 20 litre or 25 kg pack
(i) ICI - Tasman			
Agroxone M.C.P.A.	M.C.P.A.	$ 4.11	$ 76.00
Amine 2,4-D	2,4-D (Amine salt)	$ 4.60	$ 85.80
Amitrole 80	Aminotriazole	$ 8.90	$ 83.20 (10 kg)
Atlavar	2,4-D (sodium salt), monuron, sodium	$ 4.52	$114.50 (50 kg)
Avenge 200A	Chlorate	$ 8.99	$179.60

Ban 750	Difenzoquat	$ 9.65	$188.50
Bandone M	Dicamba, 245-T (butylester)	$ 5.39	$116.80
Bexone MCPB	Dicamba, MCPA	$ 4.28	$ 83.00
Butoxone 2,4,5-T Vol.	MCPB	$ 5.97	$113.80
Caragard 500 FW	2,4,5-T (butylester)	$ 9.35	$178.60
Devrinot	Terbumetron, Terbuthylazine	$20.14	$ 50.35 (2.5 kg)
Dicambone 75D	Napropamide	$ 6.53	$123.20
Dicambone 5G	2,4-D (amine salt), Dicamba	$ 2.95	$ 42.90 (15 kg)
Dicamber	Dicamba	$ 8.29	$161.00
Dinoseb	Dinoseb	$ 3.28	$ 65.60
D.N.P.B.	Dinoseb	$ 3.17	$ 63.40
Ethone 2,4-D Vol.	2,4-D (butylester)	$ 3.83	$ 70.80
Fanerone 50 D.S.	Bromofenoxin	$21.06	$ 52.65 (2.5 kg)
Frenok	Sodium 2,2,3,3-tetra Fluropropionate	$18.18	$177.10 (10 litre)
Frenokone	2,4-D (sodium salt)	$ 4.90	$ 72.00
Gesagard	Prometryn	$15.06	$146.80 (10 kg)
Gesamil	Propazine	$12.32	$120.20 (10 kg)
Gesaprim 500 FW	Atrazine	$ 7.25	$140.40
Gesatop 500 FW	Simazine	$ 7.86	$153.00
Gesatop 80	Simazine	$11.09	$110.90 (10 kg)
Gramoxone	Paraquat	$ 8.70	$171.00
Herbex D.A.	Amitrole, 2,2-dichloropropionic acid (sodium salt)	$ 5.60	$ 53.50 (10 kg)
Igran 500 FW	Terbutryn	$16.42	$ 82.10 (5 litre)
Icipon	2,2-dichloropropionic acid (sodium salt)	$ 5.20	$ 90.25
I.C.I. Thistle Dust	2,4-D (sodium salt)	$ 1.41	$ 14.10 (10 kg)
I.C.I. 2,4,D.B.	2,4,D.B.	$ 3.94	$ 80.40
Nortron	Ethofumesate	$12.79	$245.20
Permex SDA	Amitrole, 2,2-dichloropropionic acid (sodium salt), simazine	$ 9.40	$ 89.40 (10 kg)
Preeglone Extra	Diquat, Paraquat	$ 8.58	$168.40
Primextra 500 W	Atrazine, N-(1 - methyl - 2 methoxy - ethyl) - 2 - ethyl - 6 - methyl - alpha - chloroacetanilide	$ 7.36	$147.16
Reglone	Diquat	$ 9.40	$184.40
Semeron	Desmetryn	$14.94	$ 37.35 (2.5 kg)
Tillam E	Perbulate	$11.20	$218.80
Trident	Dicamba, Dichlorprop, M.C.P.A.	$ 6.03	$112.20

(ii) Ivon Watkins-Dow

Actazine 4A	Atrazine	$ 5.97	$116.00
Actazine 80	Atrazine	$11.90	$116.00 (10 kg)
Bandomine M	Dicamba, M.C.P.A.	$ 5.92	$116.80
Banvine	2,4-D (amine salt), Dicamba	$ 7.86	$139.00
Betanal AM ll	Phenmedipham	$17.02	$337.00
Brominal M	Bromoxynil, M.C.P.A.	$ 8.56	$169.60

Dowpon	2,2 dichloropropionic acid (sodium salt)	$ 4.30	$ 70.75
Dyram 80	Diuron	$11.36	$284.00
Eliminex		$ 5.94	$115.60
Fodderkleen	Chlornitrofen, Picloram	$ 5.12	$100.80
High-Ester 2,4-D	2,4-D (butylester)	$ 5.98	$119.60
Lo Vair D	2,4-D (butylester)	$ 3.42	$684.00 (200 litres)
MEC 40	Mecoprop	$ 4.03	$ 80.60
I.W.D. Paraquat	Paraquat	$ 8.01	$154.60
Permazol SDA	Amitrole, 2,2-dichloropropionic acid (sodium salt), simazine	$10.96	$ 92.30 (10 kg)
Phytozol D	Amitrole, 2,4-D, 2,2-dichloropropionic acid (sodium salt)	$ 7.20	$ 82.92 (12 kg)
Propazol 50	Propazine	$12.62	$120.30 (10 kg)
Scrub Dessicant TD	2,4-D, 2,4,5-T (butylesters)	$ 7.36	$147.20
Selecta 4-CPA	M.C.P.A.	$ 5.89	$116.20
Simazol 80	Simazine	$ 6.46	$125.60
Sinox P.E.	Dinoseb	$ 2.87	$ 54.33 (18.93 litres)
Teedal	2,2-dichloropropionic acid (sodium salt), T.C.A.	$ 4.52	$ 63.45 (15 kg)
Tordon 2G	Picloram	$ 3.50	$ 80.25
Tordon 50 D	2,4-D (amine salt), picloram	$ 8.15	$161.40
Tordon 520	Picloram, 2,4,5-T (iso octyl ester)	$ 9.81	$192.80
Tordon 1050	Picloram, 2,4,5-T (butylester)	$ 8.20	$164.00
Turfmaster	M.C.P.A., Mecoprop	$ 4.65	$ 80.20
Weedar 77	2,4-D (amine salt)	$ 3.93	$ 73.60
Weedar M.C.P.A.	M.C.P.A.	$ 3.91	$ 73.40
Weedar Butyrac M.C.P.B.	M.C.P.B.	$ 4.38	$ 85.80
Weedar Butyrac 2,4-DB	2,4-DB	$ 4.99	$ 97.80
Weedazol T-L	Amitrole, ammonium thiocyanate	$ 3.72	$ 64.20
Weedone 57 Vol 2,4-D	2,4-D (iso octyl ester)	$ 3.70	$ 68.60
Weedone 2,4,5-T	2,4,5-T (iso octyl ester)	$ 5.88	$111.40
Weedone Hi-Ester T	2,4,5-T (butylester)	$10.48	$199.40
(iii) May and Baker			
Asulox	Asulam	$ 9.84	$193.60
Axall		$10.90	$210.00
Buctril M	Bromoxynil, M.C.P.A.	$ 8.62	$169.00
Carbetamex 70	Carbetamide	$13.28	$ 66.40 (5 kg)
Ronstar		$21.30	$104.25 (5 litres)
Totril	Ioxynil	$15.26	$ 76.31 (5 litres)

(iv) Redene – Rural/Ispray

Activated Amitrole	Amitrole, Ammonium thiocyanate	$ 3.28	$ 62.90
Atakem	Amitrole	$10.60	$265.90
Atrex	Atrazine	$11.73	$163.95 (15 kg)
Banvel	Dicamba	$ 8.26	$162.65
Banweed 750	Dicamba, 2,4-D (amine)	$ 6.67	$130.60
Banweed Lawnspray	Dicamba 2,4-D (amine)	$ 8.00	$ 4.00 (500ml)
Casoron G	Dichlobenil	$ 6.05	$117.50
Cornox CWK	Benazolin	$24.20	$102.65 (5 litres)
Duston 15	2,4-D (sodium salt)	$ 1.47	$ 29.35
Diuron 80	Diuron	$12.08	$227.50
Elapon	2,2-DPA (sodium salt)	$ 3.17	$ 79.30
Flowable Atrazine	Atrazine	$ 7.25	$140.40
Flowable Simazine	Simazine	$ 7.86	$153.00
Fodagard	Nitrofen, Dicamba	$ 5.44	$106.10
SDA Longterm	Simazine, 2,2-DPA, Amitrole	$ 9.33	$176.90
Simex	Simazine	$12.80	$183.95 (15 kg)
Sodakem	Sodium Chlorate	$ 3.50	$ 50.00
Tri-Cornox	Dicamba, Benazolin, Dichlorprop	$ 4.47	$ 84.37
Zylem S	Simazine 2,2-DPA, 2,4-D	$10.00	$206.60
Rural 2,4-D Amine 40	2,4-D (amine salt)	$ 4.00	$ 74.40
Rural 2,4-DB 40	2,4-DB (sodium salt)	$ 8.43	$ 98.65
Rural 2,4-D Ester 40	2,4-D (Butyl Ester)	$ 3.74	$ 69.40
Rural 2,4-D Ester 80	2,4-D (Butyl Ester)	$10.80	$121.95
Rural 2,4-D Sodium Salt 80	2,4-D (sodium salt)	$ 3.63	$ 90.65
Rural MCPA	M.C.P.A. (potassium salt)	$ 3.97	$ 73.70
Rural MCPB	M.C.P.B. (sodium salt)	$ 4.20	$ 78.25
Rural Paraquat	Paraquat ion	$ 7.73	$154.65
Rural 2,4,5-T Ester 40	2,4,5-T (Butyl Ester)	$ 5.98	$112.30
Rural 2,4,5-T Ester 80	2,4,5-T (Butyl Ester)	$10.58	$200.65
Hoechst Linuron 50 WP	Linuron	$12.60	$305.95
Hoechst Aretit 50 EC	Dinoseb acetate	$ 3.45	$ 69.40
Hoechst Hoegrass 36 EC	Diclofop-methyl	$21.99	$480.00
Hoechst Na TA	TCA (sodium salt)	$11.88	$ 59.40

(v) Shell

Avadex B.W.	Tri-allate	$ 5.30	$106.00
Amitrole 95	Aminotriazole	$ 9.39	$169.02 (18 kg)
Atrazine	Atrazine	$10.27	$102.70 (10 kg)
Atrazine 50 SC	Atrazine	$ 7.25	$140.40
Cearex	Dicamba, MCPA, mecoprop	$ 4.20	$ 71.20
Cearex 4	Dicamba, M.C.P.A., mecoprop	$ 6.30	$106.80
DNBP (Amine)	Dinoseb	$ 2.99	$ 45.60
Dicamba 2	Dicamba	$ 8.93	$171.60
Double Strength 2 4-D	2,4-D (butyl ester)	$ 6.50	$130.00
Double Strength 2,4,5-T	2,4,5-T	$11.27	$214.40
Herbitrol	Cyanazine	$ 7.12	$ 71.20 (10 kg)

	Lasso	Alachlor	$ 7.44	$138.80
	Linuron 50	Linuron	$11.83	$295.75
	Mataven		$10.25	$205.00
	Mosskiller	Pentachlorphenol	$ 2.35	$ 41.60
	Paraquat	Paraquat	$ 7.62	$144.20
	Planavin 75	Nitralin	$19.75	$197.50 (10 kg)
	Prefix granules	Chlorthiamid	$ 3.53	$ 67.25
	Ramrod 65	Propachlor	$ 6.80	$ 61.20 (9 kg)
	Residex LT	Amitrole, 2,2 dichloro-propionic acid (sodium salt), Simazine	$ 9.54	$262.50
	Roundup	Glyphosate	$24.88	$436.00
	Simazine 80	Simazine	$11.46	$114.60 (10 kg)
	Simazine 50 SC	Simazine	$ 7.86	$153.00
	Suffix	Benzoylprop-ethyl	$ 6.85	$129.20
	Supercearex	Dicamba, dichlorprop, M.C.P.A.	$ 5.62	$103.80
	Vegadex	Sulfallate	$ 7.15	$139.60
	Weedkiller W	Oils-mineral-herbicidal	$ 0.38	$ 79.42 (209 litres)
	2,4-D Amine	2,4-D (Amine Salt)	$ 4.41	$ 81.80
	2,4-D Ester	2,4-D	$ 3.77	$ 70.00
	M.C.P.A.	M.C.P.A.	$ 4.02	$ 75.60
	M.C.P.B.	M.C.P.B.	$ 4.25	$ 79.20
	2,4-D with Dicamber	2,4-D, Dicamba	$ 6.18	$119.00
	2,4,5-T Extra	2,4,5-T	$ 6.00	$113.20
(vi) Yates				
	Dalapon	2,2-dichloropropionic acid	$48.66	$ 97.31 (2 kg)
	Kerb 50	Propyzamide	$30.86	$ 61.71 (2 kg)
	Reglone P	Diquat	$ 9.78	$170.66
	Treflan	Trifluralin	$ 9.66	$183.07
	Universal Weedkiller	Sodium Chlorate	$ 1.57	$ 39.20
(vii) Henry	York			
	Alicep	Chlorbufam, chloridazon	$25.35	$581.25
	Basagran Liquid 480 EC	Bentazone	$27.80	$628.75 (25 litres)
	Dinotate Liquid	Dinoseb	$ 3.25	$ 65.00
	Linuron 50 WP	Linron	$13.40	$313.75
	Mecomix		$ 4.11	$ 80.80
	Sencor 70 WP	Metrabuzin	$56.95	$ 84.38
	Tribunil 70 WP	Methabenz thiazuron	$17.45	$406.25
	Ustilan 70 WP	1,3-dimethyl-3-(5-ethyl-sulfonyl-1,3,4-thiadiazole - 2 - yl) - urea	$27.15	$662.50

4.15.2 Insecticides

For full information regarding common names, proprietary names,and percent a.i., refer to the Handbook of Agricultural Chemicals. For full information regarding rates of application and the pests controlled by the various chemicals, refer to the Technical Budget Manual, Section 14 "Weed and Pest Control" or refer to the book "New Zealand Insect Pests" edited by D. Ferro, and published by Lincoln College, 1976.

	Trade Name	Chemical Name	price per litre/kg	price of 20 litres or 25kg pack
(i)	ICI-Tasman			
	Dicidex	Trichlorfon	$ 5.64	$ 67.68 (12 litre)
	Furadan 10G	Carbofuran	$ 3.53	$ 70.50 (20 kg)
	Gammexane 5G	Lindane	$ 2.61 each	
	Gromothion 60	Fenitrothion	$ 8.36	$152.80
	Malathion 50	Maldison	$ 4.30	$ 80.20
	Pirimor 50	Pirimicarb	$24.98	$ 24.98 (1 kg)
(ii)	Ispray			
	Azinphos Methyl	Azinphos Methyl	$11.20	$158.70 (15 kg)
	Azinphos Ethyl	Azinphos Ethyl	$14.48	$258.20
	Carbaryl 80 W	Carbaryl	$ 8.61	$176.75
	DDT 20 E	pp 'DDT	$ 3.43	$ 54.80
	Dibrom 8 E		$18.86	$ 29.90 (2 litre)
	Furadan	Carbofuran	$26.00	$ 13.00 (500g)
	Lindane 50 W	Lindane	$11.44	$228.80 (20 kg)
	Malapreme 100 E	Maldison	$ 9.06	$137.40
	Malathion 25 W	Maldison	$ 4.48	$ 89.60 (20 kg)
	Orthene 75	Acephate	$11.88	$221.00 (10 kg)
	Phorate 10 G	Phorate	$ 2.40	$ 36.00 (15 kg)
	Phorate 20 G	Phorate	$ 3.13	$ 46.95 (15 kg)
	Temik 10 G	Aldicarb	$ 7.20	$ 81.65 (11.34 kg)
(iii)	Ivon Watkins Dow			
	Dyzol 50 W	Dichlorvos or Diazinon	$10.27	$100.00 (10 kg)
	Dyzol 80 EC	Diazinon	$13.19	$258.80
	Dyzol 20 G	Diazinon	$ 3.81	$ 57.15 (15 kg)
	Lepidex	Trichlorfon	$ 4.27	$ 91.60
	Lorsban 40 EC	Chlorpyrifos	$16.77	$ 83.35 (5 litre)
	Lorsban 50 W	Chlorpyrifos	$21.33	$ 42.66 (2 kg)
	Mocap 20 G	Ethoprophos	$ 2.72	$ 40.80 (15 kg)
	Nexion 40 EC	Bromophos	$10.48	$100.70 (10 litre)
	Plictran 50 W	Cyhexatin	$40.67	$ 81.34 (2 kg)
	Saprol	Triforine	$12.73	$ 63.65 (5 litre)
	Thimet 20 G	Phorate	$ 3.27	$ 49.05 (15 kg)
(iv)	May and Baker			
	Kilval	Vamidothion	$14.80	$ 71.25 (5 litre)
(v)	Rural-Redene			
	Caterkil	Fenitrothion	$ 7.56	$151.25
	Dri-Die	Pyrethrins, Piperonyl-butoxide	$23.50	$114.60 (5 kg)

Malathion 50	Maldison	$ 4.64	$ 84.40
Nuvan 100 EC	Dichlorvos	$19.70	$ 83.80 (5 litre)
Silogard	Maldison	$ 1.08	$ 26.95
Hoechst Hostathion 40 EC	Triazophos	$10.00	$191.00
Hoechst Thiodan 35 EC	Endosulphan	$10.25	$150.00

(vi) Shell

Aldrin 50 EC	Aldrin	$ 5.85	$117.00
Bidrin concentrate	Dicrotophos	$12.65/½litre bottle.	
DDT Concentrate	DDT	$ 2.64	$ 39.00
Dieldrex 50 WP	Dieldrin	$ 9.05	$ 90.50 (10 kg)
Gesapon 10 (granular)	Diazinon	$ 2.26	$ 56.50
Gesapon 80 EC	Diazinon	$15.13	$297.40
Improved Redspray	Oils-mineral-insecticidal	$ 0.43	$ 25.80 (60 litre)
Lindane pellets	Lindane	$ 3.97	$ 99.25
Phosdrin (concentrate)	Mevinphos	$15.10/½ litre bottle	
Premium Late Winter Oil	Oils-mineral-insecticidal	$ 0.46	$ 27.30 (60 litre)
Sumicidin 10		$26.00	$480.00
Torque 50		$38.88	$ 77.76 (2 kg)
Universal Orchard Oil		$ 1.95	$ 18.80
Vapona Concentrate	Dichlorvos	$ 9.68/½ litre bottle	
Verthion EC	Fenitrothion	$ 7.64	$140.60
Verthion pellets	Fenitrothion	$ 1.90	$ 47.50

(vii) Yates

Carbaryl	Carbaryl	$ 6.44	$161.07
Yates Carbaryl 80	Carbaryl	$ 9.35	$ 18.70 (2 kg)
Yates Maldison 50% EC	Maldison	$ 4.74	$ 8.62
Maldison 25	Maldison	$ 5.05	$ 10.10 (2 kg)
Yates Thiram	Thiram	$ 4.94	$ 75.31

(viii) Henry York

Agritox 550 EC	Trichloronat	$15.40	$ 61.60 (4 litre)
Dasanit 5 G	Fensulphothion	$ 1.60	$ 40.00
Dasanit 10 G	Fensulphothion	$ 3.20	$ 64.00 (20 kg)
Dedevap 1000	Disulphoton	$20.00	$ 93.25 (5 litre)
Dipterex SP 95	Trichlorfon	$16.20	$ 81.00 (5 kg)
Disyston Ten	Disulfoton	$ 2.40	$ 48.00 (20kg)
Folidol M 50	Parathion-methyl	$13.15	$226.25 (25 litre)
Folimat 50 LC	Omethoate	$20.35	$ 20.35 (1 litre)
Folimat Special	Azinphos-ethyl, omethoate	$13.65	$ 13.65 (1 litre)
Gusathion M 50 WP	Azinphos-methyl	$12.25	$164.85 (15 kg)
Gusathion A 40 EC	Azinphos-ethyl	$16.15	$250.00
Mesurol 75 WP	Methiocarb	$44.80	$1090.00
Mesurol Snailbaits	Methiocarb	$ 3.15	$ 31.50 (10 kg)
Metasystox (i) 25 EC	Demeton-S-methyl	$17.80	$177.00
Nemacur 400 EC		$19.25	$465.00 (25 litre)
Peropal 25 WP		$20.50	$ 41.00 (2 kg)
Tamaron 600 LC	Methamidophos	$16.70	$391.25 (25 litre)

Thiofor 350 EC	Endosulfon	$ 8.25	$150.00
York Diazinon 800 EC	Diazinon	$14.46	$286.40
York Diazinon 10 G	Diazinon	$ 2.00	$ 50.00
York Fenitrothion 600 EC	Fenitrothion	$ 9.23	$184.60
York Fenitrothion 10 G	Fenitrothion	$ 1.88	$ 47.00
York Lindane 20 G	Lindane (pellet)	$ 2.84	$ 71.00

4.15.3 Fungicides

	Trade Name	Chemical Name	price per litre/kg	price per 20 litre/25 kg pack
(i)	Henry York			
	Antracol 70 WP	Propineb	$ 6.65	$142.50
	Bavistin/Captan Dust	Captan, Carbendazim	$ 2.49	$ 62.25
	Bayleton 5 WP		$20.75	$496.25
	Bayleton 250 EC		$37.10	$ 37.10 (1 litre)
	Calirus	Benodanil	$31.75	$ 31.75 (1 kg)
	Calixin	Tridemorph	$10.73	$264.00 (25 litre)
	Dyrene 50 WP	Anilazine	$12.80	$ 25.60 (2 kg)
	Euparen 50 WP	Tolyfluanid	$26.70	$621.85
	Pallinal	Metiram, Nitrotal-di-isopropyl	$ 9.05	$ 27.15 (3 kg)
	Polyram Combi 80 WP	Metiram	$ 4.10	$ 88.75
	Polyram 2000 80 WP	Metiram	$ 6.85	$138.75
	Ronilan 50 WP		$45.00	$1050.00
(ii)	Hoechst			
	Afugan 30 Ec	Pyrazophos	$29.00	$ 29.00 (1 litre)
	Chinosol W	8-hydroxyquinoline sulphate	$60.00	$150.00 (2.5 kg)
	Copper Oxychloride	Copper oxychloride	$ 5.00	$ 69.00
	Oleocop	Cuprous oxide	$ 6.25	$124.38
(iii)	Ispray			
	Copper Oxychloride	Copper oxychloride	$ 5.50	$ 86.25
	Difolatan 5 F	Captafol	$ 6.88	$128.80
	Difolatan 80 W	Captafol	$10.12	$218.75
	Dinocap 25 W	Dinocap	$ 6.54	$130.75
	Diodine 65 W	Diodine	$ 9.63	$192.60 (20 kg)
	Morocide	Binapacryl	$12.62	$307.50
	Orthocide 10 % Dust	Captan	$ 1.87	$ 46.75
	Orthocide 80 W	Captan	$ 5.89	$141.50
	Phaltan 50 W	Folpet	$ 7.91	$162.75
	Plantvax 75 W	Oxycarboxin	$25.12	$ 25.12 (1 kg)
	Saprol 20 EC	Triforine	$13.61	$247.00
	Saprene	Triforine, acephate	$19.64	$ 84.60 (5 litre)
	Thiram 80 W	Thiram	$ 5.06	$ 86.25
	Zineb 70 W	Zineb	$ 5.50	$110.00 (20 kg)

(iv) Others	Milcurb (ICI Tasman)	Dimethirimol	$ 9.88 per litre
	Topsin M-4A (I.W.D)	Thiophanate-methyl	$264.80 per 20 litres
	Kocide 101 (Shell)	Cupric hydroxide	$44.00 per 10 kg
	Syllit 40 S (Shell)	Dodine	$110.80 per 20 litres
	Rovral (May and Baker)	1-(isopropylcarbamoyl) -3-(3,5-diclorophenyl) hydantoin	$ 39.00 per 10 kg carton
	Benlate (Neill Cropper)	Benomyl	$ 29.04 per 1 kg pack

4.15.4 Miscellaneous Chemicals

Ethion 25 W (Ispray) - Miticide	$142.50 per 20 kg
Omite 30 W (Ispray) - Miticide	$197.20 per 20 litres
Emulsifier X - 45 (May and Baker)	$ 18.00 per 5 litres
Ortho Spray Sticker (Ispray) - Sticking agent	$ 65.00 per 20 litres
Rural Spreader Sticker 15 - wetting agent	$ 23.75 per 20 litres
Rural Liquid Spray Marker Dye	$534.00 per 27 litres
Dygall - agrobacterium radiobacter	$ 10.66 per 160 grams

4.15.5 Aerial Spraying

(i) Airwork (N.Z.) Ltd.

Brush weeds	– High Volume	$47.00/ha
	– Low Volume	$29.65/ha
Insecticides		$16.00/ha
Cereals		$13.60/ha

(ii) James Aviation

Litres per ha	Fixed Wing cost per ha	Helicopter cost per ha
0-30	$ 4.70	$ 5.70
31-60	$ 8.40	$ 9.00
61-120	$12.60	$14.70
121-170	$21.00	$27.00
171-225	$26.44	$36.00
226-280	$28.54	$45.00
281-340	$36.70	$54.00
341-450	$45.22	$72.00
451-570	$52.40	$90.00

Minimum charge for fixed wing and helicopter $120.00

Miscellaneous Helicopter Charges:

Crop spraying and liquid fertilizers $18.00 per hectare
Gorse Spraying $90.00 per hectare

Hourly rates for lifting etc (2 hours minimum)

Llama	$500.00
Hughes 500 D	$385.00
Hughes 500 C	$360.00
Hughes 300 C	$240.00
Jet Ranger	$385.00
Soloy	$360.00
Hiller 12 E	$295.00

(iii) **Helicopters (N.Z.) Ltd.**

Litres per ha	Cost per ha
0-28	$ 7.42
29-56	$10.60
57-112	$14.84
113-169	$22.00
170-225	$28.00
226-280	$33.92
281-337	$41.34
338-450	$50.88
451-560	$67.84

Minimum Charge $280
Miscellaneous Helicopter charges:-
Spraying with liquid fertilizer – $13.00 per ha for the first 20 ha and $11.50 per additional ha over 20 ha.
Positioning – $230.00 per hour.
Spraying flight charge – $290.00 per flight hour.
Flight charge – fencing – $250.00 per flight hour.

4.15.6 Ground Application (materials extra)

(i) **Gun Spraying**

One man plus fully equipped truck $20.50 per hour varying in scale downwards according to the type of country.

(ii) **Boom Spraying**

Depending on the nature of the crop and situation, boom spraying costs about $9 – $10.50 per hectare.

4.16 SELLING CHARGES

4.16.1 Yard Fees

Addington

Includes loading fee of 8¢ - sheep
30¢ - cattle
50¢ - bulls

Sheep	26¢
Fat Cattle	1.78
Store Cattle	1.49
Vealers	1.49
Dairy Cows	1.78
Calves	1.49
Bulls	3.14
Porkers	62¢
Baconers	62¢
Store pigs	50¢

Amberley

All sheep	14¢

Coalgate

Sheep shareholders	10¢
Non Shareholders	11¢
Rams	25¢
Calves Shareholders	70¢
Non Shareholders	80¢
Cattle shareholders	80¢
Non Shareholders	90¢

Culverden

Sheep	17¢
Rams	17¢
Calves	99¢
Breeding Bulls	10.00
Adult Cattle	1.18
Dairy Cattle	1.18

Hawarden

Sheep	9¢

Little River

Sheep	14¢
Rams	25¢

Sheffield

Sheep Shareholders	16¢
Non Shareholders	17¢
Rams	50¢
Cattle Shareholders	70¢
Non Shareholders	80¢

Cheviot

Calves	1.10

Oxford

Sheep	11¢	(plus loading/unloading fee
Rams	25¢	of 3¢ per head)
Fat Cattle	70¢	(plus loading/unloading fee
Store Cattle	70¢	of 10¢ per head)
Dairy Cattle	80¢	
Bulls	1.00	

4.16.2 Commissions on Stock sold through a Stock and Station Agent

Sale Yards	
Sheep	4.75%
Fat Cattle	4.75%
Store Cattle	4.75%
Vealers	4.75%
Bulls	7.5%
Dairy Cattle	7.5%
Pigs	5.75%
Horses (Bloodstock)	8.0%
Horses	8.0%
Grazing	10.0%

Clearing Sales	
Sheep	5.5%
Store Cattle	5.5%
Pigs	7.0%
Dairy Cows	7.5%
Implements & Sundry	10.0%
Furniture	12.5%
Special Sales	
Stud Cattle	7.5%
Stud sheep	4.75%

4.17 TREES

The prices shown below are the approximate cost per 100 for trees commonly grown for farm shelter. The price does not include planting.

Millichamps Nursery, Ashburton.

Pinus radiata	$ 6.90	18 month trees
	or $40.25	for 1000
Larch	$23.00	2 year trees
Thuya	$25.30	3 year trees
Muricata	$17.25	2 year trees
Arizonica	$23.00	2 year trees
Benthami	$23.00	2 year trees
Macrocarpa	$23.00	2 year trees
Lombardy Poplar	$23.00	
Poplars (others)	$28.75	
Douglas Fir/Oregon	$23.00	3 year trees
Cedrus deodara	$31.00	3 year trees
Eucalyptus	$57.50	in tubes

4.18 REPAIRS AND MAINTENANCE

The best way to estimate the likely expenditure on repairs and maintenance for all plant, buildings, fences, sheep and cattle yards, tracks and culverts is (1) the close scrutiny of the farm accounts and (2) questioning the farmer directly, on likely expenditure programme.

If the information is not available through such sources, the following rates may be used as an approximate guide. It should be borne in mind that expenditure on repairs and maintenance is strongly dependent upon the income for that particular year.

Dwellings	2½ – 5%)	depending upon the age
Farm buildings	2½ – 5%)	of the building
Piggeries	5 – 10%	
Water supply	up to 5%	depending on water type
Implements and plant	7½ – 15%	depending upon use
Roads, tracks and culverts	5 – 10%	depending on locality
Yards and dip	2½ – 5%	

4.19 MOTOR VEHICLE – FUEL, LICENCING AND ROAD USER CHARGES.

4.19.1 Motor Vehicle Fuel Taxes

Motor Spirits Duty (Petrol Tax)

Motor spirits are now taxed as follows:

- A motor spirits duty of 4.24 cents per litre is paid into the National Roads Fund.
- A motor spirits duty of 8.45 cents per litre is paid into the Consolidated Revenue Account.
- A local authority tax of 0.68 cents per litre and an equivalent tax on diesel fuel, are not rebated for motor vehicles under any circumstances.

Exempted Vehicles

These are vehicles which are not subject to road user charges taxation. Where farmers are concerned they fall into three categories –

- Vehicles with E class A licence labels which are only permitted to use the public highway in connection with their inspection, servicing, or repair, or for the purposes of a drivers licence test; and
- Vehicles with E class B licence labels which are largely limited to gate-to-gate operations, or to laden journeys with a 21 km round-trip limit between separate farms owned or managed by the vehicle owner. There are some exemptions to these restrictions – e.g. there is no limit to the distance for which dogs can be carried to a hydatids dosing centre; there is no limit to the distance which a farmer may cart milk, cream or whey to or from a dairy factory by means of a tractor and trailer; and there is also no limit to the distance which any Class B vehicle may be taken in an unladen condition.
- Unregistered motor vehicles.

  A refund of 11.7 cents per litre can be claimed for petrol used in an Exempted Vehicle.

Licensed Vehicles

These are vehicles which are subject to road user charges taxation. The Second Schedule to the Motor Spirits Duty Refund Regulations 1978 contains a table of Standard Motor Spirits Consumption Rates. A refund of 9.7 cents per litre can

be claimed either on the actual quantity of fuel used in a Licensed Vehicle, or on the quantity arrived at by applying the table of Standard Consumption Rates, whichever is the smaller. This is to offset the tax paid in road user charges.

Stationary Engines and Machinery Such As Chainsaws

Provided these are used solely for commercial purposes (i.e. for the owner's own agricultural operations), a refund of 9.7 cents per litre can be claimed on the petrol they use.

Boats

Farmers in some remote areas use boats to transport their produce, stock etc.

A refund of 11.7 cents per litre can be claimed on these commercial vessels.

Ministry of Transport and
New Zealand Post Office

4.19.2 Road User Charges

All vehicles other than exempted vehicles used on the public highway (except for petrol-powered vehicles and trailers with a manufacturer's gross vehicle weight rating of 3.5 tonnes or less), are liable for road user charges.

Where the farmer is concerned, this will generally apply to farm trucks which are licensed for unlimited road use. All vehicles with Class A or Class B licence labels are exempt.

Road User Licences

There are two types of road user licence –

- Time licences are available for vehicles described as Off-Road Motor Vehicles in the Second Schedule to the Road User Charges Act 1977. These are largely mobile machines such as Road Rollers, Mobile Cranes and Trench Diggers which do most of their mileage off the road.
- Distance licences are required for all other vehicles subject to road user charges and can be purchased in multiples of 1000 km.

Road user licences can be bought at most Post Offices and their cost depends upon –

- the weight at which the owner elects to operate the vehicle; and

- in respect of distance licences, the vehicle's axle configuration.

Road User Licences are not transferable between vehicles.

Supplementary Licences are available for situations where an owner wants to increase the nominated weight of a current licence.

Hubodometers

All vehicles over 3.5 tonnes that require Distance Licences have to be fitted with approved hubodometers.

Exemptions from fitting hubodometers can be obtained from the Secretary for Transport if it can be demonstrated that is is not practical to fit them.

4.19.3 Motor Registration and Licencing

Normally, farmers pay full registration and licensing fees for their vehicles, with the following exceptions:

Agricultural trailers, that is, trailers such as seeders, ploughs, and rotary hoes, designed exclusively for agricultural operations, are not required to be registered or licensed, if they are towed by a currently licensed vehicle.

Conventional trailers drawn by exempted vehicles with E Class B labels must be registered and licensed, but are exempt from payment of all fees, except for the accident compensation levy, the indemnity surcharge, and the cost of the licence label and (where applicable) the number plates.

Ministry of Transport and
New Zealand Post Office

4.19.4 Transport Licencing

Generally, a farmer may carry his own goods in his own vehicle in connection with his business as a farmer, without restriction. There are, however, some limitations on this.

Five-Tonne Payload

If the load exceeds 5000 kilograms, and if there is an open railway route of not less than 150 kilometres available, the farmer must have a goods-service licence.

Exemptions

The following classes of goods may be carried without restriction, provided they are the farmer's own:

- Livestock, lime, hay or straw, fresh meat, poultry or fresh fish, fresh fruit or vegetables.
- Used, empty fruit or vegetable containers (or empty returnable pallets) on their return journey, when they have carried fresh fruit or vegetables on their outward journey.
- Bulk milling wheat which requires urgent transport, directly from the paddock to the nearest available dryer, immediately after harvesting.

Ministry of Transport

4.20 VEHICLE RUNNING EXPENSES

4.20.1 Fuel, Oil and Grease

The prices for fuel, oil, grease and other petroleum products are subject to rapid change. However, the prices to farmers current at 1 January 1980 are:

Petrol - Regular (83 Octane) = 29.8 cents per litre (after Agricultural Use rebate of 11.7 ¢/litre taken off retail price of 41.4¢/litre.
- Super (96 Octane) = 31.3 cents per litre (after rebate of 11.7 ¢/litre taken off 43.0 ¢/litre)

Diesel - 27.0 cents/litre

Multipurpose lubricating oil – 78.0 cents/litre in 200 litre drum.

Multipurpose grease - 112.8 cents/kilogram in 20 kg drum

Transmission oil - 81.6 cents/litre in 200 litre drum

Antifreeze - 99.7 cents/litre

In general, the cost of fuel, oil and grease is considered in terms of cents per kilometre travelled.

Light trucks and cars	allow 10-15 cents per kilometre
Heavy trucks	allow 18-22 cents per kilometre
Tractors 37.3 kW (50 hp)	allow $2.00 per hour
60.0 kW (80 hp)	allow $3.70 per hour
67.1 kW (90 hp)	allow $5.40 per hour
111.9 kW (150 hp)	allow $8.90 per hour

Crawler tractors	allow $4.20 per hour
Balers (conventional)	allow $1.00 per hour
Header – tractor drawn	allow $1.00 per hour
– self propelled	allow $4.60 per hour

4.20.2 Repairs and Maintenance

The best way to estimate likely expenditure on repairs and maintenance for all motorised plant is to obtain a figure direct from the farmer. However, if this is not possible then the following can be used as a rough guide.

Cars and light trucks	allow 15.0 to 20.0 cents per km
Wheel tractors	allow $1.60 per hour
Crawler tractors	allow $3.50 per hour
Mobile plant	allow 10% of initial value

4.20.3 Tractor Running Costs

Supplied by J.M. Snook, Hutchinson Motors, Christchurch.

The following is based on running costs over 5 years, using prices as 1 September 1979:

(i) 22.35 - 29.8 kW Tractors (30 - 50 H.P.) 3000 hours in 5 years

INITIAL COST FORD 3600 OR EQUIVALENT (35 kW - 47 H.P.)	$12,020.00
DIRECT COSTS	
DIESEL FUEL say 6.75 litres per hour for 3000 hrs at 20¢ per litre	4,050.00
FUEL FILTERS change every 600 hrs = 5 at $8.00	40.00
ENGINE OIL change every 150 hrs. 10.4 litres per change, plus top up, per litre $1.50	350.00
OIL FILTERS change at 300 hrs. = 10 at $8.00	80.00
TRANSMISSION OILS change every 1500 hrs capacity 40.5 litres 2 changes	121.50
INJECTOR SERVICING say 3 cyl. engines at 1500 hrs. 2 services, plus labour	90.00
TOP OVERHAUL including parts, one	300.00
AIR CLEANER oil bath or dry elements	80.00
TYRE MAINTENANCE wear and tear 3000 hrs.	50.00
GREASE (lubricating)	30.00
ANTI-FREEZE radiator and tyres	100.00
GENERAL RENEWAL REPAIRS fan belts, radiator hoses, battery, general servicing etc.	500.00
DEPRECIATION half of diminishing value for 5 years	4,163.73
TOTAL DIRECT COSTS	$ 9,955.23

TOTAL DIRECT PER YEAR	1,991.04
TOTAL DIRECT PER HOUR (Assuming 600 hrs per year)	3.31
TOTAL DIRECT PER HA (Assuming .607 ha/hr)	5.45

FIXED COSTS

REGISTRATION agricultural use, 1st year $25.30 then $20.30 per year.	106.50
INSURANCE PREMIUM per year for 5 years, allowing for depreciation of tractor	245.46
OBSOLESCENCE half of diminishing value over 5 years	4,163.73
INTEREST on $12,020. for 5 years at 10%	6,010.00
TOTAL FIXED COSTS	$10,425.69

TOTAL COSTS

TOTAL COSTS FOR 5 YEARS	$20,380.92
TOTAL COSTS FOR 1 YEAR	4,076.18
TOTAL COSTS FOR 1 HOUR (Assuming 600 hours per year.)	6.79
TOTAL COSTS FOR 1 Ha WORKED - assuming .607 ha/hr	11.18
COSTS INCLUDING LABOUR AT SAY $3.50 PER HOUR	
DIRECT COSTS PER HOUR	10.29
TOTAL COST PER Ha WORKED - assuming .607 Ha per hour	16.94

(ii) 44.7 - 59.6 kW TRACTORS (60 - 80 H.P.) 4000 hours in 5 years

USING AS INITIAL COST FORD 6600
16 speed 78 B.H.P. 58.2kW $15,460.00 with Q cab

DIRECT COSTS

DIESEL FUEL 12 - 14 litres per hour for 4000 hrs at 20 cents per litre	$11,200.00
ENGINE OIL sump capacity 10-12 litre. Change every 150 hrs. at average $1.45 per litre	378.57
ENGINE OIL FILTERS change every 300 hours 14 at $8.00 each	112.00
TRANSMISSION OIL change at 2000 hours, capacity G.B. & B.A. 58.5 litre at $1.45 per litre	84.82
TRANSMISSION OIL FILTERS change every 600 hours say 7 at $8.00 each	56.00
FUEL FILTERS change every 600 hours 7 at $5.00 each	35.00
AIR CLEANER oil bath or dry element	105.00
INJECTOR SERVICING every 1200/1500 hours say 3 services 4 injectors	150.00
TOP OVERHAUL including parts	300.00
BATTERY one replacement heavy duty	140.00

TYRES 14x30 or 15x30 or relug say one tyre	400.00
ANTI-FREEZE radiator 3-4 litre at $2.00 per litre plus top up say	16.00
ANTI-FREEZE water filled tyres, Calcium Chloride at $11.00 per 25kg, say 120kg per 15.30	110.00
GREASE small drum for 4000 hours	25.00
POWER ASSISTED STEERING oil and filters over 4000 hours	25.00
GENERAL RENEWALS AND RUNNING REPAIRS fan belts, radiator hoses brake adjustments, etc.	500.00
DEPRECIATION half of diminishing value for 5 years	4,703.00
TOTAL DIRECT COSTS	$18,340.39
TOTAL DIRECT COSTS PER YEAR	3,668.07
TOTAL DIRECT COSTS PER HOUR	4.58
TOTAL DIRECT COSTS PER Ha WORKED say .81 Ha per hour	5.65

FIXED COSTS

REGISTRATION $25.30 1st year thereafter $20.30 per year. This is for Class B	106.50
INSURANCE average cost $23.40 on first $3000.00 then 0.55 per $100 above $3000.00 say cover on $14,000.00	78.95
OBSOLESCENCE half of D.V. for 5 years	4,703.00
INTEREST on $15,460.00 for 5 years at 10%	7,730.00
TOTAL FIXED COSTS	$12,618.45

TOTAL COSTS

TOTAL COSTS FOR 5 YEARS	$30,958.45
TOTAL COSTS FOR 1 YEAR	6,191.69
TOTAL COSTS FOR 1 HOUR	7.73
TOTAL COSTS FOR each Ha WORKED, say .81 Ha per hour	9.55
TOTAL COST INCLUDING LABOUR AT $3.50 PER HOUR	
DIRECT COSTS PER HOUR	8.08
DIRECT COSTS PER Ha WORKED	9.98
TOTAL COST PER HOUR	11.23
TOTAL COST PER Ha WORKED	13.87

(iii) 67.1 - 111.85 kW TRACTORS (90 - 150 H.P.) 3000 hours in 5 years

AVERAGE INITIAL COST $25,000. - $39,000.

DIRECT COSTS

	90 H.P.	150 H.P.
DIESEL FUEL 19 - 32 litres per hour. at 26 cents per litre	$14,820.00	$24,960.00

ENGINE OIL sump capacities 11.25 - 13.5 litre oil change every 150 hrs., 20 changes	315.00	378.00
ENGINE OIL FILTERS - change every 300 hrs - 10 changes at $8.00	80.00	80.00
TRANSMISSION OIL - change every 1500 hrs capacities 70 litre at $1.40 per litre	196.00	196.00
TRANSMISSION OIL FILTERS change every 400 hrs, say 8 filters at $8.00	64.00	64.00
FUEL FILTERS , duals, change every 600 hrs. 10 filters at $5.00	50.00	50.00
AIR CLEANER dry type Cyclopac cartridge, $40. - $60. each, say three replacements over 3000 hrs.	120.00	180.00
INJECTOR SERVICING every 1200/1500 hrs. 4 and 6 cylinder, 2 services	100.00	150.00
TOP OVERHAUL including parts	300.00	400.00
BATTERY one replacement in 5 years, heavy duty	140.00	160.00
TYRES 15 x 30 to 18.4 x 38, say one replacement or relug	600.00	800.00
ANTI-FREEZE radiator 4 - 6 litre, plus top up	16.00	20.00
ANTI-FREEZE water filled tyres. Calcium Chloride at $11. per 25 kg drum. Valve level waterfill dual rears	130.00	230.00
GREASE small drum	25.00	25.00
POWER ASSISTED STEERING oil and filters	30.00	40.00
GENERAL RENEWALS and RUNNING REPAIRS fan belts, radiator hoses, brake adjustment, etc.	300.00	400.00
DEPRECIATION half of diminishing value for 5 years	7,606.17	11,865.63
TOTAL DIRECT COSTS	$24,892.17	$39,998.00
TOTAL DIRECT COSTS PER YEAR	4,978.43	7,999.60
TOTAL DIRECT COSTS PER HOUR	8.29	13.33

TOTAL DIRECT COSTS PER Ha WORKED (say 1.2 Ha per hour)	6.90	11.11
FIXED COSTS		
REGISTRATION $25.30 1st year,. thereafter $20.30 per year (Class B)	106.50	106.50
INSURANCE average cost $23.40 on 1st $3,000 then .55 per $100 - say insured at $20,000 and $34,00 for 5 years	584.50	969.50
OBSOLESCENCE half of diminishing value for 5 years	7,606.16	11,865.63
INTEREST on $25,000 and $39,000 for 5 years at 10%	12,500.00	19,500.00
TOTAL FIXED COSTS	$20,797.16	32,441.63
TOTAL COSTS		
TOTAL COSTS FOR 5 YEARS	$45,689.33	$72.439.63
TOTAL COSTS FOR 1 YEAR	9,137.86	14.487.92
TOTAL COSTS PER HOUR	15.22	24.14
TOTAL COSTS PER Ha WORKED (say 1.2 Ha per hour)	12.68	20.12
TOTAL COSTS INCLUDING LABOUR AT $3.50 PER HOUR		
DIRECT COST PER HOUR	11.79	16.83
DIRECT COST PER Ha WORKED	9.82	14.02
TOTAL COST PER HOUR	18.72	27.64
TOTAL COST PER Ha WORKED	15.60	23.03

4.20.4 Costs of Cultivation

(adapted from a paper given by G.A.G. Frengley, Farm Management Dept., Lincoln College, to the 'Conservation Tillage' Seminar at Christchurch in November, 1979)

This paper describes the factors which must be considered and the calculations needed to correctly establish cultivation costs. The paper is structured to follow the convention of estimating fixed costs followed by variable costs and finally a discussion.

(a) Fixed Costs:
Few topical papers correctly describe the manner in which the capital costs of cultivation equipment should be estimated. Commonly, errors arise in the methods of distinguishing between investment, capital recovery and depreciation. The confusion commonly results in the over–estimation of the fixed capital costs of cultivation equipment.

Take for example a 60 kw (80 hp) tractor costing $14,000. The real cost to the farmer is dependent on his marginal rate of tax plus the legislated incentive and depreciation rates. As well, the final cost is dependent on the difference between salvage value and replacement cost of the redundant machine. The example below shows how to calculate this.

Assumptions. Purchase price $14,000; terminal value $6000 after 5 years at a rate of working 800 hours per year.

1. Initial cost: $14000 - 20% investment allowance plus 25% 1st year depreciation at a maximum marginal rate of tax of 60%.

   14000 x .45 = $6300 deductible
   6300 x .60 = $3780 saved by tax deductions
   Initial cost = $14000 − $3780 = $10220.

2. Capital recovery: (Sinking fund)
   Initial cost $10220 less terminal value $6000 = $4220.

In order to accumulate a capital sum equal to $4220 over a period of 5 years with interest compounding at 10%, a sum of $691 must be set aside each year. Sinking fund factor(.163797). However, annual depreciation allowances also affect this.

3. Depreciation:

Presently the annual depreciation allowance is 20% of the diminishing value and in the above example the end of the second year tax deduction is

(14000 - 6300) x 20% depreciation = 1540
The cash saved through the depreciation deduction now is:
$1540 x 60% (tax) = $924.
The third year calculation is:
(7700 - 1540) x 20% = $1232 and cash-wise this is:
$1232 x .60 = $739.
The annual net effect is given in the table overleaf.

4. Opportunity Cost:

The cumulative costs are incomplete without accounting for the interest on capital of the intial investment which in this illustration at 10% becomes $1022 per year or $408 after tax. Thus the cumulative picture is (post tax):

Table 1: Annual Capital Costs of a 60 kW Tractor

Initial Cost $10220	Opp.* Cost	Sinking Fund	Post Tax* Depreciation Cash Saving	Net Annual Cash**
End of				
Year 1	-408	-691	(in 1. above)	-1099
Year 2	-408	-691	+924	- 175
Year 3	-408	-691	+739	- 360
Year 4	-408	-691	+650	- 450
Year 5	-408	-691	+591	- 508
			Approximate total =	$2592

* Undiscounted ** Only partly discounted

Thus the capital cost per hour of running this 60 kw tractor is:

(2592 ÷ 4000 hours = $0.65)

for a farmer in the highest taxation bracket. For a non tax payer the cost exceeds $3.00 per hour in real terms (inflation excluded). In money terms (inflation included), similar calculations can be made but these become a function of the rate of inflation. The calculation in real terms is correct to use in most circumstances.

(b) Variable Costs are more straightforward:

Labour:

Again the cost of labour must be considered from both marginal cost and opportunity cost viewpoints. A farmer with spare time has no opportunity cost and a labour cost of zero. Conversely, if his time is at a premium, his own labour could be costing $20 per hour. However in general, labour can be hired quite easily in any district for $5 per hour or perhaps in remote areas for $8 per hour. This figure sets the upper limit. Generally, by using large equipment and organising their programme carefully, farmers avoid labour bottlenecks in cultivation and their own marginal labour cost is zero. A fair estimate is thus to use a casual labour rate of $2.50 or zero per hour.

Fuel Oil & Repairs & Maintenance:

Tables of costs have been given in several publications of farm costs and from the Lincoln College Farm Budget Manual 1979, a cost of $3.09 per hour is given for an 80 hp tractor (60kw).

Thus our total costs amount to an upper limit of (3.00 (capital) + 3.09 (running) + 5.00 (labour) = $11.09/hr.)
for a busy farmer who doesn't have tax deductions to (0.65 + 3.09 + 0.00 = $3.74) for one who has.

Finally we convert this to the cost per hectare.

From experience we know that on the easiest soils to cultivate, time for cultivation from pasture to crop can be as low as 2.0 hrs per hectare. Equally on the heavy clay soils the times may reach 10 hours if the season is difficult. Between crops the cultivation times are usually less.

Thus the cost per hectare from grass to crop will vary from
$11.09 x 10 hrs. = $110.90 (plus about 12% for equipment)
for farmers with small profits on heavy soils, to
$3.74 x 2.0 hrs. = $7.48 (plus 12%)
for farmers with high profits on easily cultivated soils.

It would seem that the above figures are a very clear warning not to generalise about costs of cultivation and it would be quite wrong for some farmers to consider changing from traditional methods of cultivation, whereas it is just as essential for others to change if the results prove satisfactory.

It is interesting to note that contractors' costs at present are $18 per hour for a 60 kW tractor and it would suggest that many contractors are unable to obtain continuous work and must carry high overheads against short work time periods. Further although the calculations shown relate to a 60 kW tractor some comment can be made about tractors of different sizes. First, if larger tractors are used, cultivation times fall, with the general effect that variable costs per hectare also fall. If such farmers have high tax deductions, their total cost of cultivation will fall. This explains the move by many farmers into very large tractors. And again the reverse is true. Smaller tractors will be more expensive per hectare but in all situations farmers' decisions are finally dependent on available capital and many through necessity will continue to run small tractors. Tractor sizes other than the 60 kw tractor described will force the limits of cultivations costs described below $7.48 and above $110.90 per hectare. It seems axiomatic that the rich will get rich and the poor will get chemicals.

4.20.5 Combine Harvester Running Costs

The following calculations of combine harvester running costs for 1979/1980 assume:

1. The average price for a 4.3m, 80 kW harvester is $60,300
2. The harvester is used for 1000 hours over 5 years

Direct Costs

Diesel fuel: say 22.0 litres per hour for 1000 hours at 20 ¢ per litre	4400.00
Fuel filters: duals, change every 600 hours say 4 at $800 each	32.00
Engine oil: 12 litres change every 150 hours say 7 changes at $1.50 per litre	126.00
Engine oil filters: change every 300 hours say 3 at $8.00 each	24.00
Air cleaner: dry type, one every 1000 hours	40.00
Injector Servicing: once every 5 years	100.00
Battery: one heavy duty	140.00
Grease: small drum for 1000 hours	25.00
Power steering: oil and filters	15.00
General renewals and Running Repairs: fanbelts, radiator hoses, cutter blades, reel tines, conveyor chains, concave fittings etc.	3000.00
Depreciation: half of D.V. for 5 years (25% in first year; 20% thereafter)	21041.00
TOTAL DIRECT COSTS	$28943.00
TOTAL DIRECT COSTS PER YEAR	$ 5788.60
TOTAL DIRECT COSTS PER HOUR	$ 28.94
TOTAL DIRECT COSTS PER HECTARE HARVESTED say 0.7 ha per hour	$ 41.34

Fixed Costs

Registration: $25.40 initial $18.90 per year (Class B)	120.00
Insurance: $7.00 for first $400 then 49 cents per $100 say insured for $60 000 for 5 years	1485.00
Obsolescence: half of D.V. for 5 years	21041.00
Interest: on $60 300 for 5 years at 10%	30150.00
TOTAL FIXED COSTS	$52796.00

TOTAL COST FOR 5 YEARS	$81739.00
TOTAL COST FOR 1 YEAR	$16347.80
TOTAL COST FOR 1 HOUR	$ 81.73
TOTAL COSTS FOR EACH HECTARE HARVESTED, say 0.7 ha per hour	$ 116.75
TOTAL COST INCLUDING LABOUR AT $3.50 per hour	
DIRECT COSTS PER HOUR	$ 32.44
DIRECT COSTS PER HECTARE HARVESTED	$ 46.34
TOTAL COST PER HOUR	$ 85.23
TOTAL COST PER HECTARE HARVESTED	$121.75

4.20.6 Registration Costs

As at January 1980

Cars	$39.30	per year
Trucks – light	$37.10	per year
– heavy	$52.10	per year
Wheel Tractor	$20.40	per year
Trailers – light	$12.40	per year
– heavy	$35.40	per year
Motor cycles – under 60cc	$13.70	per year
– 60 to 125cc	$30.60	per year
– over 125cc	$40.60	per year

4.20.7 Road User Charges (taken from the M.O.T. booklet "Road User Charges").

(i) **Time Licences**

– apply to off-road motor vehicles
– 3 licence categories

Category A – among others includes tractors other than those exempted, sawing/shearing apparatus for tree cutting, bulldozers and angle dozers

Category B – among others includes front-end loaders, mobile pile drivers, self propelled trench diggers and excavators.

Category C – among others, includes mobile cranes.

Maximum Gross Weight (tonnes)	Vehicle Licence Categories A	B	C
1	11	11	11
2	11	11	14
3	11	11	17
4	11	15	22
5	11	17	26
6	11	21	31
7	13	25	38
8	15	31	45
9	17	37	55
10	21	44	65

(ii) **Distance Licences**

These are available in multiples of 1000 km.

Classified according to whether powered or unpowered, the number of tyres per axle and the axle spacing. This results in a total of 24 categories, however in this Manual we have only covered those combinations likely to be owned by farmers.

Category 1 – powered vehicles, 2 single tyred spaced axles.

2 – powered vehicle, 2 spaced axles, one single tyred and the other double tyred

11 – unpowered vehicle, 1 single tyred axle

12 – unpowered vehicle, 1 twin tyred axle

13 – unpowered vehicle, 2 spaced axles, both single tyred.

14 – unpowered vehicle, 1 group of 2 close axles both single tyred

Charge Rates for Distance Licences ($ per 1000 km of distance specified in the licence)

Maximum Gross Weight (tonnes)	Licence Category of Vehicle 1	2	11	12	13	14
1	5.01	5.01	0.55	0.53	0.53	0.53
2	5.59	5.57	1.34	1.18	1.10	1.09
3	6.26	6.20	3.02	2.23	1.77	1.75
4	7.18	6.98	6.62	4.13	2.69	2.59
5	8.51	8.05	13.61	7.54	4.04	3.79
6	10.52	9.55	25.91	13.33	6.04	5.53
7	13.48	11.66	45.81	22.48	8.99	8.03
8	17.73	14.62	76.05	36.26	13.24	11.60
9	23.66	18.69	119.79	56.05	19.17	16.55
10	31.72	24.15	180.58	83.44	27.25	23.25

In addition to Time licences and Distance licences, there are supplementary licences and overweight permits for which details can be obtained from the Ministry of Transport.

4.21 ADMINISTRATION EXPENSES

4.21.1 Professional Fees

For the actual charges of the various professional organisations see "Farm Capital and Finance", section 2.3. The exception is Accountancy which is covered under this section.

(i) Accountancy

Accountants have a scale of fees based on input of time taken in compiling returns and services required by their clients.

Some of the reasons why fees vary considerably are:

- The adequacy of the presentation of farm records to the accountant by the farmer.
- The form of ownership – individual, company or partnership, and if there is a trust account involved also.
- The amount of information the farmer wants: advice on management, financial advice, trial balances, etc.
- The degree of intensification of the farming operations.
- The amount of administration undertaken by the accountant. Budgeting control, receiver of all income, and payee of all expenditure for the farmer.

The fees definitely bear no relationship to the farmer's capital or net taxable balance, or turnover.

For Lincoln College budgeting purposes, assess fees based on the total capital involved, the degree of intensification of the management, and the form of ownership.

The current range of accounting costs lie within the approximate range of $500 to $800.

4.21.2 Telephone and Toll Charges.

(i) **Rental** (2 monthly basis)

Class*	Business Rate B1	B2	B3	Residential Rate
1	$41.62	$37.50	$18.00	$15.00
2	$53.10	$46.00	$21.50	$17.70
3	$56.65	$54.00	$23.85	$20.75
4	$64.25	$57.80	$24.40	$21.40
5	$66.00	$59.40	$25.00	$22.00
6	$69.00	$62.10	$25.50	$23.00
7	$70.70	$64.80	$26.00	$24.00

* Class 1 - Restricted attendance exchanges
Class 2 - Automatic exchanges (up to 200 subscribers) and continuous attendance manual exchanges (201 - 3000 subscribers)
Class 3 - Automatic exchanges (201 - 3000 subscribers) and manual exchanges (3000 plus subscribers)
Class 4 - Automatic exchanges (3001 - 10000 subscribers)
Class 5 - Automatic exchanges (10001 - 20000 subscribers)
Class 6 - Automatic exchanges (20001 - 80000 subscribers)
Class 7 - Automatic exchanges (80000 plus subscribers)

(ii) **Tolls**

Charges For 3-Minute Calls

The charge for a three minute call to any exchange may be obatined from the local Toll Operator on request.

Distance	Charge Code	Full Rate	Night Rate
Up to 40 km	A	12¢	12¢
Over 40 up to 50	B	24¢	24¢
Over 50 up to 65	C	39¢	33¢
Over 65 up to 100	D	60¢	45¢
Over 100 up to 165	E	90¢	63¢
Over 165 up to 245	F	$1.20	84¢
Over 245 up to 325	G	$1.50	$1.02
Over 325 up to 485	H	$1.83	$1.26
Over 485	I	$2.25	$1.62

Rating Periods. On Week-days:
Full Rate Period: 8 a.m. to 6 p.m.
Night Rate Period: 6 p.m. to 8 a.m.
On Sundays and Holidays:
Full Rate Period: 6 a.m. to Midnight
Night Rate Period: Midnight to 6 a.m.

Additional minutes. Where the distance is more than 50 kilometres each additional minute after the first three is charged for at one-third of the minimum rate except that toll calls from coin-box telephones are charged for in multipes of three minutes regardless of the distance.
Urgent Calls. Double the rate applicable at the time the call is connected.

Special Services Fees
Person to Person fee: 70¢. Completed Collect and Transferred Charge fee: 25¢.
Price Required call (where cost required before receipt of account) Fee: 20¢

New Zealand Post Office

4.21.3 Postage and Stationery

Surface Mails - inland

Standard letters 14¢
Non standard articles:
100g - 1 kg 20¢ - 70¢ first class
17¢ - 55¢ second class
Over 1 kg 75¢ per additional 1 kg
up to 10 kg (first class)

PARCELS – Postal Districts of:

ZONE 1: Whangarei, Auckland, Hamilton, Thames Tauranga, Rotorua, Gisborne.
ZONE 2: New Plymouth, Wanganui, Palmerston North, Napier, Masterton, Wellington.
ZONE 3: Blenheim, Nelson, Westport, Greymouth, Christchurch, Timaru.
ZONE 4: Oamaru, Dunedin, Invercargill.

Weight	Within a Zone & Between Zones 1 & 2 or 3 &4	Between Zones 2 &3	Between Zones 1 & 3 or between Zones 2 &4	Between Zones 1 &4
3 kg	$1.05	$1.30	$1.40	$1.50
5 kg	$1.10	$1.65	$1.90	$2.20
10 kg	$1.25	$2.20	$2.60	$3.10

Parcels may not exceed 2m in length and girth combined and the greatest length of one side may not exceed 1.05m.

Flat circular parcels are measured for girth across the flat surface and not around the circumference.

New Zealand Post Office

Stationery costs are variable depending on the size of the unit and the intensive nature of the management.

4.21.4 Subscriptions

Both to farming magazines and to various farming organisations. The costs in both instances are fully tax deductible and highly variable.

Some examples are:

"New Zealand Dairy Exporter"	$5.50 per year (monthly)
"New Zealand Farmer"	$15.50 per year (fortnightly)
"New Zealand Journal of Agriculture"	$9.60 per year (monthly)
"The Deer Farmer"	$10.00 per year (quarterly)
"The Northerner"	$10.00 per year

4.21.5 Travelling

Cost of travel is fully tax deductible when the purpose is farm business. This can represent a large expenditure item with some systems of management or some types of farms e.g. stud farms.

4.21.6 Bank and Stock Company Charges

Banking and various Stock Co. charges do add to total administrative costs and so must be accounted for.

(i) Banks - Base fee $1.30 per half year
- Ledger Activity Fee - 6¢ per chargeable transaction. (This is not charged on the first 100 entries in each half year.)
- Clearance Fee (on items lodged other than the first one each day) 5¢ per chargeable transaction

(ii) Stock Companies

Client Stamp Duty - 60 cents per activity (e.g. for paying bills or managing wages and documents on behalf of farmers)

4.22 STANDING CHARGES

4.22.1 Insurances

In the case of fire insurance, premiums vary according to the nature of the risk and the value of the buildings or assets insured etc. Accident premiums vary with the nature of the work, etc. The following figures are from insurance companies as at 1.12.79.

(i) Buildings: per $100 value
Fire Cover:
Dwellings – Brick $0.175
– Wood $0.26
Outbuildings – Brick – concrete or earth floor $0.125
– Wood – concrete or earth floor $0.280
Dwelling Contents - $0.225 regardless of construction
Comprehensive:
Dwelling Contents - $0.395 to $0.45

(ii) Plant: per $100 value

– Fire Cover:

All engine functioned farm machinery – $1.00 for first $200 and $0.30 thereafter.

Any other farm machinery and equipment including plant, P.T.O. balers and non engine functioned implements anywhere in the district. – $0.30.
Manures and general farm produce whilst on the farm. – $0.30.

– Comprehensive:

Harvesting: self propelled $7.00 for first $400 plus $0.425 per $100 thereafter.

When mechanical damage occurs, the first $50 is now payable by the owner. Where internal damage to harvesting equipment occurs, an additional premium of 50% of the basic premium is payable.

Tractor: $6.00 for first $400 plus $0.375 per $100 thereafter.

N.B. Tractor-drawn and self propelled harvesters at the same rate.

Contractors pay these rates plus an additional premium on their vehicles.

All these premiums plus $0.07 per $100 Earthquake and War Risk.

(iii) Tractor Tyre Insurance – Tyres are insured for farmers at 2.75% of their value, and for contractors at 4.13% with a minimum of $5.00 per tractor. No claim under $2.00 is now payable.

(iv) Specialised Farm Equipment – Chainsaws, tools, scana-probe, nitrogen containers, radio telephones etc.

All Risks: per $100 value – between $0.875 and $2.35 depending on the nature of the risk.

(v) Crops: per $100 value

– Fire Only

Growing or cut in the field (including threshing) in any building or silo and transit risk, $0.490 (time limit up to 12 months)

As per above but excluding whilst in any building or silo, $0.430 (3 month limit of cover.)

– Fire plus Hail, Flood, Stock, Snow and Frost Risk – $1.00
– Hay: $0.280

(vi) Wool:

From sheep's back to wool store – $0.15 per $100 gross value plus earthquake $0.004 per $100 gross value for 60 days

(vii) Shelter belts (excludes live hedge fencing):

Rate 1.406% of assessed value

(viii) Employers' Liability:

Accident Compensation Commission – All employees will be covered by a levy paid to the Inland Revenue Department.

(ix) Personal Accident (owners' personal cover):

Details vary, but a typical cover would be as follows:

Death $10 000. Total disablement from accident $60 per week. Total disablement from disease $60 per week. Premium $96.00 per annum.

(x) Public Liability – to cover legal liability arising from negligence caused by employees, stock, farm vehicles or fire and explosion but excludes motor vehicles which should be registered under The Transport Act.

Cover	Premium
$ 10 000	$ 3.25
$ 20 000	$ 5.00
$ 40 000	$ 8.00
$100 000	$15.00

The premiums are based on the ownership of one property.

Sale of goods/products Indemnity
Additional premium

$ 10 000	50 cents
$ 20 000	60 cents
$ 40 000	70 cents
$100 000	75 cents

4.22.2 Rates

The main classes of rates are as follows:

- General County rates for the costs involved in administering the County.
- Special rates for ad hoc bodies e.g. Catchment, Drainage Boards.
- Special rates for repayment of loans, raised by any local body.
- Water supply charges where stock water is supplied by and local body e.g. water races, County water schemes.
- Pest Destruction Board rates where the farm is in a Board district.

All counties rate on either the Capital or Land values. Water and pest destruction rates may be assessed on either per ha, Capital value or Land value basis.

For budgeting purposes ask the farmer for the total rates.

4.22.3 Interest

Interest rates vary with personal element, risks, and security offered. They also fluctuate with the Bank's interest charges. At present:

Flat Mortgage interest rates are	12% – 15%
Table Mortgage interest rates are	11% – 15%
Bank overdraft interest rates are	10½% – 13%
Stock and Station Agents interest rates are	13½% – 15%

Rural Bank Interest Charges are:

All Table Mortgage	1st and Subsequent Securities
Land Purchase	9%, rebatable to 7½% for the first 3 years
Development	9%, rebatable to 6% for the first 3 years, and 7½% for the second 3 years.
Refinance	11%
Stock Purchase	9%, rebatable to 6% for the first 3 years, and 7½% for the second 3 years.
Plant & Machinery Purchase	12%
Settlement Loans	9%, rebatable to 7½% for the first 3 years

For assessment of Working Capital see Section 2.1.4.
With budgeting use 12% - 14% on total working capital.

4.22.4 Rent – charge actual rental paid by the farmer.

Renewed Rents on Crown Renewable Leases are 4½% of Crown Rental Value, as from 1971. Rentals carry a ½% rebate for prompt payment. Thus to calculate C.R.V., gross rentals must be ascertained. Short term lease rents usually assessed within the range of 4½% – 5% of Capital Value.

4.23 WAGES OF MANAGEMENT

For Lincoln College purposes, Wages of Management (W.O.M.) should be based on a married man's salary plus 1% of total farm capital (T.F.C.)

Use the following estimates for a married man's salary, where a house is provided.

Town Milk Dairy	$7000 – $9000
Factory Supply Dairy	$6500 – $8000
Sheep and Mixed Cropping	$6500 – $8000

Generally within the range $6 000 – $9 000 depending on experience.

4.24 SUBSIDIES

For information on Subsidies, see 'Assistance and Incentives for Farmers', Section 1.

4.25 FENCING

4.25.1 Wire

	Gauge of Wire	Length of 25kg coil	$ per coil
(i)	Plain Wire		
	4mm (No. 8)	245m	22.50
	3.15mm (No.10)	303m	23.38
	2.5mm (No.12½)	656m	23.50
(ii)	Barbed Wire		
	2.5mm (barbs 7.0 cm apart)	200m	$29.00
	2.5mm (barbs 15.0 cm apart)	240m	$29.00

(iii) Lacing Wire

2mm glavanised	5 kg coils	$ 6.44 each
	10 kg coils	$12.88 each
1.6 mm galvanised	5 kg coils	$ 6.75 each
	10 kg coils	$13.50 each

4.25.2 Standards

(i) T-Bar Netting Stake $ 3.72 ea.

(ii) Waratahs

1.4m	$ 2.34
1.5m	$ 2.45
1.7m	$ 2.57
1.8m	$ 2.72

4.25.3 Posts

(i) Concrete Posts (McKendry's)

1.83m Farm Posts	$ 5.10
1.98m Cattle Posts	P.D.A.
1.67m Sheep yard Posts	P.D.A.
2.74m Posts	$ 7.00
1.37m Post butts	$ 5.10
1.67 - 3.65m Paling Posts	$5.50 - $8.10
1.83m x 15cm x 15cm Gate Posts	$11.50

(ii) Concrete Strainers

2.1m x 15cm x 15cm	$12.50
2.1m x 18cm x 18cm	$13.75
2.4m x 20cm x 20cm	$14.50

(iii) Tanalised Round intermediates

1.8m x 9cm	$ 2.40
1.8m x 11.5cm	$ 2.95
1.8m x 13cm	$ 3.50

(iv) Tanalised Half Rounds

1.8m x 15cm	$ 2.65
2.1m x 17.5cm	$ 3.25
2.4m x 17.5cm	$ 3.67
2.7m x 20cm	$ 4.16

(v) Tanalised Strainers

2.1m x 15cm	$ 5.89
2.1m x 17.5cm	$ 7.50
2.1m x 20cm	$ 8.55
2.4m x 15cm	$ 6.74
2.4m x 17.5cm	$ 8.65
2.4m x 20cm	$ 9.80
2.7m x 15cm	$ 7.72
2.7m x 18cm	$10.07
2.7m x 20cm	$12.00
3.0m x 15cm	$ 9.13

(vi) Tanalised Deer Posts

2.7m x 13cm	$ 7.15

4.25.4 Stays

Concrete (incl. small footing block)	$ 7.20
Tanalized 2.4m x 7.5 - 10 cm	$ 3.95
2.7m x 7.5 - 10 cm	$ 4.15

4.25.5 Stay Blocks

Concrete	$ 2.10
Tanalized 200 mm x 75 mm x .5m	$ 1.85
200 mm x 50 mm x .5m	$ 1.20
150 mm x 50 mm x .5m	$ 0.90

4.25.6 Staples

	Per 25kg Case
(i) **Sliced Point Staples**	
40mm x 4.00mm	$33.20
30mm x 4.00mm	$33.20
30mm or 25mm x 3.15mm	$34.37
27mm x 2.80mm	$34.55
25mm x 2.50mm	$35.60
19mm or 15mm x 2.00mm	$37.49
(ii) **Barbed Staples**	
50mm x 4.00mm	$35.39
40mm x 4.00mm	$35.39
30mm x 4.00mm	$35.39
30mm x 3.15mm	$36.44

(iii) **Concrete Post Staples** (for single or double hole posts)

5kg bags	$ 6.87
25kg bags	$33.31

4.25.7 Battens (Tanalised)

5 cm x 4 cm x 1.0 m (per 100)..... $41.00
5 cm x 5 cm x 1.05 m (per 100) $43.05
5 cm x 4 cm x 1.20 m (per 100)..... $49.20

4.25.8 Gates

(i) McVicars (Wooden)

Hurdles 1.8 m $13.15
2.1 m $14.25
Gates 3.6 m $41.95
4.2 m $44.05

(ii) McAlpines (wooden)

Hurdles 1.8 m..... $ 8.30
2.1 m ..... $ 8.80
2.4 m ..... $ 9.30
Gates 3.0 m $34.80
3.6 m $37.50
4.2 m $40.00
Sheep yard 1.8 m $28.60
2.1 m $29.50
2.4 m $30.80

(iii) Cyclone (galvanised steel)

	Length (metres)				
	3.05	3.35	3.66	4.27	4.88
Economy			$51.60	$55.16	
Standard	$49.03	$51.59			
Special			$62.04	$75.74	
Special Heavy			$73.13	$78.87	
Stressmaster			$73.29	$83.06	$102.64
Stressmaster Heavy			$75.64	$86.82	$115.78

(iv) Hurricane (galvanised steel)

All purpose	length (metres)				
	3.0	3.5	3.75	4.00	4.25
Standard (Medium)	$57.86	$61.04	$63.63		
Standard (Heavy)	$72.72	$76.21	$80.65		
With Cross Corner bracing (Medium)	$64.64	$67.63	$70.23	$73.51	$75.83

With Cross Corner bracing (Heavy)	$81.51	$86.08	$ 90.55	$ 95.13	$ 99.72
Pairs (Medium)	$75.15	$78.18	$ 80.76	$ 84.27	$ 86.70
Pairs (Heavy)	$94.11	$98.74	$103.04	$108.04	$112.54
Long pairs (Heavy)	4.50 metres long				$117.65
	4.75 metres long				$122.08

Economy	3.75m long	4.25m long
Special	$51.60 ($49.22 for 20 or more)	$55.10 ($52.65 for 20 or more)
Heavy weight	$65.33 ($62.31 for 20 or more)	$69.86 ($66.65 for 20 or more).

(v) Aabaas Bros.

Electric Drive Through Gates	3.66m	$75.00
	4.3 m	$85.00
Lifting Shearing Shed Gates (lift, swing, post, pulley and weight)		$50.00

4.25.9 Gate Fittings

(i) Gudgeons

Canadian Screw 12mm - 20mm - $1.25 - $1.88 each
Drive Gudgeon 20 mm $3.29 each
Std. Through Post 200mm - 400mm
$2.82 - $4.03 each
"Lock" Through Post 200mm - 400mm
$3.91 - $5.40 each
Square Shank Through Post 250mm - 500mm
$4.30 - $5.40 each

(ii) Hinge Straps

Standard Canadian 150mm - 300mm
$1.96 - $4.95 per pair
Heavy duty Canadian 300mm - 600mm
$6.49 - 9.71 per pair.

(iii) Clamp hinges

Single way - concrete post
125mm - 200mm ..... $11.73 per set

Two way - concrete post
125mm - 200mm ..... $12.02 per set
Aabaas post clamps ..... $ 9.00 per pair

(iv) Gate Fastenings

Hayes Fork Chain fastener for double gates .. $ 4.63
for single gates ... $ 4.09
Heavy Ring ..... $ 0.79
Light Ring ..... $ 0.31
Hayes Hook and Eye fastener ..... $ 2.93
Hayes adjustable fastener for square concrete posts
(3 sizes) ..... $5.09 - $7.68
Chain Catch with hook ..... $1.20 - $2.05
Cattle yard chain catch ..... $ 4.20

(v) Gate lugs

galvanised 16 and 20 mm - 28¢ and 34¢

(vi) Hinges - Wooden Gates

350mm	$ 3.15
450mm	$ 6.50
450mm Heavy	$10.00
600mm	$12.00
Hayes Lift & Swing Gate Hinge Sets	$64.61

4.25.10 Boundary Fences

(i) Cyclone

Twinlock Hinge – Joint Boundary

Type	Height	Stay spacing	price/100m
High Tensile			
6 line	700 mm	300 mm	$ 64.98
7 line	900 mm	600 mm	$ 64.19
7 line	900 mm	300 mm	$ 75.21
8 line	850 mm	300 mm	$ 81.66
8 line	750 mm	300 mm	$ 79.75
Medium Tensile			
8 line	750 mm	300 mm	$105.45
Standard Tensile			
5 line	500 mm	300 mm	$ 50.86
11 line	1350 mm	300 mm	$ 26.56 (25 metre roll)

Tightlock Stiff Stay Boundary

Type	Height	Stay spacing	price/100m
High Tensile			
7 line	600 mm	300 mm	$ 75.84
7 line	900 mm	300 mm	$ 81.61
8 line	750 mm	300 mm	$ 85.45
8 line	800 mm	300 mm	$ 85.54
8 line	900 mm	300 mm	$ 87.00
9 line	900 mm	300 mm	$ 97.71
Medium Tensile			
7 line	900 mm	300 mm	$ 93.46
8 line	750 mm	150 mm	$122.29
8 line	750 mm	300 mm	$109.11
9 line	900 mm	150 mm	$138.15
9 line	900 mm	300 mm	$122.91
7 line	900 mm	300 mm	$ 76.24
8 line	800 mm	300 mm	$ 81.13
Deer Fence			
13 line	1900 mm	150 mm	$217.67
13 line	1900 mm	300 mm	$156.12
11 line	1550 mm	150 mm	$176.14
11 line	1550 mm	300 mm	$129.19

(ii) Hurricane

High Tensile

Type	Height	Stay spacing	price/100m
8 line	900 mm	150 mm	$107.71
8 line	900 mm	300 mm	$ 82.66
8 line	800 mm	150 mm	$104.40
8 line	800 mm	300 mm	$ 80.55
7 line	900 mm	150 mm	$ 99.47
7 line	900 mm	300 mm	$ 75.21
7 line	800 mm	150 mm	$ 96.22
7 line	800 mm	300 mm	$ 73.58
7 line	725 mm	150 mm	$ 93.29
7 line	725 mm	300 mm	$ 72.33
6 line	700 mm	150 mm	$ 84.76
6 line	700 mm	300 mm	$ 64.99
Stiff Stay Type (South Island Only)			
8 line	900 mm	300 mm	$ 87.00
8 line	800 mm	300 mm	$ 85.54
High Tensile Deer Fence			
12 line	1800 mm	150 mm	$184.94
12 line	1800 mm	300 mm	$137.39

4.25.11 Fencing Aids

(i) Straining Equipment

Hayes 'Smooth-grip' chain grab	$ 31.90
Tension Handle (for perm. wire strainers)	$ 38.29
Straining Tension Indicator	$ 24.05
'Triplex' Permanent Strainers	
– non insulated	$ 1.21
– insulated	$ 1.58
'Rotatense' tensioning system (steelpost, baseplate, 4 anchors)	$ 50.54
Boundary Fence Strainer	$ 51.17
Boundary Fence Clamps	$ 33.92
Wooden Netting Clamps	$ 20.16
Ranchman Circular Wire Strainer	$ 0.75
Handles (pair)	$ 16.93

(ii) Post and Standard Drivers

Hayes Tubular Standard Drivers	$ 21.17
Stake Driver 100 mm	$ 35.81
150 mm	$ 59.71
200 mm	$ 85.55
Donalds P.T.O. Post Driver (new model)	$950.00
Manual Post Driver 125 mm 16 kg	$ 48.00
150 mm 21 kg	$ 56.00
150 mm 27 kg	$ 62.00
Manual Standard Driver	$ 23.00

(iii) Post and Standard Removers

Donalds Standard Lifter	$ 23.00
Post and Standard Puller	$ 45.00
Hayes Standard Lifter	$ 36.02

(iv) Wire Reels

Hayes Combination Wire Coiler and Reel	$136.13
Multiwire Reel 2 Reels	$ 80.08
3 Reels	$104.73
Junior Wire Reel Standard	$ 39.30
Deluxe	$ 81.29
Donalds Spinning Jenny	$ 41.00
Summit-Palmer Spinning Jenny (collapsible)	$ 28.05

(v) Tools

Hayes Standard Hammer and Setter	$ 21.34
Staple Pick	$ 7.84
Post Rammer – wooden handle	$ 9.38
– steel handle	$ 13.78

Channellock Fencing Pliers	$ 11.05
Crescent Fencing Pliers	$ 13.20
Plier Pouch	$ 2.78
Staple Bag	$ 9.03
Fencing Apron	$ 14.80

4.25.12 Electrical Fencing Components

(i) Electric Fence Energisers

Mains: 230-240V A.C.	
Speedrite A.K.	$129.00
Speedrite A.G.	$ 66.50
Gallagher BEV II	$149.00
Gallagher Super 60	$245.00
Gallagher M.P.E.	$ 93.00
Waikato Super E4	$145.00
Waikato Main E3	$ 91.23
Waikato Watchdog MF 50	$ 96.54
Waikato Watchdog MF-100	$171.00
Battery: 6V-12V D.C.	
Speedrite AN MK5	$ 57.50
Speedrite B MK4	$ 68.50
Gallagher E12*	$ 79.00
Gallagher E12** with Battery carry case and leads	$107.20
Gallagher KM2R*** c/w Charger and Batteries	$125.00
Gallagher KM2***	$ 61.50
Waikato B3**	$ 96.95
Waikato Mini B2	$ 48.95
Waikato Brown Battery	$ 52.92
Solar:	
Gallagher SP5 (8W, 12V input) c/w Batteries	$345.00
Gallagher SP50t(32W, 12V input) c/w Battery Case	$810.00
Waikato Solapak	$298.50

* 12 Volt Wet-Cell battery
** 12 Volt Wet-Cell battery or 4 Dry-Cell Lantern Batteries
*** 2 x 6 Volt Dry-Cell batteries or 12 Volt Wet-Cell battery

(ii) Energiser Replacement Modules and Parts

Gallagher	Module BEV II Type 10	$ 43.00
	Module Super 60 Type 16	$ 60.00
	Module MPE	$ 30.00
	Module E12 MK III	$ 39.00
	Module KM2R	$ 39.00
	Module KM2	$ 39.00
	Battery Plate KM2	$ 4.75
	H.T. Lead (1m) for E12,KM2,SP5	$ 1.45

(iii) Electric Fence Accessories

Waikato Fence Tester	$ 32.27
Speedrite Fence Tester Model E	$ 29.50
Gallagher 'Neon' Fence Tester	$ 9.95
Gallagher Digital Voltmeter	$ 79.50
Gallagher Automatic Remote Monitor Systems (ARMS) 4 channel	$485.00
1 channel	$265.00
Gallagher Flood Gate Controller/Energy Saver	$ 4.30
STC Battery Charger 6/12 Volt	$ 52.53
STC Transformer 1.0 KVA	$ 92.53
1.5 KVA	$131.47
2.0 KVA	$140.80
Wire joint Sealing Compound (per tube)	$ 1.86
30 Amp Cutout fuses	$ 6.92
Line Clamps	$ 0.31
Flexible connector (with leads and bolt)	$ 0.55
Knife-switch Cut-out (with leads)	$ 4.75
Gallagher Tool Kit	$ 22.00
Battery Clips	$ 0.72
Snap-In Isolator	$ 2.65
Earth Clamps	$ 1.04
Earth Rods	$ 5.30
Porcelain Cutouts	$ 6.70
Plastic Cutouts	$ 0.28
Petro 40 Tape 9m roll	$ 1.55

(iv) Insulators

Rod Type R 10mm and 12mm	$0.12-$0.15
Bobbin Type B	$0.10-$0.13
Steel Post Type Y	$0.12-$0.15
Wooden Post Type W	$0.12-$0.15
Type WS	$0.30-$0.35
Strain Type S	$0.25-$0.29
WP4 Porcelain End and Corner	$0.44
Bevin Corner	$0.23
Drive-on for wooden posts	$0.15
Live-wire nail-on	$0.06-$0.07
Live-wire screw-on	$0.12
Live-wire Concrete post	$0.10-$0.12
Live-wire Staple	$0.05
Beattie Permanent for Y and flat standards	$0.16
Temporary for Y and flat standards	$0.14
Pin-lock for Y and flat standards	$0.15
Pin-lock for wooden posts	$0.10
10mm Rod	$0.10

Porcelain Corner Type 107		$0.80
Bobbin Type 445		$0.36
"Egg" Type		$0.73
Pigtail		$0.30
Waikato Corner		$0.23
Outrigger bracket (with insulator)		$0.56
Waikato Waratah		$0.16
Waikato Fence Breaker (spring loaded)		$1.60
Waikato Gate Break		$2.65
Field Marshall Bevin Gate Break		$1.64
Reel Block Insulators		$1.40

(v) Electric Fence Wire, Cable and Netting

'Livestrand' 200 m		$ 5.80
500 m		$ 14.35
'Spark' 200 m		$ 5.70
500 m		$ 14.25
Waikato Poliwire 200 m		$ 5.70
500 m		$ 14.25
'Livewire' Heavy Duty Underground Cable	15 m	$ 8.27
	20 m	$ 8.71
	100 m	$ 61.04
	150 m	$ 78.48
Gallagher Galv. Underground Cable Double Insulated 100 m		$ 29.00
'Flexinet' 50 yard (45.7 m)		$ 65.05
25 yard (22.8 m)		$ 35.60
Insulated wire (hank)		$ 0.50
Conducting wire (hank)		$ 0.75
'Insultimber' Lead-out wire 3.15 mm, 1600 m		$156.00

(vi) Electric Fence Standards

'Trident'	$ 1.28
'Stafix' 10 mm Rod	$ 1.28
12 mm Rod	$ 1.55
Yates Type D Pigtail	$ 1.68
Type H Hi-Tensile	$ 1.20
Type S Hi-Tensile	$ 1.20
Type N Hi-Tensile (ex factory only)	$ 0.95
'Flexinet' metal posts	$ 1.65
posts with tops (Black or Yellow)	$ 1.79

(vii) Electric Fence Reels

'Stafix' Self Insulated Reel	$ 9.50
with Carrying Handle	$ 10.90
with Mounting Post	$ 14.74

'Stafix' Fence-Mounted Mini Reel	$ 8.20
Single Mini Reel on Standard	$ 11.40
Double Mini Reel on Standard	$ 18.65
Triple Mini Reel on Standard	$ 25.90
Reel Assembly including Bracket and Insulator	$ 7.25
Yates Single Reel Bare	$ 4.41
Wheelbrand reel	$ 11.79
Wheelbrand reel and std.	$ 13.97
Thompson's Hot-Dip Galvanized	$ 10.75
'Insultimber' Semi-Permanent 138 cm	$ 1.28
Permanent 138 cm	$ 1.78
Permanent 152 cm	$ 1.88
Droppers 91.5 cm	$ 0.79
Strainer 190 cm	$ 4.90

4.25.13 Contract Fencing Rate

(i) On Canterbury Plains

- 3 posts per 20 metres, 3-4 standards between post. 5-6 plain and 2 barbed wires, 1 gate per 100m: $19.00 per 20 metres.
- 1 post, 5 waratahs, Hurricane boundary netting, 1 barb. $15.00 per 20 metres

(ii) On Hills and Downs

- **Rough Going**

  2 posts, 4 to 5 standards, 5 plain, 2 barbs: $25.00 – $28.00 per 20 metres.

  2 T-irons in place of posts: $18.00 - $20.50 per 20 metres.

- **Good Going**

  2 posts, 4 to 5 standards, 5 plain, 2 barbs: $18.00 – $20.00 per 20 metres.

  3 posts, Hurricane (boundary) netting, 1 barb wire, 6 plain, $20 – $22 per 20 metres.

(iii) Contract Post Driving

70 to 80 cents per post, minimum $15.00 per hour.

(iv) Contract Post Hole digging 70¢ – 80¢ per hole, minimum $15.00 per hour according to conditions.

4.25.14 Guide to Fencing Cost (January, 1979)

Costs in cents/metre of fence

(i) Plain Wire

No. of Wires in Fence	1	7	8	9	10
4mm (No. 8)	9.2	64.4	73.6	82.8	92.0
3.15mm (No.10)	7.7	53.9	61.6	69.3	77.0
2.5mm (No.12½ HT)	3.6	25.2	28.8	32.4	36.0

(ii) Barbed Wire (2.5mm)

No. of Wires in Fence	1	2
Barbs		
7cm apart	14.5	29.0
15cm apart	12.0	24.0

(iii) Netting

Cyclone Twinlock Boundary	8 line H.T.	79.75
	8 line M.T.	105.45
	5 line S.T.	50.86
Tightlock Boundary	8 line H.T.	85.45
	8 line M.T.	109.11
	13 line Deer	217.67
Hurricane High Tensile	8 line	80.55
Stiff Stay	8 line	85.54
H.T. Deer Fence	12 line	184.94

(iv) Posts

No. of Post/20 Metres	3	4	5	6
Pine 13 cm Round inter.	52.5	70.0	87.5	105.0
Pine 20 cm Half Round	62.4	83.2	104.0	124.8
Concrete 1.83m	76.5	102.0	127.5	153.0
Waratah 1.8m	35.7	47.6	59.5	71.4

(v) Battens

No. of Battens/20 metres	2	3	5	10	15	20
1.0m battens	4.1	6.2	10.2	20.5	30.8	41.0
1.2m	5.0	7.4	12.3	25.0	36.9	50.0

(vi) Strainers, Stay and Block Assemblies

Length of Strain	100m	150m	200m	250m	300m
Tanalised Pine	22.08	14.72	11.04	8.83	7.36
2.1m x 15cm	31.60	21.06	15.80	12.64	10.53
2.4m x 20cm	30.26	20.17	15.13	12.10	10.08

Concrete	100m	150m	200m	250m	300m
2.1m x 15cm x 15cm	43.40	28.93	21.70	17.36	14.46
2.4m x 20cm x 20 cm	47.40	31.60	23.70	18.96	15.80

(vii) Angles (with stay)

No. of Angles/200 metres	1	2	3	4
Tanalised 1.8m x 13cm	4.3	8.65	12.9	17.3
Concrete 1.83m	6.2	12.4	18.6	24.8

(viii) Gates (inc. Hinges, Gudgeon and Catches)

No. of gates/500 metres	1	2	3
Cyclone Economy 3.6m	12.7	25.4	38.1
Special 3.6m	14.8	29.6	44.4
Stressmaster 3.6m	17.5	35.0	52.5
Hurricane Standard 3.75 m	15.1	30.2	45.3
Special 3.75m	12.7	25.4	38.1
Heavy-weight 3.75 m	15.5	31.0	46.5

(ix) Staples, tie down foots, etc, depending on contour allow 10 - 20 cents per metre.

4.25.15 Pricing types of fences

(based on 200m strain on flat country)

(i) 3 wooden posts/20 metres
3 battens between posts
9 x 2.5 mm HT wires

Wire	32.4 cents
Posts	52.5 cents
Battens	12.4 cents
Strainers	11.04 cents
Angles (2)	8.65 cents
Gates	25.4 cents
Staples, etc.	12.0 cents
Total Cost	$1.09 per metre
With labour at	95 cents
the price erected is	$2.94 per metre

(ii) 4 concrete posts/20 metres
7 x 4mm wires
2 x barb wires
5 battens between posts

Price per metre:

Wire	64.4 cents
Barb	29.0 cents

Posts	102.0 cents
Battens	30.8 cents
Strainers	23.7 cents
Angles (2)	12.4 cents
Gates (2)	25.4 cents
Staples, etc.	12.0 cents
Total Cost	$2.99 per metre
With Labour at the price erected is	$1.10 $4.09 per metre

(iii) Recommended by N.Z.A.E.I.

4 wooden posts/20 metres

10 x 2.5mm HT wire

2 battens between posts

K.R.A. horizontal stay - strainer assembly:

3 posts, 2 stays, 30m x 4mm wire, 2 battens and staples

Price per metre

Wire	36.0	cents
Posts	70.0	cents
Battens	12.4	cents
Strainer assembly	31.9	cents
Angles (2)	8.65	cents
Gate (2)	25.4	cents
Staples, etc.	12.0	cents
Total Materials	$1.76	per metre
With Labour at	$1.10	
The price erected is	$3.86	per metre.

Using the above calculations as examples, any type of fence design can be costed out using the tables 4.24.14 i.e. costs/metre of fence.

4.26 WATER SUPPLY

4.26.1 Alkathene Piping

Polipipe

Size	Standard/100m	High Density/ 100m
15mm	$ 39.60	$ 36.48
20mm	$ 78.85	$ 77.92
25mm	$101.52	$100.00
32mm	$124.56	$149.92
40mm	$147.25	$204.16
50mm	$203.12	$383.60

4.26.2 P.V.C. Pressure Pipe

AHI Garnite (N.Z.S. 7648 : 1974) – available in 6m and 10m lengths.

Nominal Bore(mm)	Pressure Class	Mean O.C.(mm)	PRICE $ PER 100M P.E.	S.O.E.	Z Joint
80	B	88.9	298.00	303.00	309.00
100	B	114.3	447.00	454.00	463.00
125	B	140.3	611.00	619.00	632.00
150	B	168.3	870.00	880.00	900.00
200	B	219.1	1329.00	1343.00	1376.00
50	C	60.3	170.00	174.00	178.00
65	C	75.3	255.00	260.00	
80	C	88.9	353.00	359.00	365.00
100	C	114.3	583.00	591.00	600.00
125	C	140.3	873.00	884.00	896.00
150	C	168.3	1256.00	1271.00	1290.00
200	C	219.1	1937.00	1958.00	1991.00
32	D	42.2	107.00	109.00	
40	D	48.3	138.00	141.00	
50	D	60.3	208.00	213.00	217.00
65	D	75.3	328.00	334.00	
80	D	88.9	458.00	466.00	472.00
100	D	114.3	762.00	773.00	781.00
125	D	140.3	1137.00	1151.00	1163.00
150	D	168.3	1648.00	1669.00	1688.00
200	D	219.1	2520.00	2548.00	2581.00
15	E	21.3	41.00	42.00	
20	E	26.9	57.00	58.00	
25	E	33.7	82.00	84.00	
32	E	42.4	128.00	131.00	
40	E	48.3	162.00	165.00	
50	E	60.3	258.00	264.00	268.00

P.E. = Plain Ends
S.O.E. = Socketted one end for solvent joining
Z Joint = rubber ring seal at joins – price extra

UNITS / CLASS	B	C	D	E
METRES HEAD	60	90	120	150
KILO PASCALS	600	900	1200	1500
P.S.I.	87	130	174	217
COLOUR CODE	RED	BLUE	GREEN	BROWN

Garnite (P.V.C.) Fittings:

Tee joint	15mm - 150mm	$ 0.46 - $113.20
Reducing Tee	20x15 - 100 x 80	$ 0.77 - $ 12.03
90° Elbow	15mm - 150mm	$ 0.37 - $113.20
45° Elbow	15mm - 100mm	$ 0.58 - $ 98.36
Plain socket	15mm - 200mm	$ 0.32 - $ 36.04
Reducing Socket	20 x 15 mm - 200 - 150mm	$ 0.47 - $ 51.20
Valve Socket	15mm - 100mm	$ 0.38 - $ 6.38
90° Formed bend		
Socketted ends	32mm - 200mm	$ 2.96 - $ 96.05
Plain ends	50mm - 200mm	$ 5.88 - $ 95.00
45° Formed bends		
Socketted ends	50mm - 200mm	$ 8.14 - $ 96.05
Plain ends	50mm - 200mm	$ 5.07 - $ 92.00
Z Joint Double Socket	50mm - 200mm	$ 2.40 - $ 25.46
Z Joint Rubber Sealing Ring	50mm - 200mm	$ 0.49 - $ 3.56
Garnite Solvent Cement	125 - 4 litre	$ 1.98 - $ 22.42
Garnite Jointing Lubricant	500ml 2 litre	$ 4.00 $ 8.20
Expoxy-Coated Steel		
Double coupler	100mm - 200mm	$41.13 - $ 72.38
Reducing coupler	125 x 100mm - 200 x 150mm	$52.71 - $ 82.39
End cap	100mm - 200mm	$24.01 - $ 43.51
Threaded Branch Tee	100 x 80mm - 200 x 150 mm	$67.46 - $117.09
Flanged adaptor	100mm - 200mm	$35.88 - $ 71.23
Flanged Tee	100 x 80mm - 200 x 200 mm	$74.67 - $122.34

Straight Tee	100mm - 200mm	$71.75 - $115.61
Reducing Tee	125 x 100mm - 200 x 150mm	$75.81 - $107.68

4.26.3 Concrete Water Troughs (McKendry's)

Capacity		
1137 litres	round	$72.00
910 "	round	$62.00
455 "	round	$42.00
318 "	long	$41.00
273 "	long	$40.00
182 "	round	$37.50
182 "	long	$37.50

4.26.4 Concrete Tanks (McKendry's)

Capacity	Width	Height	Weight	Price
22750 litres	3.5m	2.7m	6.2 tonne	$710.00
9092 "	2.6m	2.1m	2.1 tonne	$450.00
4540 "	1.8m	1.8m	1.0 tonne	$285.00
3637 "	1.8m	1.5m	0.8 tonne	$255.00
2728 "	1.7m	1.3m	0.6 tonne	$195.00
1818 "	1.5m	1.3m	0.5 tonne	$170.00

4.26.5 Valves & Floats

Highflow	220mm x 15mm Standard Valve	$ 3.96
Fullflow 69	20mm Standard Valve	$ 6.05
Philmac	20mm Valve	$ 6.60
Jobe	20mm trough valve	$12.06
	20 mm Tank level control valve	$40.87
	25mm Tank level control valve	$42.91
	30mm Tank level control valve	$71.52
	36mm Tank level control valve	$75.61
	50mm Tank level control valve	$79.70
	75mm Tank level control valve	$153.26
Fullflo	20mm trough valve - bottom intake	$ 8.99
	- top intake	$ 8.40
High/Low	15mm x 220mm trough valve	$ 5.60
	15mm x 225mm	$ 6.20
Dolphin	Indestructible Float	$ 1.03
	Brass Ferrel Float 115mm	$ 1.14
	150mm	$ 1.91

4.26.6 Pumps

(i) Piston Pumps (Davies B Series and RO 75)

B1 Standard 23 litres per minute	$279
B1LP Low 30 litres per minute	$284
B1HP High 15 litres per minute	$284
B1HPBF Boiler feed 15 litres per minute	$318

Pressure systems for the above vary in cost from $530 to $950 depending on tank size (55 to 410 litre) and pressure (345 to 1380 k Pa)

(ii) Geared Piston Pumps (Davies C Series)

C1 Standard 38 litres per minute	$587
C1HP High Pressure 23 litres per minute	$587
C1HPBF Boiler feed 23 litres per minute	$624
C12 Low pressure 57 litres per minute	$588

Pressure systems for the above vary in cost from $868 to $1383 depending on tank size (246 to 492 litres) and pressure (690 to 1380 k Pa)

(iii) Deep Well Gearings (Davies D. Series)

19.8cm Stroke with 5cm gland assembly	$776
15cm Stroke with 5cm gland assembly	$650

Pressure systems for the above vary from $920 to $1080 depending on tank size (164 to 492 litres) Pressure is 690 k Pa.

(iv) Hand Pumps (Davies L. Series)

L1¼ Double acting 3.175 cm bore	$167
L1½ Double acting 3.81 cm bore	$160
L1¾ Double acting 4.445 cm bore	$165
L2½ Double acting 6.35 cm bore	$175

(v) Hydraulic Water Rams (Davies)

Ram 3	$255
Ram 5	$364

(vi) Centrifugal Pumps (Davies K Series)
Motorised

K⅙ BSP	.12 kW	2 pole single phase 230 volt	$180
K⅓ B	.25 kW	2 pole three phase 400 volt	$198
K ¾ BSPGM	.68 kW	2 pole single phase 230 volt	$318
K¾ B GM	.55 kW	2 pole three phase 400 volt	$295
K1¼ BSP GM	.93 kW	2 pole single phase 230 volt	$381
K2B DV	1.50 kW	2 pole single phase 230/460 DV	$414

K3B GM	2.20 kW 2 pole three phase 400 volt	$435
K3B DV	2.20 kW 2 pole single phase 230/460 DV	$707
K5B	3.70 kW 4 pole three phase 400 volt	$931
K75B	5.50 kW 4 pole three phase 400 volt	$950
KH5B	3.70 kW 2 pole three phase 400 volt	$648
K10B	11.00 kW4 pole three phase 400 volt	$1858
KH20B	15.00 kW2 pole three phase 400 volt	$1194

(vii) Self - Priming Centrifugal Pumps (Davies SP Series)

Engine Driven

SPE2/40 (AL) Aluminium (2.54 kW 4 stroke Kawasaki petrol engine) $532

SPE2/40 (AL) BS Aluminium (2.98 kW 4 stroke Briggs and Stratton petrol engine) $402

SPE2/50 (AL) Aluminium (3.73 kW 4 stroke Kawasaki petrol engine) $590

SPE2/50 (AL) BS Aluminium (3.73 kW 4 stroke Briggs and petrol engine) $434

SPE2/40 (CI) Cast Iron (2.54 kW 4 stroke Kawasaki petrol engine) $511

SPE2/40 (CI) BS Cast Iron (2.98 kW 4 stroke Briggs and Stratton petrol engine) $380

SPE2/50 (CI) Cast Iron (3.73 kW 4 stroke Kawasaki petrol engine) $570

SPE2/50 (CI) BS Cast Iron (3.73 kW 4 stroke Briggs and Stratton petrol engine) $413

Motorised

SPK¾ BSP .68 kW 2 pole 230 volt single phase	$311
SPK¾ B .55 kW 2 pole 400 volt three phase	$304
SPK1¼ BSP .93 kW 2 pole 230 volt single phase	$349
SPK1¼ B .93 kW 2 pole 400 volt three phase	$352

4.27 FARM MACHINERY

4.27.1 Tractors

(i) **Ford:** 2 wheel drive models

3600 Vineyard	35.0 kW	(47 h.p.)	available indent only
3600	35.0 kW	(47 h.p.)	$12020
4100	38.7 kW	(52 h.p.)	$12620
4600	46.2 kW	(62 h.p.)	$13970
6600	58.2 kW	(78 h.p.) Non-hydraulic	$14835
6600	58.2 kW	(78 h.p.) 8 speed	$15890
6600	58.2 kW	(78 h.p.) 16 speed	$16635
7700	72.4 kW	(97 h.p.) Q cab	$27760
TW20	114.8 kW	(153 h.p.) Q Cab & Duals	$39900

Safety cab $1950 (including fitting)
Campbell Q cab $3300 (including fitting)

(ii) **Ford County:** 4 wheel drive models (with cab)

4600 x 4	46.3 kW	(62 h.p.)	$24493
6600 x 4	58.2 kW	(78 h.p.)	$26761
7600 x 4	72.4 kW	(97 h.p.)	$32037
774	58.2 kW	(78 h.p.)	$27471
974	72.4 kW	(97 h.p.)	$34056
1174	89.5 kW	(116 h.p.) with Dual wheels	$40349
1474	108.2 kW	(148 h.p.) with Dual wheels	est. $80000

(iii) **Case:** All with cab (blower/ heater and radio) power shift. quick hitch and 4 x 8 ram and hoses

970	81.3 kW	(109 h.p.)	$29374
1070	95.5 kW	(128 h.p.)	$32793
2470 4 W.D.	156.7 kW	(213 h.p.)	$57105
2670 4 W.D.	190.9 kW	(256 h.p.)	$60025

(iv) **David Brown:** Price does not include safety frame

885 N	36.0 kW	(48 h.p.)	$10987
885 Standard	36.0 kW	(48 h.p.)	$10366
885 Deluxe	36.0 kW	(48 h.p.)	$11988
990	43.5 kW	(58 h.p.)	$13906
990 VQ	43.5 kW	(58 h.p.)	$17358
990 x4	43.5 kW	(58 h.p.)	$17419
995	48.0 kW	(64 h.p.)	$14440
995 VQ	48.0 kW	(64 h.p.)	$17921
995 x4	48.0 kW	(64 h.p.)	$18439
1212	54.0 kW	(72 h.p.)	$16884
1212 VQ	54.0 kW	(72 h.p.)	$21024
1412	68.3 kW	(91 h.p.)	$16726

(v) **International Harvester:** Cabs cover the full range. Campbell Cab $2346 plus fittings, Q cab factory fitted $3106.

Prices as at 16 - 11 - 79

484 Standard	39.9 kW	(50 h.p.)	$11948
484 T.A.	36.9 kW	(50 h.p.)	$12782
584 Standard	43.7 kW	(60 h.p.)	$13714
584 T.A.	43.7 kW	(60 h.p.)	$14499
684 Standard	50.8 kW	(69 h.p.)	$15097
684 T.A.			
784 Standard	56.9 kW	(77 h.p.)	$16296
784 T.A.	56.9 kW	(77 h.p.)	$16827
786 T.A.	70.1 kW	(95 h.p.)	$27255
886	77.0 kW	(104 h.p.)	$31178
986 T.A.	99.2 kW	(133 h.p.)	$34366
1086	110 kW	(148 h.p.)	$38997
3388 T.A., 4 W.D.	119.3 kW	(160 h.p.)	$49400

(vi) **Massey Ferguson:** P.S = Power Steering, M.P.T. = Multi Power Transmission, 4 W.D. = 4 Wheel Drive.

174 4 W.D.	47.1 kW	(63 h.p.)	$17519
194 4 W.D.	55.9 kW	(75 h.p.)	$20879
210	18.6 kW	(25 h.p.) 12 speed	$ 6602
210 4 W.D.	18.6 kW	(25 h.p.) 12 speed	$ 7329
245	35.0 kW	(47 h.p.) 8 speed	$11730
245 P.S.	35.0 kW	(47 h.p.) 8 speed	$12330
245 P.S.	35.0 kW	(47 h.p.) 12 speed	$13172
265 P.S.	47.1 kW	(63 h.p.)	$13950
265 P.S.	47.1 kW	(63 h.p.) 12 speed	$14950
285	55.9 kW	(75 h.p.) 8 speed	$16265
285	55.9 kW	(75 h.p.) 12 speed	$17002
595 M.P.T.	67.0 kW	(90 h.p.) With cab	$25950
1135 M.P.T.	90.0 kW	(120 h.p.) With cab	$28174
1155 M.P.T.	115.4 kW	(155 h.p.) With cab	$31498
1200 M.P.T., 4 W.D. and Pivot Steer	78.0 kW	(105 h.p.)	$41153
1505	130.3 kW	(185 h.p.) Articulated 4 W.D.	$45403
1744 4 W.D.	46.3 kW	(62 h.p.)	$17519
1944 4 W.D.	55.1 kW	(74 h.p.)	$20879
1805	156.4 kW	(210 h.p.) Articulated 4 W.D.	$567459

Models 1200, 1505 and 1805 have air conditioning and radio in the cab.
Where no cab is fitted, add $250 for certified safety frame.

(vii) **Zetor**

4911	34.3 kW	(46 h.p.) 2 W.D.	$ 8527
5911	44.3 kW	(59 h.p.) 2 W.D.	$10413
5745	42.5 kW	(57 h.p.) 4 W.D.	$ 9942
6911	51.2 kW	(69 h.p.)	$10412
6945	51.2 kW	(69 h.p.) 4 W.D.	$13483
8011	59.7 kW	(80 h.p.) 2 W.D.	$13547
8045	59.7 kW	(80 h.p.) 4 W.D.	$16493
12011	89.5 kW	(120 h.p.) 2 W.D. With cab	$19988
12045	89.5 kW	(120 h.p.) 4 W.D.	$25016

Safety frames are extra on the above models.

(viii) Kubota

B7100	11.9 kW	(16 h.p.)	4 W.D.	$ 4950
L245 DT	18.6 kW	(25 h.p.)	4 W.D.	$ 6224
L295 FP	22.4 kW	(30 h.p.)	2 W.D.	$ 6950
L295 DT	22.4 kW	(30 h.p.)	4 W.D.	$ 7990
M4500	41.0 kW	(55 h.p.)	2 W.D.	$12710
M4500 DT	41.0 kW	(55 h.p.)	4 W.D.	$14125
M7000	60.4 kW	(81 h.p.)	2 W.D.	$14360
M7500 DT	60.4 kW	(81 h.p.)	4 W.D.	$17100

Safety frames are extra on the above models.

(ix) Belarus

702	52.2 kW	(70 h.p.)	2 W.D.	$ 9918
704	52.2 kW	(70 h.p.)	4 W.D.	$11985
902	67.1 kW	(90 h.p.)	2 W.D.	$12989
904	67.1 kW	(90 h.p.)	4 W.D.	$16262

Safety frames are extra on the above models.

(x) Hinomoto

E150D	11.9 kW	(16 h.p.)	4 W.D.	$ 5603
E250D	20.5 kW	(28 h.p.)	4 W.D.	$ 6490
E18D	23.1 kW	(31 h.p.)	2 W.D.	$ 5428
E280	23.1 kW	(31 h.p.)	2 W.D.	$ 6204

(xi) John Deere (German)

850	16.4 kW	(22 h.p.)	Delux	$ 6630
950	20.3 kW	(27 h.p.)	Delux	$ 7576
1130	39.8 kW	(53 h.p.)	Delux	$14179
1630	48.8 kW	(65 h.p.)	2 x 2 Delux	$15070
1630	48.8 kW	(65 h.p.)	MFWD Delux	$15070
2030	53.3 kW	(71 h.p.)	Delux	$15879
2030	53.3 kW	(71 h.p.)	MFWD	$15879
2130	59.3 kW	(79 h.p.)	Delux	$16690
2130	59.3 kW	(79 h.p.)	HFWD	P.O.A.
3130	72.8 kW	(97 h.p.)	Delux	$22370
3130	72.8 kW	(97 h.p.)	HFWD	

(xii) John Deere (U.S.A.)

All tractors listed below are delux models.

4040 2 x 2	87.2 kW	(117 h.p.)	$33704
4040 HFWD	87.2 kW	(117 h.p.)	$39546
4240 2 x 2	98.4 kW	(132 h.p.)	$36420
4240 HFWD	98.4 kW	(132 h.p.)	$42262
4440 2 x 2	118.5 kW	(159 h.p.)	$39807
4440 HFWD	118.5 kW	(159 h.p.)	$45649
4640 2 x 2	137.9 kW	(185 h.p.)	$47604
4640 HFWD	137.9 kW	(185 h.p.)	$53446
8430 4 x 4	160.3 kW	(215 h.p.)	$74100
8630 4 x 4	205.1 kW	(275 h.p.)	$80000
Chamberlain 4080	74.5 kW	(100 h.p.) Sedan	$28686

Soundguard cab with heater and air conditioning standard equipment inclusive in the above prices.

(viii) Fiat

450	35.8 kW	(48 h.p.)	c/w Safety Frame	$10200
450	35.8 kW	(48 h.p.)	Low Orchard Version /No. S.F.	$11100
450DT	35.8 kW	(48 h.p.)	c/w Safety Frame and P.S.	$11400
470 VIG	35.8 kW	(48 h.p.)	Live P.T.O.	$10900
470 VIG DT	35.8 kW	(48 h.p.)	Live P.T.O.	$12750
540	40.3 kW	(54 h.p.)	c/w Safety Frame	$12700
540DT	40.3 kW	(54 h.p.)	c/w Safety Frame	$14900
580	44.1 kW	(58 h.p.)	c/w Safety Frame	$16600
580	44.1 kW	(58 h.p.)	Pininfarina 'Q' Cab	$20200
580DT	44.1 kW	(58 h.p.)	c/w Safety Frame	$19200
580DT	44.1 kW	(58 h.p.)	Pininfarina 'Q' Cab	$22800
640	47.8 kW	(64 h.p.)	c/w Safety Frame	$14200
640DT	47.8 kW	(64 h.p.)	c/w Safety Frame	$16000
680H	50.7 kW	(68 h.p.)	c/w Safety Frame	$18200
680H	50.7 kW	(68 h.p.)	Pininfarina 'Q' Cab	$21800
680HDT	50.7 kW	(68 h.p.)	c/w Safety Frame	$20200
680HDT	50.7 kW	(68 h.p.)	Pininfarina 'Q' Cab	$23800
780	58.2 kW	(78 h.p.)	c/w Safety Frame	$19100
780	58.2 kW	(78 h.p.)	Pininfarina 'Q' Cab	$22700
780DT	58.2 kW	(78 h.p.)	c/w Safety Frame	$19100
780DT	58.2 kW	(78 h.p.)	Pininfarina 'Q' Cab	$24600
880	65.7 kW	(88 h.p.)	Pininfarina 'Q' Cab	$24600
880DT	65.7 kW	(88 h.p.)	Pininfarina 'Q' Cab	$26900
1000 Super	82.1 kW	(110 h.p.)	Siac Cab	$29000
1000 DT Super	82.1 kW	(110 h.p.)	Siac Cab	$35000
1300 Super	119. kW	(150 h.p.)	Siac Cab	$39000
1300DT Super	111.9 kW	(150 h.p.)	Siac Cab	$44000

(xiv) Leyland

154	18.6 kW	(25 h.p.)		$ 5995
245	35.0 kW	(47 h.p.)		$11498
262	46.2 kW	(62 h.p.)		$13641
262	46.2 kW	(62 h.p.)	4 W.D.	$13801
272	53.6 kW	(72 h.p.)		$14920
272	53.6 kW	(72 h.p.)	4 W.D.	$14529
285	63.4 kW	(85 h.p.)	With Cab	$15227
2100	74.5 kW	(100 h.p.)	With Cab	$15500

(xv) Satoh

630 x 4	18.6 kW	(25 h.p.)	$ 6877
750 STD	28.3 kW	(38 h.p.)	$ 8966

(xvi) Howard

2000	9.6 kW	(13 h.p.)	Garden Tractor	$ 3942

(xvii) Holder

A50Cultitrac	36.5 kW	(56 h.p.)	4 W.D.	$16285
A60 Cultitrac	36.5 kW	(56 h.p.)	4 W.D. with frame	$19986
			with cab	$21200

(xviii) Moller

Power pony			
12T MKII	8.9 KW	(12 h.p.)	$ 2634
16T MKII	11.9 kW	(16 h.p.)	P.O.A.

N.B. Specialist attachments include mid-mounted mowers, front end loader, rotary hoes, etc.

4.27.2 Crawlers

(i) Fiat:

455C	37.5 kW	(50 h.p.)	Hydraulic linkage	$13 600
605 CMS	49.2 kW	(66 h.p.)	Hydraulic linkage	$17 000
805C	59.7 kW	(80 h.p.)	Remote linkage	$28 400
805C	59.7 kW	(80 h.p.)	Remote linkage, Angle Blade	$34 400

(ii) John Deere

JD 350	34.3 kW	(46 h.p.)	$23 500
JD 450	52.1 kW	(70 h.p.)	$33 018

4.27.3 Trucks

(i) Nissan/Datsun

Datsun Utility	1 tonne, cab & chassis - petrol	$ 7 595
	- diesel	$ 8 945
	dropside deck (extra)	$ 545
	wellside deck (extra)	$ 650
Caball	2 tonne, cab & chassis - petrol	$10 136
Hustler Utility	4 W.D.	$10 945
Nissan Patrol	4 W.D., cab & chassis	$12 375

(ii) Mazda

B1600 S.W.B.	1 tonne, cab and chassis	$ 7 600
	pickup	$ 8 315
B1600 L.W.B.	1 tonne, cab & chassis	$ 7 700
	pickup	$ 8 500
B1600	2 tonne, articulated unit	$ 9 500

(iii) Land Rover

SWB	Hard Top (Petrol)	$12 400
	Truck Cab, wellside	$12 900
LWB	Truck cab and chassis (Petrol)	$13 300
	Truck cab, wellside	$13 700

(iv) Toyota

Land cruiser	Hard top, - Petrol	$13 000
	- Diesel	$14 200
Land cruiser	L.W.B., cab & chassis - Petrol	$12 500
	- Diesel	$14 300

Dyna	2 tonne, - petrol	$ 9 500
	3 tonne - diesel	$11 500
Hi-Lux	1 tonne, cab & chassis, 1.6 litre	$ 7 600
	2.0 litre	$ 8 250
Hi-Ace	1 tonne, cab & chassis	$ 7 900
	van	$ 9 950

(v) Bedford

CF	0.9 tonne, cab & chassis	$ 8 995
	Flat deck	$ 9 645
CF	1.27 tonne, cab & chassis	$10 545
	Flat deck	$11 245
CF	0.9 tonne, Van	$ 9 950
CF	1.27 tonne, Van	$11 745
173	0.7 - 0.9 tonne utility	$ 8 980
202		$ 9 260
V8		$10 735
	1 tonne, cab & chassis	$ 8 875
	flat deck	$ 9 525
J1C2	1.7 tonne, cab & chassis	$ 9 200
	flat deck	$ 9 900
J1	1.7 tonne, cab & chassis (diesel)	$10 670
	flat deck	$11 370
TLD23	Isuzu 1.7 tonne	$ 9 995

(vi) Mitsubishi

	1 tonne 1.6 litre pickup c/c	$ 7 750
L200		
Colt	1 tonne 1.4 litre pickup c/c	$ 7 295

4.27.4 Farm Bikes

60 percent deposit on all new bikes

(i) Yamaha	Retail	Sales Tax	Net to Farmer
AG100F	$1 199	$159	$1 040
AG175F	$1 595	$297	$1 298
DT100F	$1 095	$145	$ 950
DT125G	$1 485	$199	$1 286
DT175F	$1 749	$329	$1 420
DT250F	$2 049	$393	$1 656

Available late 1979 - early 1980:

AG100G	$1 350 approx.
AG 175G	$1 600 approx.
DT 100G	$1 400 approx.
DT 175G	$1 790 approx.
DT 250G	$2 200 approx.
XT 250 4 stroke	$2 450 approx.
TT 250 4 stroke	$2 500 approx.

(ii) Kawasaki

KM 100	$ 999	$135	$ 864
KE 100	$1139	$154	$ 985
KV 100	$1249	$168	$1081
KE 125	$1339	$128	$1211
KL 250	$1998	$375	$1623
KE 250	$1790	$250	$1540 approx.
KLX 250	$2669	$470	$2200 approx.

(iii) Suzuki

RV90	$1 252	$161	$1 091
TF100	$1 295	$167	$1 128
TF125	$1 550	$200	$1 350
TF185	$1 796	$320	$1 476
PE175	$2 000	$361	$1 639
PE250	$2 459	$445	$2 014
TS100 ER	$1 296	$170	$1 126
TS125 ER	$1 450	$190	$1 260
TS185 ER	$1 794	$324	$1 470
TS250 ER	$1 998	$400	$1 598

(iv) Honda

CT90K8	$1 199	$159	$1 044
XL100SZ	$1 358	$178	$1 180
ATC110A	$1 515	$199	$1 316
XL125SZ	$1 643	$217	$1 426
ATC185A	$1 898	$348	$1 550
XL185SZ	$1 981	$364	$1 617
XR200A	$1 995	$367	$1 628
XR250A	$2 150	$400	$1 750
XL250S	$2 180	$406	$1 774

4.27.5 Ploughs

(i) Duncan

530 mounted	3 furrow c/w landwheel	$1 768
	4 furrow c/w landwheel	$2 054
540 semi-trailed	4 furrow c/w hydraulic ram	$3 045
	5 furrow c/w hydraulic ram	$3 400

(Deduct $142 if landwheel is not required)
(Deduct $110 if Hydr. Ram is not required)
Optional extras

Extra furrow assembly for 530 and 540	$420
Extra land wheel for 530	$208
20 cm D/A Ram and Hoses for 540 Draft bar	$261

(ii) Clough

	2FW	3FW	4FW	5FW	6FW
Semi-mounted					
A.P. "Cropmaster"		2100	2524	3052	3535
A.P. Shear pin leg		2330	2814	3452	3995
A.P. Ruapuna special		2245	2750	3305	3848

(Prices on application for 6,7,8,9 furrow custom built models)

Mounted

G.P. "Stylemaster"				
30cm	1004	1330	1707	2137
A.P. "Cropmaster"				
30 cm	1004	1330	1707	2137
35cm	1058	1441	1862	2316
40 cm	1102	1523	1967	
Digger 35 cm	1149	1533	1960	
40 cm S.F. 794	1188	1599		
Specials 30 cm				
Heavy Duty		1522	1892	
35 cm Ruapuna	1134	1563	1983	

Deduct $100 for landwheel if not required.
Add $55 per furrow for shear leg action on mounted ploughs.

4.27.6 Mole Drain Ploughs

Belgrave Trailing	$297.50
Three point linkage	$345.00
Combination	$397.50
Mini-mole (for turf)	$275.00

4.27.7 Chisel Ploughs and Subsoilders

(i) Bomford

'Superflow' Heavy Duty Chisel Ploughs (price incl. depth wheels)

	45° Lo-Drift tines	Cushion Springtines
2m frame, 5 tines	$1691	$1741
7 tines	$1976	$2046
2.4m frame, 7 tines	$2137	$2207
9 tines	$2419	$2509
3.0m frame, 9 tines	$2572	$2662
11 tines	$2854	$2964

'Superflow' Subsoilers

Single tine unit working depth 60cm	$ 588
Frame only	$ 290
Twin Heavy Duty Unit	$1180
Frame only	$ 584
With wheels	$1469

(ii) **Clough**

(Rubber wheels $310 extra)

5 tine chisel plough	$1053
7 tine	$1387
9 tine	$1679
11 tine	$1998
13 tine	$2129

(iii) **American Line**

G11	15 tine trailed	$3440
E11	9 tine mounted with wheels	$1842

4.27.8 Discs

(i) Reid and Grey

2.7m Tandem	$1706
3.0m Tandem	$1809

(ii) American Line

32 blade trailed	$3284
36 blade trailed	$3656
48 blade trailed	$4949
32 blade mounted	$2492

(iii) Duncan

Standard Century Disc

2.1m all plain	$1656
all scalloped 24 blades	$1720
2.4m all plain	$1754
all scalloped 28 blades	$1832
2.7m all plain	$1886
all scalloped 32 blades	$1976
3.0m all plain	$2097
all scalloped 36 blades	$2158

800 Mounted Disc Series

2.1m all plain	$1935
all scalloped 24 blades	$1998
2.4m all plain	$1998
all scalloped 28 blades	$2074
2.7m all plain	$2082
all scalloped 32 blades	$2168

4.27.9 Cultivators

(i) Duncan

630 Single bar	11 tine 3m frame	$1048
	13 tine 3m frame	$1118
	15 tine 3.6m frame	$1184
	17 tine 4.1m frame	$1313
Optional extras		
	extra tine assembly	$ 45
	pneumatic tyred wheels (2)	$ 40
	wing assemblies (2) c/w 4 tines	$ 301
	Steel wheel assemblies (2)	$ 286
630 Double bar	17 tine 3.5m	$1884
	25 tine 5.0m c/w wing assemblies	$2487
	Wing assemblies (as per 630)	$ 303
633	21 tine, 3.0m	$1518
	with angle crumbler	$1800
	25 tine, 3.6m	$1736
	with angle crumbler	$2061
634 Rota crumbler	23 tine, 2.4m	$ 818
	with angle crumbler	$1077
	29 tine, 3.0m	$ 878
	with angle crumbler	$1136
	41 tine, 4.4m c/w folding wings and angle crumbler	$1871
	47 tine, 5.0m c/w folding wings and angle crumbler	$1989
	2.4m Leveller Board	$ 141
	3.0m Leveller Board	$ 162
644 Triple K	11 tine, 1.75m c/w wheels	$ 514
660 Vibro-flex	9 tine, 2.25m c/w wheels	$1585
	13 tine, 3.25m Heavy Duty c/w wheels	$2209
	1 pair 4 tine wing assemblies	$ 463

(ii) Clough

Single Bar Cultivators
Standard Coil tine. Deduct $130 without wheels.

1.8m	9 tine	$ 911
2.3m	11 tine	$1004
2.7m	13 tine	$1058
3.2m	15 tine	$1131
3.7m	17 tine	$1232
4.1m	19 tine	$1423

Heavy Duty Coil Tine. Deduct $190 without wheels.

2.0m	9 tine	$1275
2.5m	11 tine	$1443
3.1m	13 tine	$1545
3.1m	15 tine	$1765
4.1m	17 tine	$1931

Double Bar Cultivators 3 row (2 row if requested)
Standard Coil tine. Deduct $130 without wheels.

15 tine	$1441
17 tine	$1518
19 tine	$1518
21 tine	$1721

Heavy Duty. Deduct $190 without wheels.

15 tine	$2074
17 tine	$2218
19 tine	$2336
21 tine	$2531

Crumblers

3.0m	$463
3.6m	$489

Maxitill Cultivators

2.4m	$1076
3.0m	$1192
4.2m (folds to 2.4m)	$1843
4.8m (folds to 3.0m) Standard	$1932

Agritiller Double Bar cultivators

9 tine	$694
11 tine	$807
13 tine	$933
15 tine	$1041

Tool Bar Cultivators (2 row, 2.5m)

Solid tine	
9 tine	$601
3 tine, 3 moulders	$479
9 tine, 3 moulders	$722
Coil tine	
9 tine	$763
9 tine with wheels	$893

(iii) Vicon Jumbo Busters

4 bar frames

9 tine	3m frame	$2487
11 tine	3m frame	$2731

2 bar frames

9 tine	2.5m frame	$1728
11 tine	3m frame	$1938

(iv) Bomford

'Easyflow' spring tine cultivators

7m	69 tines, 4 Bar frame, trailed with crumbler	$4500
5.6m	55 tines, trailed with crumbler	$3950

'Turbotiller' Rolling Cultivator

M2	1.8m	2 Gangs	38 Cutters	$ 998
M6	2.5m	6 Gangs	76 Cutters	$2385
M116	3.6m	6 Gangs	116 Cutters	$3720

4.27.10 Rotary Cultivators

(i) Howard

Howard Rotovator

HL40	1.04m Std. Rotor	$2096
HL50	1.28m Std. Rotor	$2216
HL60	1.52m Std. Rotor	$2394
AR50	1.28m	$2817
AR60	1.52m	$2848
AR70	1.8m	$2941
AR80	2.03m	$3279
AR90	2.28m	$3471
AH90	2.28m	$5238
AH100	2.54m	$5531
AH120	3.05m	$6125
M80	2.03m	$13424
M100	2.54m	$13820
M130	3.30m	$15206
ST160	4.10m	$15511
ST160	4.10m Rotospike	$16417
ST180	4.60m	$16150
ST180	4.60m Rotospike	$17151

Howard Rotospreader

SPR150		$5303

Horticultural Rotovators

Bullfinch	25cm	2.2kW petrol	$ 981
Howard 350	40cm	3.7kW petrol	$1794
Howard Gem	50cm	petrol	$3249
Howard Gem	60cm	petrol	$3428

(ii) Kobashi

RBS 1650P	1.6m	$2473
RBS 1700	1.7m	$2671
RBS 1800P	1.8m	$2710

(iii) Gallagher Rotohoes

Lightweight	800	0.80m	$1685
	1050	1.05m	$1795
	1300	1.30m	$1905
	1550	1.55m	$2115

(Wheels and roller crumbler extra)

Medium	1330	1.33m	$2463
	1550 STD	1.55m	$2543
	1550 CENTRAL	1.55m	$2594
	1800 STD	1.80m	$2672
	2050 STD	2.05m	$2747
	2050 CENTRAL	2.05m	$2835
	(roller crumbler extra)		
Heavy Duty	2050 STD	2.05m	$2973
	2050 CENTRAL	2.05m	$3069
	2300 STD	2.30m	$3283
	(roller crumbler extra)		
Dreadnought	2050 CENTRAL		$3663
	2300 CENTRAL		$3869
	2550 CENTRAL		$4074
	3050 CENTRAL		$4674
	(roller crumbler extra)		

4.27.11 Harrows (Conventional):

(i) Duncan

Zig-Zag Harrows	1 leaf (less drawbar)	$103
	3 leaf bar	$102
	4 leaf bar	$112
	5 leaf bar	$134

Self-clearing Harrows.	1 leaf (less drawbar)	$104
	3 leaf bar	$140
	4 leaf bar	$165
	5 leaf bar	$196
Drill covering Harrows.	Single leaf (less bar)	$ 52
	3 leaf bar and sliders	$ 60
	4 leaf bar and sliders	$ 66
	5 leaf bar and sliders	$ 98
	3 leaves with bar and sliders	$213
	4 leaves with bar and sliders	$269
	5 leaves with bar and sliders	$352

4.27.12 Power Harrows

(i) Kuhn

HR240	2.4m	$4750
HR300	3.0m	$6100
HR360	3.6m	$7735

(ii) Vicon

SE 300	3.0m	$5212
SE 450	4.5m	$7012

(iii) Gallagher

800	0.80m	$1835
1050	1.05m	$1995
1300	1.30m	$2155
1550	1.55m	$2315
	(wheels or roller crumbler extra)	
Medium		
1550	1.55m	$3034
1800	1.80m	$3189
2050	2.05m	$3415
	(roller crumbler extra)	
Intermediate		
1550		$2496
1800		$2611
2050		$2826
2300		$2991
	(wheels or roller crumbler extra)	

Heavy Duty	with wheels	with roller
2050	$3624	$3674
2300	$3829	$3952
2550	$4170	$4240
3050	$4716	$4816

Dreadnought	with wheels	with roller
2050	$4324	$4393
2300	$4599	$4679
2550	$4874	$4974
3050	$5806	$5926
3800		$7595
4050		$7695

4.27.13 Rollers

(i) Cambridge Rollers

Duncan

300 Field Roller 2.4m, 65 cm rings	$1447
2.7m, 65 cm rings	$1541
3.0m, 65 cm rings	$1636
Roller Seed box 16 run, 2.4m	$1012
18 run, 2.7m	$1058
20 run, 3.0m	$1105

Belgrave

2.4m	$1025
2.4m with Willetts seedbox and clutch	$1675
2.7m	$1125
2.7m with Willetts seedbox and clutch	$1825
3.0m	$1225
3.0m with Willetts seed box and clutch	$1950

Springston Agricultural Engineering

3.0m with extension drawbar	$1400

(ii) Heavy (Water Ballast) Rollers

Springston Agricultural Engineering

8 tonne 2.4 metres long, 13 mm plate steel	$1800
15 mm plate steel	$1900
10 tonne 3.0 metres long, 13 mm plate steel	$2000
16 mm plate steel	$2300

4.27.14 Drills and Seed Boxes

(i) Duncan

701 Seedliner	16 Run Hoe	$4423
	16 Run Disc	$5085
	16 Run Hoe with telescopic D/B	$4508
	18 Run Hoe	$4673
	18 Run Disc	$5374
	18 Run Hoe with telescopic D/B	$4953
	20 Run Hoe	$4886
	20 Run Disc	$5620
	20 Run Hoe with telescopic D/B	$5181
702 Seedliner	24 Run Hoe	$5837
	24 Run Disc	$6713
	24 Run Hoe with telescopic D/B	$6176

730 Multiseeder	16 Run	Mark III	$ 7573
	24 Run	Mark III	$10789
Optional extras:			
Small Seeds Box	16 Run		$691
	18 Run		$759
	20 Run		$833
	24 Run		$974
Eclipse Box	16 Run		$741
	18 Run		$774
	20 Run		$819
	24 Run		$922

(ii) Aitchison

(S.I. prices in brackets)

'Seedmatic' light drill and under sower

Basic model, 12 row, 1.8m, mounted	$2350 ($2397)
- 12 nozzle strip spray boom	$ 237
16 row, 2.4m, mounted	$2765 ($2820)
-16 nozzle strip spray boom	$ 273
Deluxe model, 12 row, 1.8m, mounted fitted with spray boom and pump 200 litre fibreglass tank, tank transport tray, tank filler and hectarmeter	$3236 ($3301)
16 row, 2.4m, mounted (as above)	$3687 ($3760)
Accessories - Hoppers - 1.8m, 12 dropper outlets	$ 495
- 2.4m, 16 dropper outlets	$ 595
- 2.7m, 18 dropper outlets	$ 703
- 3.0m, 20 dropper outlets	$ 746
- Sunwheel Assembly - 47 different sowing speeds, tracgrip wheel, driving chain and toolbar clamps	$ 345
- Roller-Seeder Kitset – includes hopper, bolt-on frame and sunwheel assembly	
2.4m	$1295
2.7m	$1356
3.0m	$1478

4.27.15 Precision Drills

(i) Stanhay

Handpush	Single Row	$ 457
S870 MLW	3 row	$2803
	4 row	$3260
	5 row	$3712
	6 row	$4145

(ii) Nodet Gougis

1 row c/w fertilizer attachment	$1500
4 row pneumatic	$5000

4.27.16 Planters

(i) International Harvester

400 Cyclo Planters	$11956

(ii) M.I.L.

Automatic	2 row	$2751

4.27.17 Transplanters

(i) Howard

Type C	Manual gripper 2 row	$1356
	Automatic gripper 2 row	$1412
Type T	Tobacco	$1722
Type B	Special Nursery	$2539
Type P	Pneumatic precision 4 row	$6060

4.27.18 Top Dressers

(i) Vicon

PS400	0.5 tonne, 3 pt linkage, 7m spread	$ 868
PS400S	0.5 tonne, 3 pt linkage, 14m spread	$ 983
PS1001	1.5 tonne, trailed, 14m spread	$1650

(ii) Hylton Engineering

2 tonne trailed	p.t.o. driven	$3290
	motor driven	$3180
2 tonne trailed	blower unit	$3800
3 tonne trailed	p.t.o. driven	$3674
	motor driven	$3764
4 tonne trailed	p.t.o. driven	$4019
	motor driven	$4109

Drawbar jack, dual wheels, extra height adjustment and blowers are all optional extras on the above models.

3.7m truck mounted	$3714
4.0m truck mounted	$3950

4.3m truck mounted	$4068
4.6m truck mounted	$4286
4.9m truck mounted	$4404
5.2m truck mounted	$4499
5.5m truck mounted	$4593

The above prices for truck mounted spreaders exclude the cost of the motor.

Optional extras include extra height adjustment, self unloading for grain ($233), lifting stand ($390) and a clutch on the spinner.

(iii) Aitchison Industries

'Agrispred' Oscillating pipe

SP 400	350kg, mounted	$ 863
SP 500	500kg, mounted	$ 917
SP 600	600kg, mounted	$ 957
SP 1000	1000 kg, mounted	$1395
SPT 1000	1000kg, trailed	$1750
SPT 2000	2000kg, trailed	$2065

'Agrispred' Spinner

SN 400	350kg, mounted	$ 772
SN 500	500kg, mounted	$ 823
SN 600	600 kg, mounted	$ 860
SN 1000	1000kg, mounted	$1316
SNT 1000	1000 kg, trailed	$1635
SNT 2000	2000kg, trailed	$1950

Attachments for these spreaders include 2 and 4 - row side dressers, 1,2 and 3 row subsoilers, side spread conveyor chutes (spinner only), hopper extensions, hopper covers etc.

4.27.19 Combine Harvesters

(i) Claas

Dominator 96	5.2m	Hyrostatic and Grain Monitor	$96000
Dominator 85	4.6m	Hydrostatic	$86000
Dominator 76	4.6m	Hydrostatic	$74350
Dominator 56	3.6m		$58700
Mercator 75	4.2m		$60200

(ii) Massey Ferguson

520	ATHC	3.7m		$47500
525	ATHC	3.7m		$48800
750	Hydrostatic	4.3m	Air cond. cab	$79000
760	Hydrostatic	5.5m	Air cond. cab	$97500

(iii) International Harvester

321	56.7 kW (76 h.p.)	3.0m	$39292
		3.6m	$41777
431	78.3 kW (105 h.p.)	3.6m	$44633
531	78.3 kW (105 h.p.)	4.2m	$49984
1460	126.7kW(170 h.p.)	5.0m	$95000

(iv) John Deere

JD 955	4.2m	$49700
JD 975	4.2m	$63000
JD 6620	Basic machine	$81435
JD 7720	Basic machine	$99776

(v) New Holland/Clayson

8060	4.6m	with Grain monitor, Ford 82kW (116 h.p.) engine	$73700
8070	5.2m	with Grain monitor, Ford 96kW (140 h.p.) engine, tinted glass	$85650
8070	5.2m	as above, clear glass, 2 wipers, air conditioning	$87750

4.27.20 Windrowers

(i) Hesston

1014	Hydro-swing trailed auger header	3.6m	$12990
		4.2m	P.O.A.

(ii) International Harvester

5000	Self propelled 3.8m	$30087

4.27.21 Mulchers (Straw Choppers)

(i) Taarup

SKT 1500	1.5m	$2659
SKT 2100	2.1m	$3474
SKT 2150	2.1m	$4373
SKT 3000	3.1m	$6235

(ii) Gallagher

1.83m	Heavy Duty	$3125

4.27.22 Forage Harvesters

(i) Gallagher

		Single Cut	Double Cut
1.07m	Forager	$1923	$2187
1.07m	Forager with swivel chutes	$2298	$2562
1.37m	Forager	$2120	$2438
1.37m	Forager with swivel chutes	$2512	$2830
1.37m	Forager with wide mouth chute	$2371	$2689
1.83m	Central-mounted	$2615	$2964
1.83m	Central-mounted with wide mouth chute	$2915	$3264

	Safety Chutes	$194 - $276
	Back loading chutes	$228 - $300
	Top swivel chutes	$147
	Side loading chutes	$344 - $448
	Pre wilting chutes	$130 - $186
	Fine cut bars	$ 47 - $ 59
	Roller Assemblies	$275 - $321
1.07m	Hayworker	$2053
1.37m	Hayworker	$2268
1.83m	Hayworker	$2801

(Std. single cut forager with hay chute/ pre wilting chute)

(ii) Taarup

404	Fine chop side mounted pick-up		$7116
405	Fine chop trailed offset pick-up		$7521
502	Double chop		$6901
602	Fine chop	Base unit	$6970
		Pick-up	$3023
		2.1m 5 disc mower	$3950
		2 row maize head	$3844
605	Fine chop trailed	Base unit	$8618
		Pick-up	$2453
		2.7m 6 Disc mower	$4439
DMH 1100	2 row maize head		$3815
DMH 1100	Single chop 1.1m		$2684
1350	Single chop 1.3m		$3119
S 1500	Single chop 1.5m		$4496
DC 1500	Double chop 1.5m		$6753
SE 2100	Fine chop 2.1m	Base unit	$4880
		4 Disc mower	$1945
		5 Disc mower	$2285
		2 row maize head	$2545

(iii) John Deere

JD 15A	Double chop	1.6m	$4844
JD 16A	Double chop	1.8m	$5094
JD 35	Fine chop	1.6m	$9779
	Maize head		$11120

(iv) Hesston

200/100	Pull-type	$10660
2000/100	Pull type, std. tyres, no hydraulic rebevel grinder	$ 9175
2000/100	Pull Type	$12115

Optional Equipment

One row head (disc cut-off)	$2350
Two row head 0.76m (disc cut-off)	$3450
Three row head 0.76m (sickle cut)	$5550
Windrow pickup 1.8m	$2390
Direct Cut Head 2.1m	$3880

(v) New Holland

339	1.5m	Double Chop 540 RPM	$ 5710
342	1.7m	Double Chop 1000 RPM	$ 6360
890	1.7m	12 Knives base unit 1000 RPM with metal detector and wide windrow pickup	$16580
707	1.6m	tractor mount	$ 6770
770		base unit 540 RPM	$ 9250
770 N2		2 Row Cornhead attachment	$ 3200
770 R		1 Row Cornhead	$ 2000
717 S	1.5m	Sickle bar	$ 3100
718		base unit fine chop 1000 RPM	$ 7890

4.27.23 Mowers

(i) Moller

Fieldmaster	Haymaster 60	1.5m	c/w swathboard	$1508
	Orchard	2.7m		$2098
		2.1m	with swing arm	$1958
		1.5m		$1498
	M900	2.2m	rear swivel wheels	$2198
		2.2m	as above, 4 wheel model	$2518
		2.2m	rear roller	$2198
		2.2m	as above, 4 wheel model	$2518
	M800	2.0m	rear roller, 4 wheel model	$2140
	1500	3.8m	5 spindles, fully trailed	$3675
Flailmaster	M60	1.5m		$1174
	Junior	1.5m		$1438
	H.D. 60	1.5m	63.3 kW gearbox	$1985

(ii) P.Z.

165	2 Drum Rotary	$1995
165 HYD	2 Drum Rotary	$2345
215	4 Drum Rotary	$2700

(iii) Kuhn

GMD 44	4 discs	1.6m	$2765
GMD 55	5 discs	2.0m	$3744
GMD 66	6 discs	2.4m	$3931

(iv) Busatis

BM 1102kW	1.5m	Double Knife	$1550
	1.9m		$1560
	2.3m		$1680
		Electric grinder	$ 300

(v) Vicon

CM 165	4 disc	1.6m	$2722
CM 240	6 disc	2.4m	$3671

(vi) Aktiv

TH sickle bar		$ 747
THS sickle bar		$ 824

(vii) New Holland

442	4 disc	1.6m	$2765
462	6 disc	2.4m	$3931

(viii) Welger

SM 4	4 disc	1.6m	$2496

(ix) U.F.O.

Single drum	1.5m	$1450
Double drum	2.0m	$2100

(x) Gallagher

Multimow	Parks & Verge	1.83m		$3165
		1.37m		$2816
Multimow	Heavy Duty	1.83m	no chutes	$3285
		1.83m	back bad chute	$3585
		1.83m	safety chute	$3561
		1.37m	no chutes	$2732
		1.37m	back load chute	$2983
		1.37m	safety chute	$2965

4.27.24 Mower Conditioners

(i) Vicon

KM 165	4 disc	$5681
KM 240	6 disc	$8970

(ii) New Holland

Haybine 477	with hydraulic ram 2.1m	$6500
Haybine 479	with hydraulic ram 2.7m	$8800
Haybine 495	with Rolareel 3.7m	$11870

(iii) Hesston

1010	Hydro-swing pull type 2.8m	$11165
	with Crop Divider kit	$11238
1090	3 pt. Linkage pull type 2.8m	$ 9435
	with Crop divider kit	$ 9508
1180	Pull-type 2.4m	$ 9375
	with Crop divider kit	$ 9516
PT7	Pull-type 2.2m	$ 6400
	with Crop divider kit	$ 6475

4.27.25 Hay Conditioners

(i) Kuhn

GRS 21	Gyrotedder	$2137
GF 452	Gyrotedder	$2652

4.27.26 Hay Rakes

(i) Bamford

R2	Rake	$2370
RG2	Rake	$2370
R2	7 Reel Rake	$2525
RG2	7 Reel Rake	$2525

(ii) Kuhn

GA 280	Gyro rake	$1841
GA 300	Gyro rake	$1925
GA 402	Gyro rake	$2493

(iii) Vicon

HKX 620	4 finger wheels, 3 pt linkage	$ 984
H 820	5 finger wheels, 3 pt linkage	$ 912
H 1020	6 finger wheels, trailing	$2250
H 1240	8 finger wheels, trailing	$1642

4.27.27 Balers (Conventional)

(i) Massey Ferguson

124		$9554

(ii) International

445		$9122

(iii) New Holland

370	Hayliner	$ 8980
376	High Capacity Hayliner	$10160
376C	Hayliner - Contractor's model	$10780
386	Hayliner - New model 400mm x 450mm	$12890

(iv) Welger

AP 52	$ 7065
AP 61	$ 9369
AP 71	$11446

4.27.28 Big Balers

(i) Hesston

5800	Round	$12590
5500	Round	$10970
5400	Small Round	$ 7325
Stak Hand 10		$11750
Stak Hand 30A		$21750

(ii) International

2400	Big Roll	$12562

(iii) Howard

Big Baler	$17300
– gripper kit	$ 1378

(iv) New Holland

840	Round baler	$12980
846	Round Baler with autowrap	$12470
851	Round Baler with autowrap	$14830

(v) Welger

RP 150	Round 1.2m wide	$11999
RP 180	Round 1.5m wide	$13658

4.27.29 Potato Harvesters

(i) Standen Hereward

Bag and Bulk	$21489

(ii) Super Startrite

Bag and Bulk	$28308

4.27.30 Grain Handling Equipment

(i) Portable Grain Augers

Slade Engineering (N.B. Prices do not include motors)

Double Augers	P.T.O.	Electric	Petrol
200mm diameter			
7.2m	$1910	$1730	$1850
8.4m	$2010	$1836	$1950
9.6m	$2145	$1965	$2079
10.8m	$2265	$2085	$2199
12.2m	$2385	$2265	$2319
13.2m	$2505	$2325	$2439
14.4m	$2625	$2445	$2559
Hydraulic operation available - Electric and $495.00			
175mm diameter			
7.2m	$1894	$1704	$1759
8.4m	$2014	$1764	$1819
9.6m	$2134	$1824	$1879

Sweep Augers		
150mm diameter		
2.4m	Hand operated	$229
3.0m	Hand operated	$250

Unloading Augers		
50mm diameter		
3.6m		$214
4.2m	all with detachable power head	$221
4.8m	discharge guard and motor mounting	$230

100mm diameter

3.0m	$296
3.6m	$316
4.2m	$343
4.8m	$372
5.4m	$402

175mm diameter

3.6m	$361
4.2m	$394
4.8m	$428

Rotary Electric Motor Driven Sweep Augers
100mm diameter

3.0m	$292
3.6m	$310
4.0m	$328

(Rotary Switch not included)

Aitchison

		North Island	South Island
9.75 m	PTO - driven	$1773	$2023
10.97 m	PTO - driven	$1995	$2245
12.1 m	PTO - driven	$2216	$2466
13.7 m	PTO - driven	$2493	$2743

(ii) Grain Bins

Springston Agricultural Engineering

3 to 4 tonne, Flat bottom (for tip deck) ..... $450 - $500
3 to 5 tonne, V bottom, side unloading
(excluding motor) ..... $750 (approx)
5 to 6 tonne, V bottom, centre unloading
(excluding motor)..... $950 - $1000

(iii) Grain dryers

Moridge Grain dryer $15966

Bisley Fans for grain dryer

41.9 cm	4.16	390 C.P.	$1932
50.8 cm	5.67	445 C.P.	$2260
62.2 cm	11.36	490 C.P.	$2900

(iv) Feed hoppers

Springston Agricultural Engineering

3 tonne mobile, V-bottom	$700
5 tonne mobile, V-bottom	$800

(v) Miscellaneous

Bisley Vertical Mixer 1.25 tonne $3585

Aabaas Bros. Grain feed trolleys $450

Bisley Hammermills

BM2	5.6 kW	$1645
	7.45 kW	$1692
BM3	11.2 kW	$2115
	18.6 kW	$2505
BM5	37.2 kW	$3065

4.27.31 Hay Handling Equipment

(i) Hesston

10W Stakmover	$ 2381
30 Stakfeeder	$ 9995
with Conveyer Extension	$11012
30 Stakmover	$ 5650
5000 Bale Mover	$ 315

(ii) Aabaas Bros

Hay feeder 8 bale type	$130
Single bale type	$ 44

(iii) Springston Agricultural Engineering

Bale elevator 6 metres long (mobile; petrol or P.T.O. optional)	$800

4.27.32 Manure Spreaders

Springston Agricultural Engineering

Vacuum type complete recirculating	4500 litres	$1485
	3600 litres	$1250
	2250 litres	$1000

4.27.33 Chainsaws

Where chainsaws have variable bar lengths available, price quoted is for smallest bar.

(i) Dolmar

152 Electronic	100cc	64cm bar	$507
CT	118cc	76cm bar	$509
112	51cc	38cm bar	$319
123	70cc	51cm bar	$479

(ii) Stihl

031AV	48cc	41cm bar	$408
045AV	61cc	51cm bar	$466
051AV	80cc	51cm bar	$486
051AV	90cc	64cm bar	$559
075AVE	111cc	76cm bar	$581

(iii) Tas

ECS-5		36cm bar	$191
		41cm bar	$239

(iv) McCulloch

Mac 110	25cm bar	$145
Mac 120	31cm bar	$179
Power Mac 310	36cm bar	$235
Power Mac 320	41cm bar	$259
Pro Mac 510	41cm bar	$299
Pro Mac 610	41cm to 51cm bars	$385
Pro Mac 650	41cm to 70cm bars	$407
Pro Mac 750	41cm to 70cm bars	$440
Pro Mac 850	41cm to 83cm bars	$516

(v) Homelite

XL	25 cm bar	$150
XL2	31 cm bar	$210
SXL2	36 cm bar	$250
150AO	31 cm to 41 cm bars	$300
XL12	31 cm to 50 cm bars	$350
SXLE2	31 cm to 50 cm bars	$350
SXLAO	31 cm to 61 cm bars	$390
360AO	31 cm to 76 cm bars	$440
550AO	40 cm to 90 cm bars	$500
750AO	48 cm to 109 cm bars	$605

(vi) Solo

M600	31 cm bar	$198
M610AV	36 cm to 41 cm bars	$298
M616AV	36 cm to 45 cm bars	$460
M650AV	36 cm to 50 cm bars	$407
M660AV	36 cm to 72 cm bars	$530

4.27.34 Portable Generators and Welders

(i) McCulloch 'Mite-E-Lite' generators

(Briggs and Stratton engines)

RC 103	220V, 900W, 4.5 Amp	$495
RC 153	220V, 1350W, 6.8 Amp	$615
RC 253	220V, 2250W, 11.4 Amp	$785
BC 153	220V, 1350W, 6.8 Amp	$395
BC 253	220V, 2250W, 11.4 Amp	$495

(ii) Tas Electric Generators

QEG 300	$279
DEG 600	$349
REG 800	$329
LEG 1200	$429

(iii) Lincoln Electric

Lincoln Tractapac - bare shaft unit (complete with undercarriage PTO shaft etc - extra) Trailer – $562 (small wheels) – $598 (road wheels)	$811.00
Lincoln Weldanpower 150 (petrol)	$1256
Lincoln Weldanpower 150 (diesel)	$1967
Weldanpower 150 handcart	$ 163

4.27.35 Spray Equipment

(i) Tanks

'Spraymate' fibreglass reinforced plastic

SL500	500 litre bare tank	$225.00
SL500-2	with 2 bar hitch frame	$345.00
SL500-3	with 3 pin hitch frame	$345.00
SL200	200 litre bare tank	$119.50
SL200-F	with saddle mount support frame	$198.25
SL1200	1200 litre with tubular steel frame	$656.50

F.M. Winstone medium and high density plastic

Model 500	500 litre tank with 3 pt. linkage frame, line strainer, filling strainer, rubber lid, sight glass, bypass fittings and boom/reel mounts.	$328
Model 500	500 litre tank as above less suction line strainer and fittings, and filling strainer	$295
Model 700	750 litre tank with 3 pt. linkage frame filling strainer, 2 Venturi agitators, Venturi refiller, sight glass, 2 emptying taps, mounting facilities for pump, control unit and hose reel	$775
Model 700 Masotti	750 litre tank as above plus 2 banks of 4 Masotti No. 8 spray guns, IDS 1400 pump, control unit, BYPY drive shaft	$2095
Model 700 Fan	750 litre tank as above plus 600mm fan P74 pump, control unit, BYPY drive shaft	$2530

'Sprayrite' (Moller)	polyethelene	
Polytank 500	500 litres freestanding tank	$295
	with 3 pt. linkage frame	$312
Mini Tank (Less Boom)		$980

(ii) Spray Pumps

F.M. Winstone pump kits

Model 33	Golden Hypro N6400 nylon roller pump W.P. = 1400 kPa; output = 39 litres/minute	$178
Model 625	Comet P25 double diaphragm pump W.P. = 3000 kPa; output= 23 litres/minute	$270
Model 648	Comet P48 d.d. pump W.P. = 3000 kPa; output = 51.7 litres/minute	$343
Model 660	Comet BP 60/20 d.d. pump W.P. = 2000 kPa; output = 58 litres/minute	$325
Model 668	Comet P68 d.d. pump W.P. = 3000 kPa; output = 69 litres/minute	$408
Model 6105	Comet BP 105/20 triple diaphragm pump W.P. = 2000 kPa; output = 101 litres/minute	$425
Model 225	Comet P25 d.d. pump with Comet 5.33:1 reduction gear box and Briggs and Stratton 6 kW petrol motor (4 str.) W.P. = 3000 kPa; output = 23 litres/minute	$525
Model 248	Comet P48 d.d. pump with Comet 6:1 reduction gearbox and Briggs and Stratton 6 kW petrol motor (4 str.) W.P. = 3000 kPa; output = 52 litres/minute	$825
Mini Comet	lightweight portable pumping unit W.P. = 1500 kPa; output = 11 litres/minute	
	petrol	$345
	electric	$325
R15 Spray Kit	Comet MC15 pump; for attachment to Masport Rotahoe; W.P. = 1500 kPa; output = 11 litres/minute	$330

'Sprayrite' (bare pump prices shown by *)

Spartan 600	Double diaphragm pump W.P = 1400 kPa output = 32 litres/minute	$185.00*
	P.T.O. or engine drive available	$236/$231
	E.D. unit (includes all extras)	$687

Defender 25S	Double diaphragm pump W.P. = 1400 kPa; output = 20 litres/minute	$165.00*
	P.T.O. or engine drive available	$211
Bertolini 36S	Double Diaphragm pump W.P. = 3420 kPa; output = 36 litres/minute	$279.00*
	P.T.O. or engine drive available	$348.50/ $342.80
	E.D. Unit (includes all extras)	$741.58
Bertolini 55S	Double Diaphragm pump W.P. = 3920 kPa; output = 55 litres/minute	$316.17*
	P.T.O. or engine drive available	$394.32/ $384.96
Bertolini 85S	Triple diaphragm pump W.P. = 4900 kPa; output = 85 litres/minute	
	P.T.O. - driven	$651.75*
Bertolini 110S	Triple diaphragm pump W.P. = 6370 kPa; output = 110 litres/minute	
	P.T.O. or engine drive available	$860.88*
Bertolini 140S	Quadruple diaphragm pump W.P. = 6370 kPa; output = 140 litres/minute	
	P.T.O. - driven	$984.26*
Bertolini 175S	Quadruple diaphragm pump W.P. = 6370 kPa; output = 175 litres/minute	
	P.T.O. - driven	$1221.00*
Bertolini 67SD	Double diaphragm pump W.P. = 1475 kPa; output = 65 litres/minute	
	P.T.O. - driven	$235.00*
Bertolini 103SD	Triple diaphragm pump W.P. = kPa; output = 100 litres/minute	
	P.T.O. - driven	$336.00*
Bertolini 150SD	Triple diaphragm pump W.P. = 1960 kPa; output = 150 litres/minute	
	P.T.O. - driven	$547.00

(iii) Spray booms

F.M. Winstone

3m Straight boom, 9 Delavan nozzles, 3m of 13mm plastic hose	$ 75
6m Articulated boom, 15 Delavan nozzles, 6m of 13mm plastic hose	$293
10m Articulated boom, 25 Delavan nozzles, 13mm connecting hose	$380

All booms fitted with LF 1.54 tips as standard

'Sprayrite'

3.5m Straight boom, 9 nozzles, electro-galv. tubing	$62.00
5.5m Articulated boom, 15 nozzles, electro-galv./hot-dip galv. H.D.	$185.00

(iv) Hose Reels

F.M. Winstone holds 80m of 13mm hose or 100m of 10mm hose	$144
'Sprayrite' holds 75m of 13mm hose or 100m of 10mm hose	$108

(v) Hoses (H.P.) - price per metre

Kuraray 100m coils; 3 coil bales
Phoenix 40 m coils
All others 30m coils

Outlet hose	
- Kuraray PVC 10mm 2 braid 4250 kPa W.P.	$2.28
13mm 2 braid 42500 kPa W.P.	$2.95
- Phoenix Rubber 10mm 'Greystripe' 5 ply 6000 kPa W.P.	$3.28
13mm 'Greystripe' 5 ply 6000 kPa W.P.	$4.03
Bypass hose - 13mm Yellow black stripe heavy wall plastic	$1.10
19mm Yellow black stripe heavy wall plastic	$1.25
25mm Yellow black stripe heavy wall plastic	$3.15
Suction hose - 19mm Rubber hose 1400 kPa W.P.	$6.84
32mm Heliflex PVC spiral reinforced	$6.95
Rubber Hose	
- Phoenix Rubber 19mm 'Bluestripe' 4 ply 2000 kPa W.P.	$5.69
25mm 'Bluestripe' 4 ply 1500 kPa W.P.	$7.68
Connection Hose - Phoenix Rubber 19mm 'Black Garage' 8 ply 5000 kPa W.P.	$9.72

(vi) Spray Guns

Masotti H.P. (2 tips)	$ 55.00
Masotti Special No. 8	$253.00
Maxi Gun H.P. (3 tips)	$ 56.00
Mini Gun H.P.	$ 32.00
Lancer Gun M.P.	$ 45.00

Gun Set H.P.	$ 69.00
Winstone Spray Pistol H.P. (3 tips)	$ 31.00
Winstone 'Shorty' Spray Pistol (3 tips)	$ 31.00
Sprayrite Gun Pistol	$ 31.00
Spraying Systems Pistol	$ 46.14
Sprayrite Long Barrelled Pistol	$ 34.25
Sprayrite Brush Gun	$ 17.50

(vii) Control Units

Winstone MK V	13mm intake 0-2500 kPa pressure guage	$ 48.00
	13mm intake 0-4000 kPa pressure gauge	$ 48.00
	19mm intake 0-4000 kPa pressure guage	$ 48.00
Comet BP Series	Control unit with 2m pressure connecting hose 0-4000 kPa glycerine-filled pressure guage 4 individually controlled outlets	$ 84.00
Comet A2 Series	0-10000 kPa glycerine-filled pressure guage 2 individually controlled outlets (2m H.P. connecting hose $15 extra)	$120.00
Sprayrite	Low pressure C.U.	$ 59.80
	High pressure C.U.	$ 59.80
Polmac	Control Unit	$ 47.00

(viii) Pressure Guages

0- 100 kPa rear entry	$14.00
0-1600 kPa rear entry	$14.00
0-2500 kPa rear entry	$14.00
0-4000 kPa rear entry	$14.00
0- 600 kPa bottom entry	$14.00
0-2500 kPa bottom entry	$14.00
0-2500 kPa (glycerine)	$20.00

(ix) Strainers

19mm foot strainer 60 mesh Acetyl	$ 8.20
MOPLEN fine mesh linestrainer	$22.00
MOPLEN medium mesh linestrainer	$22.00
MOPLEN coarse mesh linestrainer	$22.00
MOPLEN linestrainer high volume long version	$27.00
31 mm Nylon foot strainer	$10.25
19 mm Line Strainer and Screen	$31.50
19 mm Foot Strainer and Screen	$22.05

(viii) Nozzles and Tips

Fan tip	L.F. 0.23 - L.F. 15.5	$ 1.18
Solid cone tip	S.C. 13090, S.C. 3.5 and S.C. C5.0	$ 2.04
Hollow cone tip	H.C.5	$ 2.04
H.S.S. Disc	DC2 - DC16	$ 0.40
Core Brass	DC13 - DC56	$ 0.50
Off-centre tip	OC 02	$ 2.84
Off-centre tip	OC 06, OC 10, OC 20, OC 40	$11.41

N.B. It is important to discuss the choice of nozzles with your local spray equipment dealer; above prices from Moller (Sprayrite) and F.M. Winstone (Delavan).

Foam Nozzles	- DF Boom 45° or 80° Fan	$5.00
	- DFA Foam aerial spray/handgun	$9.00
	- DFOC Foam handgun	$19.00
	- Foam Tip 20° flat fan	$5.00

(ix) Portable Sprayers

'Solo' Knapsack Sprayers

Hand Operated		$110.00
accessories -	tree spraying extension lance	$ 12.00
	spray guard	$ 10.00
	pressure guage and nozzles	$ 21.00
	pressure valve	$ 21.00
Motorized -	Junior 35cc	$330.00
	- Port 70cc	$415.00
accessories -	dusting attachment	Junior $13.80/Port $29.93
	- flame thrower attachment	Junior $54.00/Port $52.00
	- centrifugal pump assembly	Junior $42.00/Port $58.00
	- U.L.V. attachment	$14.00
	- spray lance attachment	$42.50
	- granular attachment (Junior only)	$24.00
Tas JKS 37	Knapsack sprayer/duster	$288

(x) Horticultural Spray Equipment

Trailed P.T.O. - Driven Sprayers

Cropland 'Cropliner' 1800 litres	TU 71 60,000 CMH fan	
	AR 1900 pump 191 l p.m.	
	AR 1400 pump 140 l p.m.	$6790
	AR 110 pump 104 l p.m.	$6497
	TU 60 30,000 CMH fan	$6332
	AR 110 pump 104 l.p.m	$5467
	AR 1400 pump 140 l.p.m.	$5632
	AR 1900 pump 191 l.p.m. (less fan)	$3295

Holder Z6 Narrow Guage	600 litre tank, TU60 fan 2110 pump, 131 l.p.m	$3895

Mounted Sprayers

Cropland 'Crop Spray' 500 litres	
AR 110 pump TU 60 fan 30,000 CMH	$2983
AR 110 pump TU 71 fan 60,000 CMH	$3848
Agro Motorized 88 cm Fan unit complete with pump and 60 kW Diesel engine	$8250

4.27.36 Horticultural Machinery

(i) **Hustler Masts Forklift 1360 kg to 2.4m** (Category 'C') $2745

(ii) **Pruners**

Hydraulic	
HFS 12 x 36	$389
24 x 48	$395
36 x 60	$402
H2SA 48 x 85 Trimmer	$480
HGS 24	$389
Pneumatic	
E 12 x 36	$370
18 x 42	$370
24 x 48	$376
F 12 x 36	$370
18 x 42	$389
24 x 48	$424
Vineyard Pruners	
V2 without hose	$236
V2E without hose	$333

(iii) **Picking Platforms**

Hawke Hydraulic Ladder MK III 3 posn. manual swing boom, Kohler engine, Hamilton hydr. motor	$5258
picking frame and bucket	$ 187
Fruitmaster Platform	$5250

4.28 BUILDINGS

4.28.1 Dwellings

New Cost varies considerably but on average, $245 to $300 per sq. metre.

4.28.2 Garages

New Cost varies between $70 and $110 per sq. metre.

4.28.3 Woolsheds

(i) Fletcher Brownbuilt Shearing Shed and Covered Yards

3 bays Woolroom - 3 stand - 5 bays covered yard.
concrete floor - $20624 plus erection $4 800)
wooden floor - $22457 plus erection $4 000)

Woolroom extra bays (grating stands excluded)		$1898
	plus erection	$400
(complete with grating board stands etc)		$2400
	plus erection	$700

Covered yard extra bays $1315 plus erection $170)

N.B. Erection prices are a guide only as site condition, location, accommodation and other variables have to be considered.

(ii) Carter Holt Kitset Woolshed

Total shed area 196.4 sq metres
Total cost $8176 (for shell only in kitset form).

Cost of building a woolshed will vary from $70 to $120 per square metre.
Freight, erection costs and equipment will be additional.

4.28.4 Haybarns

(i) Round

	Length	Kitset form	Erected
2 bay	6 metre	$ 967	$1236
3 bay	9 metre	$1376	$1741
4 bay	12 metre	$1806	$2257
5 bay	15 metre	$2203	$2762

(ii) **Waikato Farm Buildings Utility Shed**
(for implements or hay)

3 bay	9m x 7.2m x 3m	$1980 (erected)
4 bay	12m x 7.2m x 3m	$2577 (erected)

(iii) **Fletcher Brownbuilt Utility Sheds**

3 bay (14.4 x 9.3 x 3m high) $5050 at nearest rail
(plus $1200 erection approx)

Additional bays (4.6 x 9.3 m) $1170 at nearest rail
(plus $145 erection approx.)

(iv) **Fletcher Brownbuilt Implement Sheds**

3 bay (14.4 x 11.4 x 3.3m high) $5358 at nearest rail
(plus $1200 erection approx.)

Additional bays (4.6 x 11. $1298 at nearest rail
(plus $145 erection approx.)

(v) **Aabaas Bros Oval Hay Barns**

2500 bales (kitset)	$2592.00
5500 bales (kitset)	$4905.00

4.28.5 Glasshouses

(i) **Fletcher Kitset Green houses (Durolite)**

Size(m)	Area (sq.m)	Kitset Price Delivered	Price Erected on Prepared site
14.6 x 9.2	133	$ 9 774	$11 502
19.5 x 9.2	175	$12 005	$13 925
24.4 x 9.2	218	$14 228	$16 396
29.3 x 9.2	262	$16 509	$18 959
34.2 x 9.2	306	$18 773	$21 301
19.5 x 18.3	349	$21 155	$24 879
24.4 x 19.3	437	$24 982	$29 070
29.3 x 18.3	524	$28 983	$33 303
34.2 x 18.3	612	$32 780	$36 820
39.0 x 18.3	699	$36 600	$42 360
43.9 x 18.3	786	$40 132	$46 612
34.2 x 27.4	936	$46 690	$54 250
43.9 x 27.4	1204	$57 508	$67 227
34.2 x 36.6	1249	$60 694	$70 774
39.0 x 36.6	1427	$67 779	$79 295
43.8 x 36.6	1605	$74 581	$87 541

(ii) Gro-Wel Kitset tunnel greenhouse
Polyethylene 93 sq m $1395

4.28.6 Grain Silos

(i) American Line Silos

Wheat tonnage capacity	Silo dia. (m)	Wall Height (m)	Price ($)
22	3.7	2.4	1192
29	3.7	2.4	1310
36	3.7	2.4	1449
43	3.7	2.4	1588
47	4.6	3.25	1495
58	4.6	4.06	1718
69	5.5	3.25	1991
84	5.5	4.06	2187
100	5.5	4.9	2484
115	5.5	5.69	2807
131	5.5	6.5	3173
138	6.4	4.9	3298
147	5.5	7.3	3510
159	6.4	5.69	3715
180	6.4	6.5	4136
201	6.4	7.3	4532
210	7.3	5.69	4397
237	7.3	6.5	4874
265	7.3	7.3	5492

(ii) Cone based Silos (American Line)

Capacity (tonnes)	price $
27.1	2874
33.9	2990
40.8	3129
45.4	3587
56.2	3785
67.0	4007
100.5	5390

(iii) **Springston Agricultural Engineering**

Round, flat-bottomed; mounted on skids

20 tonnes	3.5m dia.	2.5m high	$1350
30 tonnes	3.5m dia.	3.7m high	$1900
40 tonnes	3.5m dia.	4.9m high	$2100

V bottom on legs

15 tonnes	$1000
25 tonnes	$1600
35 tonnes	$1700

(iv) **Fletcher Prefabricated Plywood**

40 tonne	$432.8(

4.28.7 Pig Shelters

Springston Agricultural Engineering

Small	$ 95.00
Large	$110.00

4.28.8 Dog Kennels

Aabaas Dog Motels	single	$118.00
	double	$228.00
	3 berth	$338.00

4.28.9 Sheep Yards

Cyclone Sheep Yards (made in panel form, add 30% for cost of erection.)

Yard for handling 1200 sheep	$4768
Yard for handling 500 sheep	$4114
2.4 metre yard gates	$51.00
1.4 metre yard gates	$32.11
1.2 metre drafting gate	$30.44

4.28.10 Cattle Yards

Cyclone cattle yards (materials only)

Standard Cattle Gates 1.3m high by 2.1m wide

– 5 rail	$73.80
– 6 rail	$81.50

Yard Fences 2.0 metre panel, 5 rail from	$112.00 per panel
Forcing Pen Race and Drafting Gates from	$47.00 per metre
Dehorning Bail	$363.29
Lifting arm extra	$ 15.48

4.28.11 Dairy Sheds

The costs of building dairy sheds vary considerably depending on type of dairy operation, availability of materials and labor, building site (completely new or conversion of existing shed), access to electricity and water, to name but a few factors.

Examples of estimated costs for dairy sheds in 1979/1980 are shown below:

(i) **12 Aside Highline Herringbone -**

Site preparation and tanker track	$ 550
Building	$19000
Electricity	$ 1000
Milking machines	$ 6500
Water supply	$ 1000
Effluent pump, etc.	$ 2000
Miscellaneous	$ 500
Total Cost	$30550
Cost per set of cups	$ 2550

Performance: 1 man, 60-90 cows per hour

(ii) **20 Aside Highline Herringbone -**

Site preparation and tanker track	$ 600
Building	$27000
Electricity	$ 1500
Milking Machines	$11000
Water supply	$ 1200
Effluent pump, etc	$ 2500
Miscellaneous	$ 1000
Total Cost	$44800
Cost per set of cups	$2240

Performance: 2 men, 110 - 140 cows per hour

(iii) **22 bail Rotary**

Site preparation and tanker track	$ 750
Building	$28000
Electricity	$ 2200
Machinery (including milking plant, rotary platform, cup removers, etc.)	
Water supply	$ 2000
Effluent pump, etc.	$ 3000
Miscellaneous	$ 1800
Total Cost	$58750
Cost per set of cups	$ 2670

Performance: 2 men, 120 - 180 cows per hour

(iv) **28 bail Rotary**

Site preparartion and tanker track	$ 820
Building	$33000
Electricity	$ 2400
Machinery (including milking plant, rotary platform, cup removers, etc.)	$24500
Water supply	$ 2500
Effluent pump, etc	$ 3800
Miscellaneous	$ 2200
Total cost	$69220
Cost per set of cups	$ 2470

Performance: 2 men, 160 - 200 cows per hour

(v) **36 bail Rotary**

Site preparation and tanker track	$ 850
Building	$39000
Electricity	$ 2800
Machinery (including milking plant, rotary platform, cup removers, etc.)	$28000
Water supply	$ 2800
Effluent pump, etc.	$ 4200
Miscellaneous	$ 2500
Total cost	$80150
Cost per set of cups	$ 2230

Performance: 2-3 men, 180 - 250 cows per hour

4.28.12 Building Materials

(i) Formwork Plywood

	12mm		17.5mm	
	F15	F25	F15	F25
Creform 2400 x 1200	$39.80	$45.50	$50.56	$56.30
Plycoform unoiled 2400 x 1200	$31.83		$42.08	

(ii) Construction Plywood

	7.5mm	9mm	12mm	17.5mm
2400 x 1200 DD	$ 9.75	$13.39	$18.74	$26.47
2400 x 1200 SFD	$16.56	$21.51	$24.96	$33.57
2400 x 1200 BD			$30.16	$40.64
2400 x 1200 Utility		$13.78	$19.28	

(iii) Durolite

8½ corrugated Durolite ..... $10.10 per metre
10½ corrugated Durolite ..... $11.53 per metre
900mm Flat Durolite..... $13.08 per metre
1200mm Flat Durolite..... $15.35 per metre

(iv) Corrugated Iron

Standard	1800mm	$4.67
	2100 mm	$5.47
	2400 mm	$6.25
	2700 mm	$7.03
	3000 mm	$8.60
	3000 mm	$7.76
	3300 mm	$8.60
	3600 mm	$9.44
Long Run	10½/3 x 26 guage	$3.70 per metre
	8/3 x 26n guage	$2.95 per metre

(v) Nails

	Steel/case	Steel/kg	Galv./case	Galv./kg
100 x 4	$38.36	$1.86	$53.92	$2.61
75 x 3.15	$39.64	$1.92	$55.20	$2.67
55 x 2.5	$41.73	$2.02	$57.82	$2.80
50 x 2.5	$41.73	$2.02	$57.82	$2.80
40 x 2.0	$42.73	$2.07	$59.05	$2.86
30 x 2.0	$42.73	$2.07	$59.05	$2.86
60 x 3.55 lead	$58.47	$2.83		
75 x 3.55 nails	$58.68	$2.84		

4.29 DRAINAGE

4.29.1 Drainage Materials

		Cost per Metre
(i) Field Tiles	McSkimming 100mm	$0.88
	150mm	$1.24

(ii) PVC Drainage Pipe 'Polydrain'

Type	diameter	No. 3M pipes/bundle	price/bundle
Plain pipe	50 mm	10	$19.80
	75 mm	10	$35.40
	100 mm	5	$30.15
Slotted pipe	50 mm	10	$25.18
	75 mm	10	$35.40
	100 mm	5	$32.40

Fittings:	50mm	75mm	100mm
Polifitting bends (90° 112° 135°)	$1.10	$1.23	$1.52
Polifitting T's (90° 112° 135°)	$2.00	$2.25	$2.60
Sockets	$0.60	$0.68	$0.75

(iii) Novaflow/Novacoil Pipe

62.5mm	$0.92
100 mm	$1.51
150mm	$2.91

(iv) **Backfill shingle** (per cubic metre) $6 to $7 in the trench. One cubic metre backfills approximately 15 metres of drain.

(v) Sump Pumps

Davies N and NC Series, with Float Switch	
.18 kW 230V 2.54 cm Delivery	$401
.18 kW 400V 2.54cm Delivery	$388

(vi) Marine Sprinklers

J 33/3	Mk2 Sprinkler - with sledge mount	$174.00
J 35	Quick Release Coupling 5	$18.40
J 38	Pot Spreader	$38.00
J 40	5 cm Manure check valve	$27.00

4.29.2 Trenching Costs:

Trenching (under average conditions) $19.00 per 20 metres.
Cartage Costs are extra.

4.29.3 Mole Drainage

Rate of work approximately 2.5 hrs/ha
Hire of suitable tractor $23.00 per hour.
Approximate cost $58.00 per hectare.

4.29.4 Well Drilling

Fords Well Drilling Ltd., Southbridge

Cost per metre includes drilling, pipe, 1.5m of S.S screen, and 8 hours of developing.

Diameter	Cost per metre	Cost of galv. screen	Cost of S.S screen
150mm	$ 59.06	$360	$414
200mm	$ 88.59	$408	$495
250mm	$ 98.43	$486	$596
300mm	$114.84	$660	$891

All screens are 40-slot, wedge-wire design. Stainless screens are more durable than galvanized screens.
If the well needs 'developing' in excess of 8 hours, the charge-out rate is $30.00/hour.
A standard test for the larger wells costs $250.
If the well is dry, the farmer pays ⅔ the cost and the contractor withdraws the casing.

4.30 IRRIGATION

4.30.1 Basic Equipment

(i) **Aluminium Pipes & Couplings** (Complete, 7.5m lengths)

Diameter	Price Per Metre
50mm	$ 6.30
75mm	$ 7.24
100mm	$ 9.08
125mm	$14.56
150mm	$23.27

(ii) **Sprinklers**

From $7.50 to $12.50 each.

(iii) **Buried Mains** Pipes only. Does not include trenching and laying.

Class B for standard Roll Line, Angle Tow and Hand Shift Systems. Working Pressure 600-690 kPa

Class C for high pressure Travelling Irrigator and Centre Pivotal Systems. Working Pressure 900-1030 kPa

Diameter	Class B	Class C
Fibrolite (Price per metre complete)		
150mm	$ 8.11	$10.62
200mm	$13.04	$17.94
PVC Z-Joint (price per metre)		
125mm	$ 6.32	$ 8.96
150mm	$ 9.00	$12.90
200mm	$13.76	$19.91

(iv) **Outlets** (cast iron, complete with T-Joint, Valve and hydrant)

150mm x 150mm x 100mm	$148 each
200mm x 200mm x 100mm	$176 each

(v) **Pumps**

Pumps for irrigation systems fall into 3 main categories:

Diesel: 4 and 6 cylinder models are available and vary in price from $5500 – $10 000

Power-take-off: These types of pumps cost in the vicinity of $1500 – 2500

Electric: The prices for electrically powered pumps range from about $1000 to $4500

It must be noted that the type and capacity of pump will depend on the scale of the irrigation system.

For information on the pump(s) required for any irrigation system, consult a pump specialist firm, e.g. D.H. Davies & Co, Brown Brothers Engineers, John Burns Engineering, A.M. Bisley & Co, Mono Pumps or Masport-Onga to name but a few.

(vi) Suction-Delivery Equipment

The prices for this equipment can only be determined once the system requirements are known. However, as a guide, prices range from $500 to $4000, depending on how far the water must be raised from the source and how far it has to travel to the spraylines.

(vii) Controllers (Harvin)

	$
Rain clox RC 3	120
RC 7A	265
RC 8LS	855
RC 12B	1465
RC 18B	1680
RC 23B	1810
Internal Pump start	32
Remote Pump start kit	145
Series Controller AG 7	757
AG 7 11	1451
MC 11 wall mounted	1880
pedestal mounted	2010
SC 11 AB wall mounted	1520
wall mounted	1655
SC 22 AB wall mounted	3200
pedestal mounted	3450
DMC 11 wall mounted	3366

(viii) Connectors (Harvin)

PT - 103	$9.50 per bag of 10
PT - 104	$9.50 per bag of 10
PT - 55	$8.20 per tube

(ix) Valves

Harvin:

No. 3 quick coupling	$24
valve key	$10
hose swivel 20mm	$14
No. 5 quick coupling	$29
quick coupling with athletic top	$35
valve key	$18
hose swivel 20mm	$16
Stopamatic valve	$45
Gate Valve key	$ 6

Rainbird:

Electric remote control (range available)	$57 - $206
Thermal hydraulic valves	$138 - $255
Electric globe remote control valves	$1027 - $1512

(x) Rotors (Harvin)

Model	27	$91	Model	64	$ 89
	37	$92		81 B	$167
	47	$97		87	$191
	51	$91		15103 Mini Pour	$ 21
	61	$85		15111 Pop-a-way	$ 34
	62	$85		AT Athletic Top Add	$ 7
	63	$89			

((xi) Spray Heads (Harvin)

171 Pop up	$18.00
171 Stream Spray Pop up	$21.00
2200 Flower bubbler	$ 4.50
2400 Full: square or part circle	$ 3.80
2400 Strip and three quarter	$ 4.40
2400 Flat	$ 4.50
A7 Adapter	$ 2.20

(xii) Impact Sprinklers (Harvin)

25 AFP	$30	70 EW	$43
35 ADJ	$42	808 W	$97
40 EFCH	$21	H140	$18
65 D	$73	P5 Blackbird	$14

(xiii) Irrometers (Soil moisture indicators - Harvin)

15 cm	Model R	$47	Model RA (automatic)	$78
30 cm	Model R	$48	Model RA (automatic)	$79
45 cm	Model R	$49	Model RA (automatic)	$80
60 cm	Model R	$50	Model RA (automatic)	$81
90 cm	Model R	$52	Model RA (automatic)	$82
120 cm	Model R	$54	Model RA (automatic)	$84
150 cm	Model R	$56		

(xiv) Swing Joints (Harvin)

150mm x 25mm	$9	225mm x 20mm	$7
200mm x 20mm	$7	225mm x 25mm	$9

4.30.2 Irrigators

It is important to realize that few irrigation systems can be bought 'off the rack' to perfectly suit all properties. Thus it is unrealistic and unfair to compare prices of the following irrigators directly. The only real comparison can be made when the whole system, of which the irrigators are only a part, is costed out.

(i) **Harvin 'Wade Rain' Hydrostatic Poweroll 400 metre line**
(All prices ex Factory, Christchurch)

	Pipe diameter			
	100mm		125mm	
	Wheel diameter			
	145cm	190cm	145cm	190cm
	$	$	$	$
1 x Hydrostatic mover	2750	2810	2750	2810
1 x End adaptor	50	50	50	50
1 x End plug	50	50	50	50
2 x Stabilisers	120	140	120	140
	2970	3050	2970	3050
2 x 6m T/T lengths (complete)	220	220	280	280
32 x 12m T/T lengths (complete)	7040	7680	8960	9600
	10230	10950	12210	12930

Torque Tube Lengths	Per 12 metre length	
	100mm	125mm
Complete with FWTD Coupler, Drain valve and Ring lock	$145	$205
As above plus 145cm wheel	$210	$270
As above plus sprinkler	$220	$280
As above but with 190cm wheel	$240	$300

Miscellaneous

In-line Poweroll reducer	12.5cm (F) x 10cm (M)		$50
	12.5cm (M) x 10cm (F)		$50
Centre Feed Male x Female (For 48 series)	10cm M x F		$80
	12.5cm M x F		$90
Hub size 10cm wheel diameter		145cm	$65
		190cm	$85
Hub size 12.5cm wheel diameter		145cm	$65
		190cm	$85

Fibreglass engine cover for 70 Series Mover	$110
Riding stand for 70 Series Mover	$ 60

(ii) Harvin 'Omme' Travelling Irrigator

Retail price (complete): $19 000
Irrigating width: 120 metres (arms 25m)
Irrigating run: 660 metres (unit carries 300m x 114mm hose)
Double head sprinklers: 2.6 - 4.6 kPa
Output: 81 m^3/hr
Three travel speeds; water powered self-propulsion system

(iii) Briggs 'Roto Rainer'

Model	75	125	175	250
Price($)	14 500	17 000	24 000	25 000
Hose Length (m)	100	200	200	200
Hose Int. Dia. (mm)	76	103/90	112	125
Drum Rope (m)	220	440	440	440
Boom Length (m)	30	43/30	68	68
Irrigating width (m)	60	75/60	100	100
Area Covered/Run (ha)	1.2	3/2.4	4	4

Optimum Working Pressure (all models) 280 kPa

(iv) Andrews & Beaven 'Water Winch'

These irrigators are driven by an Ag-Rain radial in-flow turbine. A 3 speed transmission combined with variable speed control enables the unit to move at many different speeds as required. All 3 models operate at between 480-620 kPa in normal conditions but will operate at 345 kPa.

No filtration equipment is required and the 'Water Winch' can handle water containing solids up to 6.4mm in size.

All models are fitted with Nelson 'Big Gun' sprinklers. Applications of between 6.3mm and 178mm per hour are possible by varying the travel speed.

Model	T30	T35	T40
Delivery range (LPM)	445-1365	1725-2070	2760-4140
Hose Size (mm)	76.2/88.9	88.9/101.6	101.6/114.3/127.0
Hose Lengths (m)	100/150/200	200	200
Price (depending on accessories) $	11800-13270	16350-17740	17770-18900

(v) Andrews & Beaven 'Higromatic Centre-Pivot'

Basic unit – 60m long with end gun $17 500 approx.
Additional spans – $5000 per tower
– $80.40 per metre

The area covered by these irrigators can vary from 3ha per shift to almost 200ha, depending on length of the line.

The unit is water-driven, and can handle undulating country quite easily.

(vi) **Waterwide Irrigation Ltd.**

Waterwide Irrigation System		$27 000
Specifications:	Maximum wetted width	203 m
	Overall boom width	143 m
	Weight (empty)	5.5 tonnes
	(water filled)	6.5 tonnes

4.31 FARM AIDS

(i) Weighing Platforms

Hayes Cattle Weighing platform	$543.98
with 3 point linkage	$663.79
Sheep Weighing platform (Squeeze)	$485.10
Sheep/Pig Weighing platform (with crate)	$503.00
Donalds Sheep and Pig Hydraulic weighing platform	$410.00
Cattle Weighing Platform 1000 kg	$548.00
1500 kg	$630.00
3 point linkages for above – removable	$ 90.00
– forklift	$116.00
Donalds Grain weigher 120cm x 66 cm	$548.00
Fleece weigher	$130.00

(ii) Animal Crushes

Donalds Squeeze Cattle Crush (with sliding gate and walk-through head bail)	$1250.00
Sliding Gate	$ 125.00
Head Bail Automatic Walkthrough	$ 375.00
Head Bail Gate Type	$ 200.00
Calf Handler	$ 315.00
Hayes Tipping Cattle Crush and Table	$1774.71
Walkthrough Cattle Head Bail	$ 277.16
Squeeze Cattle Crush Head Bail	$ 277.16
Squeeze Cattle Crush with floor (no head bail)	$ 936.45
Squeeze Cattle Crush with Head Bail (no floor)	$1136.30
Squeeze Cattle Crush with Head Bail and floor	$1196.98
Squeeze Cattle Crush with Head Bail, Floor and Rear Operating Attachment	$1250.39
Sliding Cattle Gates	$ 183.33

(iii) Loading Ramps

Donalds sheep Loading Ramps	
40 cm wide, 4.8m long	$620.00
50 cm wide, 6.1m long	$698.00

Springston Agri. Eng. Sheep Loading Ramps	
6.1m long mobile height adjustable	$585.00
6.1m long stationary height adjustable	$360.00

(iv) **Sheep Cradles and Chutes**

'Roydon' canvas Sheep Cradle	$ 10.75
S.J. Gallagher Lamb Tailing Chute	$136.00
Hayes 'Stevlyon' Single Lamb Cradle	$ 53.16
Multilamb Cradle (4)	$301.00
Hagerson Double Docking Cradles	$ 37.50

(v) **Miscellaneous**

Johnstone Portable Deer Pen (including metal gate, trip mechanism and netting)	$375.00
Hayes Cow Lifter	$ 66.23
Summit - Palmer Hip - Lifter	$ 54.70
Wasp Shepherd's Crook	$ 5.35
Kea Shepherd's Crook	$7.30 - $8.87
Sav - a - Back Sheeploader (for utility trucks)	
4 sides, 2 gates	$200
5 sides, 4 gates	$255
5 sides, 5 gates, centre partition	$287
Hayes Pulley Blocks - 50mm single, 70kg	$ 6.16
50mm double, 136 kg	$ 8.02
75mm single, 114kg	$27.64
75mm double, 275kg	$40.76
75mm triple, 430kg	$47.99
100mm single, 160kg	$28.17
100mm double, 410kg	$45.16
100mm triple, 635kg	$60.58
Hayes Self locking Blocks 230kg (with 18m rope)	$45.53
Light Blocks 50mm 136kg (with 12m rope)	$21.67
Hayes Snig Chains 10mm - 16mm with Slip or Grab Hooks and with/without swivel	$40.24 - $103.25
Hayes Dipping Crutch	$ 10.48
Hayes Collapsible Sheep feeder	$201.06
Tulloch McNeill Hay Self-feeders - built up	$630
- kitset	$520
Hayes Tractor Forklift	$131.73
Hayes Lamb Tailing Iron	$ 5.47
Hayes Taper Lock Hitchpin	$3.69 - $7.35
Hayes Standard Type Hitch pin	$3.69 - $7.36
Hayes Scrub Puller	$ 33.29
Bay Lambing Instrument	$ 3.00
Bale Hook - wool	$ 5.46

Bale Hook - Bent Hook	$ 5.95
Bag Hooks - narrow and wide	$ 5.40
Animal Weight Bands	$ 4.27
Sack Barrow	$ 43.45
Springston Ag. Eng. 10 bail Calf feeder	$257.00
'Zon' Automatic Scarecrow Gun only	$124.40
Tripod	$ 45.40
Timer	$ 98.20
'Exid' Birdscarers c/w Clock	$259.50
Varteg Portable Saw mill	from $5990 complete
Batten Mill	from $3250 complete
New World Products Grader blades	
Standard	$495
Big Ed (heavy duty)	$895
Wellsford Offal Cooker (oil fired)	$85.00
Ace 63 litre	$145
14 litre boiler pail	$95
Air operated Stapler	$420
Hose and fittings	$ 35
Petrol compressor	$675
	$1130
Aabaas Bros Ltd Electric Cattle Stop	$115.00
Manual Pipe Bender	$120
Mate Post hole digger 85cc. Two stroke powerhead	$364.89
100cc. Two stroke powerhead	$416.82
Full range of augers and accessories available	
Powerhead fits aqua-drilling kit and horizontal drilling platform.	
Donaghy 'Haysaver' No. 3 1.7m x 1.8m (with pins)	$ 9.95
No. 4 1.6m x 2.4m (with pins)	$12.65
Fischbein Bag sewing machine.	$782

4.32 PROTECTIVE EQUIPMENT AND CLOTHING

Aprons - Hay	$ 23.00
- Dairy shed (with pocket)	$ 10.36
- Fencing	$ 14.80
Gloves - Rubber Gauntlet	$ 5.66
Chemi-mate	$ 4.17
G1 Reversible (Leather)	$ 7.24
G9 Double Skin Palm (Leather)	$ 6.78
Hay, Glove (Leather)	$ 7.34
Goggles - 'Gardwell'	$ 3.33
- 'North'	$ 4.30
Ear muffs -	$ 18.50
Dust guard Masks	$ 2.85
filler (8 per pack)	$ 5.00
Respirators - 'Agriculture' Single Filter	$ 19.95
Double Filter	$ 15.25
Hood	$ 70.25
Filters (6 pack)	$ 3.10
- 'North'	$ 11.90
'Airstream' anti-dust helmet	
Portable kit rechargeable 5V batteries	$298.75
Vehicle powered Kit	$279.90
Overalls - Zip comb. Size 3 - 8	$ 20.00
9 - 10	$ 22.00
- Bib and brace	$ 13.00
- Disposable	$ 7.45
Boots - Steel cap	$ 34.00 pr.
- Plain cap	$ 32.00 pr.
Gumboots - Marathon Knee	$ 24.00 pr.
- Redband Short	$ 17.00 pr.
Shearers Moccasins (leather)	$ 12.00
Parkas - Oilskin	$ 25.00
- P.V.C. - coated $ 31.00	
Swandri Zip front jacket	$ 55.00
Bushshirt	$ 48.00
Leggings - Oilskin	$ 15.00
- P.V.C. - coated	$ 18.00
Welding Masks - Spectacles	$11 - $15
- Helmet	$22 - $25

4.33 HORTICULTURAL REQUIREMENTS

4.33.1 Chemicals

(i) **Herbicides**

Brasoran - aziprotryne	$47.70 per 2kg
Ekatin - thiometon	$66.30 per 5 litres
Tenoran - chloroxuron	$41.00 per 2 kg

(ii) **Insecticides**

Karathane - dinocap	$170.00 per 25 kg
Kelthane - dicofol	$204.00 per 20 kg
Lannate L - methomyl	$166.00 per 20 litres
Melprex 40 - dodine	$28.40 per 5 litres
Larvacide - chloropicrin	$6.90 per .906kg

(iii) **Grafting Compounds**

Flintcote Type A	$6.40 per 4 litres
Pruntect	$5.93 per 1 litre.
Shell Grafting mix	$1.81 per 250gm

(iv) **Fertilisers**

Fruitfed liquid feed $22.25 per 25 litre container

Berryfruit Fertiliser N P K

8-4-8 per bagged tonne	$172.85
per bulk tonne	$163.35

Orchard Regular N P K

8-4-8 per bagged tonne	$119.95
per bulk tonne	$110.45
Wuxal (N.P.K. 9.4.6. plus trace elements) 5 litres	$ 11.25
200 litres	$270.00

(v) **Soil Fumigants**

Shell DD (1.2 - dichloroprene, 1,3 - dichloropropene) $48.50 per 20 litre container

Di - Trapex (Ispray) $309.00 per 50 litres

(vi) **Growth Regulants**

Alar 85 (Ispray) $127.00 per 2 kg

Caldon 50 EC (Ispray) - Bramble desucking agent $51.95 per 5 litres.

Fatol Super (Ispray) - Tobacco sucker control agent $88.20 per 20 litres

Propham (Ispray) - Potato sprout inhibitor $48.50 per 25 kg

Bikatol - antisprout agent	$38.00 per 20kg
Seradix - root forming hormone	$11.50 per 600 gm
Ethrel - ripening agent	$42.60 per litre

(vii) Miscellaneous

Mesurol Slug bait - methiocarb	$31.50 per 10kg
Ratsak - warfarin	$3.08 per 2.5 kg
Spiderex	$45.00 per 5 litres
Mirex wasp bait	$0.92 per 10 grams

4.33.2 Harvesting Equipment

(i) **Picking Aprons**

Coppins	$23.00
Scott Williams	$14.00

(ii) **Picking Bag**

Coppins	$18.65
Scott	$18.85

(iii) **Knives**

Curved Asparagus	$1.70
Cabbage	$6.85
Grafting No. 11	$6.05
Pruning No. 20	$7.00

4.33.3 Packaging

(i) **Apple Bags**

Printed		Under 1000	1000-3000	3000 plus
1½ kg	220 x 430	51.98	47.25	43.95
3 kg	270 x 500	67.43	61.30	57.02
5 kg	300 x 600	94.73	86.12	80.11
9 kg	400 x 620	155.47	141.34	131.48
Printed				
3 kg	270 x 480	55.63	50.57	47.04
5 kg	300 x 600	73.63	66.94	62.27
9 kg	400 x 620	125.44	114.04	106.09
18 kg	430 x 875	186.81	169.83	

(ii) **Berry Containers**

	$ per 1000
L.M. Strawberry Tray with 2 Dividers	$396.44
Export Strawberry Tray and Lid	$787.45
3 kg bulk Berry	$148.28
1.5 kg berry pack outer	$431.50
1.5 kg berry freezer	$150.19

(iii) **Gate Sales Containers**

2.5 kg Plain Kraft (1 colour printed)	$145.31 ($166.07)
4.5 kg Plain Kraft (1 colour printed)	$185.36 ($206.11)
9.0 kg Plain Kraft (1 colour printed)	$271.36 ($298.04)
18.0 kg Printed 1 Colour	$786.67
4.5 kg Stacker White plain	$177.79
9.0 kg Stacker White plain	$250.00
18.0 kg Produce Box (with Bag)	$665.00 ($702.22)

(iv) **Produce Bags**

	Under 250	250-1000	1000-3000	3000 plus
Plain (with holes)	14.81	13.33	12.00	10.80
150 x 280	20.73	18.66	16.79	15.11
200 x 330	25.04	22.54	20.28	18.26
220 x 400	28.15	25.34	22.80	20.52
230 x 430	40.13	36.12	32.51	29.26
265 x 400 (3kg)	90.87	81.78	73.60	66.24
400 x 675 (9kg)	128.62	116.93		
430 x 875 (18 kg) Carrot, Parsnip	135.32	123.02	111.84	101.67
425 x 915 (20 kg) Carrot, Parsnip				
425 x 130 x 1100 ┐ Cabbage, Cauliflower	229.50	206.50		
440 x 120 x 1100 ┘ Cabbage, Cauliflower				
550 x 110 Pumpkin	230.28	207.34		
Plain Buff (20 kg) Potato	175.00	157.50		
Printed (with holes)				
Potato (10 kg)	160.90	146.28		
Celery No. 2	47.79	43.01		

(v) **Stonefruit containers**

62mm Trays only	$421.11
62mm Sleeves	$419.63
56mm Trays only	$441.88
56mm Sleeves	$417.99
75mm Trays only	$465.61
75mm Sleeves	$444.86

(vi) **Tomato Containers**

2.5 kg white R.S.C.	$253.12
4.5 kg white R.S.C.	$303.73

(vii) **Packaging Tape**

24 mm x 244m Freezer	$2.66
24 mm x 520 m Buff Poly	$1.90
24 mm x 18m Paper	$1.95

4.33.4 Miscellaneous Equipment

(i) **Fog Generators**

Microsol	$288.19
Champ	$120.00

(ii) **Frost Alarms**

Mini Tiedemann MKII Single Probe	$247.75
WMFA.3 Frost Alarm	$190.00
with TS 104A Sensor	$230.00

(iii) **Lighting**

G.E.C. HL1 Plant Irradiator complete less Control gearbox $198

(iv) **Thermometers**

Max/Min	$14.40
Brannan Hot Bed	$10.15

(v) **Ladders**

	Wooden	Steel
1.8m	$51.00	$63.50
2.1m	$56.60	$68.20
2.4m	$65.00	$75.50
2.7m	$75.40	
3.0m	$82.50	
3.6m	$87.50	
4.2m	$98.40	

(vi)	**Secateurs**	Felco No. 1	$ 9.80
		Felco No. 2	$15.95
		Rolcut	$ 4.96
		Wilkinson Loppers	$14.40
(vii)	**Tape**		
	Filament	45m	$1.51
		300m	$9.46
	Budding		$0.75

SECTION 5
GROSS MARGINS

5. GROSS MARGINS

5.1 GROSS MARGIN ANALYSIS – A CRITICAL EVALUATION

(Prepared by G. Tate, December 1979)

5.1.1 Introduction

The farm manager is frequently faced with selecting the most appropriate production possibility from amongst several alternatives. If the alternatives or adjustments to be considered involve no significant changes in the fixed cost structure, then some form of partial budgeting can give a satisfactory guide to correct decision. Partial budgeting involves giving consideration only to those cost or income items that are directly affected by the proposed alternatives. Where the proposed change does not involve altering the requirements for a particular resource (e.g. labour), then the costs related to this resource may be regarded as fixed and thus excluded from the analysis without affecting its validity. A partial budget is merely a simplified whole farm budget in which certain fixed considerations are ignored.

The use of partial budgeting has been extended in use by the development of gross margins analysis. This system involves only the consideration of the gross contribution made by a particular enterprise in excess of the additional variable costs necessary to operate it. It assumes complete linearity, that is that each additional unit of production is worth as much as and costs as much as each preceding unit. It also assumes that the enterprise being assessed can be technically and financially isolated from other activities, and thus considered independently.

A knowledge of the gross margins of possible enterprises on the farm is a valuable guide for farmers and their advisers when making decisions on the best combination to adopt. Unfortunately, because of the mechanical and conceptual ease of this method of analysis, there has been a growing tendency for inappropriate and misleading application. The failure to appreciate the limitations of the technique can lead to faulty decision making. In a simple problem, such as the choice between growing Kopara wheat and Arawa wheat in a particular paddock, the use of gross margins analysis gives a quick and reliable answer. The only considerations are the likely yield and price for each variety together with the additional costs of harvesting where the yield differs. Other aspects such as possible marketing difficulties with Arawa can be considered outside the gross

margin framework. Even in this simple example however, and as indeed with any other method of analysis, the reliability with which the critical parameters may be assessed is of great significance to the value of the answer obtained. The critical measures in most considerations are the yield and the price obtained for the product. In general, far too much attention is paid to getting the last detail of cost correct while sweeping a broad brush over the really significant parameters of yield and price.

It is well to be aware that farmers' performance figures are not always reliably recorded and rarely include disaster years. This often means that average yields quoted are the average performance of good years not the average of all years. The significance of the last few kilograms of yields to the profitability of an enterprise is generally appreciated. Any discrepancy in this respect is likely to lead to significant errors in the choice of the most profitable alternative. Where a farmer has a well prepared set of farm accounts extending over several seasons, the extraction of performance figures from these is likely to be more reliable than relying on undocumented opinion.

The effect of not accurately establishing yield performance can be illustrated by the hypothetical example of a Canterbury light land farm where severe drought occurs one year in five, resulting in no harvest.

Wheat may yield an average of 3.5 tonnes per hectare over the four good years, but in the fifth dry season nothing. A gross margin analysis calculated on the 3.5 tonnes yield might show a return of about $350 per hectare. However, on the true crop mean yield over the five years of 2.8 tonnes per hectare the gross margin would be reduced to about $280 per hectare.

At all times when considering an individual farm situation, it is the performance on that farm that is relevant, not the district average or some standard obtained from elsewhere. This means that the farm adviser constructing an alternative management policy on two similar farms may well have a differing gross margin for the same crop based on the individual farmer's past experiences in the area.

Among the problems that can arise with the use of gross margins analysis, the following have all been observed by the writer and are provided here to illustrate the dangers of adopting an over-simplified approach to the consideration of farm management alternatives.

5.1.2 Choice of the Limiting Resource

Gross margins are customarily expressed in terms of returns per unit of land area or per head of livestock. In many farm management decisions, maximisation of returns to capital may be of greater significance. Occasionally labour is a critical constraint and maximisation of returns to this resource is the farm manager's goal. Perhaps the best known example of conflict between returns to land and to capital lies in a consideration between the alternative enterprise of cattle or sheep.

For the purpose of illustration let us assume that the gross margin per stock unit for a ewe flock is $20. At 15 ewes per hectare the gross margin per hectare would be $300. For a cattle policy, buying in weaners and selling prime stock, let us assume a gross margin per stock unit of $26, or at 15 stock units per hectare $399. On this basis of gross margin per hectare cattle look more profitable by $90 per hectare. ($390 compared with $300).

For many farmers however, capital or access to it will be the most critical constraint. If a farmer cannot get more capital then looking at a gross margin purely in terms of feed utilisation can give a completely false picture of the most desirable alternative.

Let us assume that a stock unit in sheep costs $25 and a stock unit in cattle costs $50 (if we assume a weaner steer being the equivalent of 3 ewes this values the weaner at about $150 per head.) With 15 stock units per hectare we find the following position:

Cattle $\frac{\text{Gross margin per hectare}}{\text{Livestock capital per hectare}} = \frac{\$390}{\$750}$

i.e. a 52% return to livestock capital

Sheep $\frac{\text{Gross margin per hectare}}{\text{Livestock capital per hectare}} = \frac{\$300}{\$375}$

i.e. a 109% return to livestock capital

Recognising capital is the limiting resource we should conduct our gross margins analysis to establish relative returns to this factor, i.e. to establish the relative gross margin per $1 invested.

In the above example we find the following:-

Cattle $750 invested returns $390
i.e. a gross margin return of 52 cents per $1 invested.

Sheep $375 invested returns $300
i.e. a gross margin return of $1.09 per $1 invested.

The above illustrates the necessity to decide on any farm what the critical scarce resource is. If the farmer wishes to maximise his return to feed grown and can obtain additional capital cheaply then the absolute return from cattle is going to be higher than for sheep. For example –

	Cattle	Sheep
Gross margin per hectare	$390	$300
Less interest at 10% on capital Invested in livestock - approximately	$ 75	$ 37
Residual margin per hectare	$315	$263

If capital is available at 10% then the farmer on a 500 hectare property with the above figures is likely to be better off by $26000 by running cattle. In the above example the cost of capital would have to be greater than 33% before the residual margin per hectare would favour investment in sheep rather than cattle.

If our farmer has unlimited surplus grass, but only a thousand dollars of capital available to buy livestock then, in the above example, his return to the scarce resource is going to be $1090 if he uses the capital to buy sheep but only $520 is he used his capital to buy cattle.

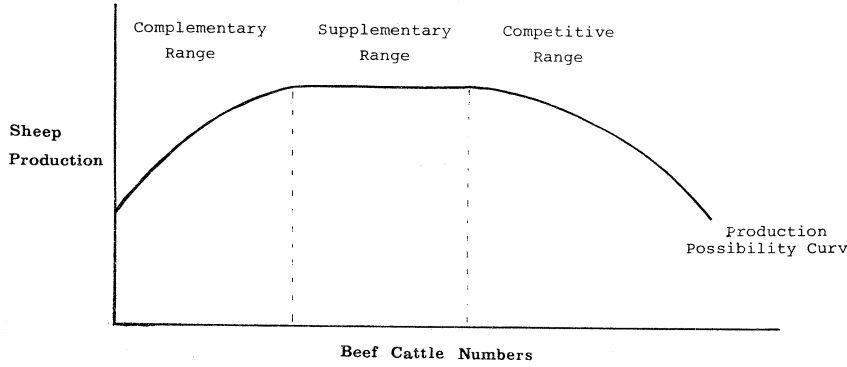
5.1.3 Selecting the Correct Rate of Substitution

In comparing alternative livestock practices on a gross margin basis, the rate of substitution of one animal for another is critical.

On tussock country the proposal to replace some sheep by cattle may require an entirely different rate of substitution than would be the case for a similar proposal relating to a prime lamb farm. For example, on a tussock block at present carrying sheep it may well be that the replacement of some sheep with cattle will initially give a complementary effect resulting not in a substitution but in an improvement in production by the sheep carried as well as additional production by cattle. As total stocking rate is increased there may be reached the stage of fixed production by sheep, but some addition to total production

by the extra cattle, i.e. a supplementary effect. This may be due to cattle eating different plants to the sheep.

It may only be at a third or higher stocking rate that the competitive effect between sheep and cattle comes into play and any rate of substitution for gross margin analysis is valid. On a prime lamb farm, cattle and sheep will probably be directly competitive from the outset.



A further example where the correct rate of substitution is critical to the problem to be analysed could be seen in considering two alternative enterprises such as the buying of ewe lambs for sale as two tooth ewes and the running of a conventional breeding flock. Common practice is to use the accepted rate of substitution of one hogget being equal to 0.6 breeding ewes. In this example however, there are really three periods of the year to be taken into account when considering the substitution rate in respect to feed supply. Over the winter the hogget must be fed for growth, the ewe requires only maintenance. It may well be that at this period of the year one hogget directly substitutes for one ewe. In spring the breeding ewe with a lamb at foot has a full productive requirement, the hogget has only to maintain itself with some growth. In spring the substitution rate of one ewe for two hoggets may well be applicable. Over the summer season, if good two tooths are to be produced, the hogget must be well fed. The ewe at this time is back to maintenance. One could suggest that over the summer period one ewe may be equal to 0.75 hoggets.

Gross margin analysis for such a problem would require the definition of the period of feed limitation on a particular property and the use then of the appropriate substitution rate. Again it is a matter of accurately defining the scarce resource, i.e. feed, at a particular time of the year, and using the

substitution rate appropriate to that time of the year. Because the above stock policy change is likely to have quite complex effects on farm operation, gross margins analysis is unlikely to yield a satisfactory comparison. Partial or full comparative budgeting would be better methods of comparing the two systems.

Gross margins analysis is sometimes used to compare the returns from a paddock used in growing crop or in carrying livestock. The correct substitution rate to be used in deciding the sheep carrying is not the overall farm position, but the contribution that that particular paddock will make to stock carrying in the feed pinch period, i.e. the time of maximum constraint. For example, if the time of the year which limits increases in carrying capacity is the months of August and September, the correct substitution rate to impose on sheep versus crop is the potential carrying capacity of that paddock in those two months.

It could well be that a farm with an overall carrying capacity of twelve ewes per hectare may be in the position where in August each grass paddock carries 17 ewes. Seventeen ewes then is the substitution rate to be used in comparing the two enterprises, not twelve.

5.1.4 Complementarity and Supplementarity of Operations

Complementary and supplementary relationships are important in planning the most profitable programme in mixed arable farming. Because many enterprises require land for widely differing periods of time, simple gross margin analysis may lead to serious errors. For example, a comparison of gross margins on a property farmed with the following rotation could be made:

> Old pasture – kale seed – wheat – specialist white clover – wheat – peas – new grass – grass seed – white clover seed – grazing.

The gross margins for each crop might be:

	Gross Revenue per hectare	Direct Costs per hectare	Gross Margin per hectare
Kale seed	$1000	$300	$700
Wheat	$ 500	$150	$350
White Clover Specialist	$ 600	$250	$350
White Clover Pasture	$ 300	$200	$100
Peas	$ 500	$350	$150
Ryegrass Seed	$ 600	$300	$300
Grazing ewes	–	–	$285

Looking simply at the calculated gross margins one would say that most of the farm should be in kale seed. The true position however is not so clear-cut. While over a 10 year period the gross margin for kale could be justified, the price and the yields are extremely variable. Interseasonal variation and risk are very high with this crop. A farmer with all his farm in kale might well go bankrupt waiting for the correct combination of yield and price to give him that bumper year that over a long term gives such a high average gross margin.In addition kale occupies the ground over the period from December to the succeeding January. Because nothing effective can be done with the land before the following crop of wheat is sown in June, land is really tied up for 18 months and the gross margin for the crop, as expressed above, makes no allowance for this time period difference.

The specialist white clover permits the carrying of say, five ewes per hectare from May to November, increasing profitability by about $50 per hectare. The increased nitrogen status of the soil following the white clover crop will also increase the subsequent wheat yield. The white clover in pasture permits the carrying of 15 ewes from February to November, increasing profitability by $200 per hectare. The ryegrass permits ewe grazing from May to October producing an additional $120 per hectare of gross margin. The peas boost the subsequent yield of ryegrass by 100 kilograms per hectare. Therefore an additional $30 per hectare profit is earned from the ryegrass crop, as a result of following peas in the rotation.

Consideration of each enterprise merely on a gross margin basis ignoring the effects of the length of time of land use, availability of stock grazing, carry-over of fertility effect and labour requirement can lead to unsound decision making.

With mixed arable farming it is possible to establish the revenue earning expectations of the whole rotation over its time period. This may then be compared on a yearly basis with the revenue earning capacity of alternative rotations. Consider for example any rotation 'A', which we assume yields a total gross margin return of $1200 over its six-year time period. Consider also rotation B, which yields a gross margin return of $1440 over its eight-year time period. Clearly, when the total revenue earned is divided by the number of years involved, rotation A returning $200 per annum would appear more profitable than rotation B returning $180 per annum.

By comparing the return from the total rotation, allowance can be made for complementary and supplementary effects. In this

way gross margins analysis can provide a guide to the decision-maker. Unfortunately there are usually many factors in comparing alternative systems that cannot adequately be considered in gross margin analysis. A more detailed technique, such as comparative budgeting is usually advisable in these circumstances.

5.1.5 The Allocation between the Variable and Fixed Costs

By definition, the gross margin is the value of production minus the variable (or direct) costs associated with the enterprise. These variable costs are those which increase or decrease proportionately to changes in the scale of the enterprise's production. Such things as veterinary fees or animal health remedies are typical variable costs in animal production.

The fixed costs are those that will stay the same no matter what the pattern of production – for example rates, insurances, accounting fees. However, this raises some problems because in one sense all costs are variable – land and equipment can be bought and sold or labour hired and fired.

Very few farm operations can be reliably considered as individual processes. For example, in a mixed livestock cropping economy, typical conceptual problems that can arise in preparing gross margin analysis between enterprises might be –

(i) To which enterprise should the cost of new grass establishment be charged – to the cropping because it is necessary to restore structure or fertility, or to the livestock that are going to eat it?

(ii) Should the cost of fencing maintenance be a charge against livestock?

(iii) What is the cost of a fallow and where should it be charged?

The difficulty in resolving these sorts of problems reduces the relianace that can be placed on gross margins analysis. The tendency to disregard side effects or to ignore the overall effect of a management change on the property's fixed costs can result in illogical decision making.

5.1.6 Summary

Used for marginal analysis and clearly defined situations in which the results can be interpreted with a good deal of common sense, gross margins analysis provides a quick, easy

means to assist in evaluating alternatives. A knowledge of the gross margins of possible enterprises on the farm is an extremely valuable guide for farmers and their advisers when making decisions on the best combination of enterprises.

Where problems are complex, or involve considerations embracing interaction between several enterprises, then the preparation of alternative budgets will give a more reliable guide to the decision-maker. Whatever the technique of analysis employed, the conclusion will only be as accurate as the initial data on which it was based. The successful application of the analysis will depend on the skill of the farmer or his adviser in recognising the limitation of the technique employed.

5.2 GROSS MARGINS

5.2.1 Introduction

Farmers with a range of alternative crops and stocking systems have to choose which crops and stock systems are the most suitable for their situation. A series of production plans and budgets take a lot of time to show which is likely to be the most profitable plan.

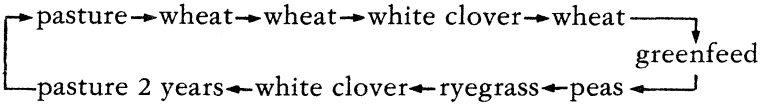
An alternative approach is to first work out the profitability of each crop and system that can be undertaken on the farm. Profitability of each enterprise may be measured in terms of a Gross Margin, the difference between Gross Revenue and Gross Costs. Gross Margins are short-cut methods because they ignore fixed costs. These are taken into account later when a farm plan is budgeted, and income and costs for the whole farm are estimated.

When using the G.M. approach to determine a better farm plan, first list the alternative enterprises and estimate Gross Margins for each. Make sure that the levels of production are relative to each other. Then draw up various rotations taking into account the farmer's preferences and any constraints influenced by soils, climate, capital, etc. The Gross Margin for each enterprise in the rotation (i.e. both crops and stock) will be added together and then averaged per hectare per year. The rotation having the highest G.M. can then be tested by drawing up the whole farm budget to confirm it is a better farm plan.

5.2.2 Examples of Crop and Small Seeds Gross Margins 1980.

(Prepared by E.S. Burtt, December 1979)

The rotation used is an example of land use possible on medium soils.



i.e. a 9 year rotation.

(i) 1st Wheat Crop (Kopara ex old grass):

Programme:

Cultivation:

The paddock is disced twice in March, ploughed in April, heavy harrowed, grubbed and heavy harrowed in May, drilled in late May along with 125 kg/ha of superphosphate.

Weed and Pest Control:

The crop is sprayed after 2 leaf stage but before third joint is detectable in wheat crop, with "Avenge" and 2,4,DB for the control of various weeds.

Harvesting:

The crop is headed in January using own machinery, stored in on-farm bulk silos until August. A firebreak is ploughed after the crop is harvested and the stubble is raked up and burned in late January.

Direct Costs (per hectare):

Cultivation: 5 hrs/ha with own machinery at $4.58/hr	22.90
Seed: 100kg/ha treated seed at $237.50/tonne	23.75
Fertilizer: 125 kg/ha superphosphate at $82.00/tonne (includes $6.40 for cartage 12km and spreading at $2.60/ha)	10.25
Weed Control: 2,4,DB at 3 litres/ha at $3.94/litre plus ⅓ hr/ha spraying at $4.58/hr	
Avenge at 5 litres/ha at $9.49/litre (includes the cost of wetting agent) plus ⅓ hr/ha spraying at $4.58/ha	2.42
Heading: ¾ hr/ha at $28.94/hr	21.71
Cartage: from field to silos at $2.00/tonne	8.06

Raking and Ploughing Firebreak: ¾ hr/ha at $4.58/hr	3.44
Cartage: from silo to rail (by contract) at $6.05/tonne (24km distance)	24.38
TOTAL DIRECT COSTS	$176.91

Gross Revenue:

Yield: 4.03 t/ha	
Price: $140/tonne plus storage increment to August 1st of $11.55/tonne	
Income: 4.03t x $151.55 /tonne less levy of 50¢/tonne	608.73
TOTAL REVENUE	$608.73

Thus it appears that in this example using own machinery, the costs are about $177 and the revenue is $609, leaving a gross margin of $432/ha. Using contract harvesters would cost a minimum of $74/ha, reducing the gross margin to about $380/ha.

(ii) **2nd Wheat Crop (Kopara ex wheat):**

Programme:

Cultivation:

The paddock receives 2 grubbings in March-April and another grubbing in May. It is drilled in late May, with 125 kg/ha superphosphate.

Weed Control:

As for the first wheat crop, but 2,4,DB at a rate of 3.5 litres/ha not 3 litres/ha as for 1st crop.

Undersowing:

White clover is sown in August at 3.0 kg/ha with 125 kg/ha of lime reverted superphosphate.

Harvest:

The harvest programme is the same as for the first wheat crop. It is not necessary to bale the straw.

Direct Costs (per hectare):

	$
Cultivation: 3 hrs/ha at $4.58/hr	13.74
Seed: 100kg/ha treated seed at $237.50/tonne	23.75

Fertilizer: 125kg/ha superphosphate at $82.00/tonne (includes cartage and spreading)	10.25
N.B. Undersowing costs are charged to the white clover gross margin (see later)	
Weed Control: 2,4,DB at 3.5litres/ha at $3.94/litre plus ⅓ hr/ha spraying at $4.58/hr	
Avenge at 5 litres/ha at $9.49/litre (includes cost of wetting agent) plus ⅓ hr/ha spraying at $4.58/hr	64.30
Heading: ¾ hr/ha at $28.94/hr	21.70
Cartage: from field to silo at $2.00/tonne	7.40
from silo to rail (by contract) at $6.05/tonne (24 km)	22.39
TOTAL DIRECT COSTS	$163.53

Gross Revenue:

Yield: 3.7 t/ha
Price: Same calculations as with first wheat crop

Income: 3.7t x $151.55	$560.74
TOTAL REVENUE	$560.74

In this example the costs are about $164 and the revenue is almost $561/ha, giving a gross margin of $397/ha. If a contractor was employed to harvest the crop, the gross margin would drop to $352/ha.

(iii) **White Clover (ex wheat):**

Programme:

The seed is oversown into wheat in September. Fertilizer is applied at 250kg/ha of superphosphate in March.

Grazing:

The paddock is lightly grazed in March and is then consistently grazed over the winter to help spread the straw. Over the spring months, the grazing pressure is about 5 S.U./ha. The paddock is closed in early October and then heavy rolled.

Weed Control:

The paddock is spot sprayed with Asulox in July for dock control. It is sprayed in August with Carbetamex and 2,4-D ester for control of annual grasses, flatweeds and suckling clover. In January, the crop is dessicated with Reglone plus Agral LN wetting agent.

Harvest:

After dessication (5-6 days), the crop is headed. The field dressed seed at approx. 70 kg/sack is then carted to a merchant to be machine dressed. Extra sacks are required for double bagging the M.D. seed.

Direct Costs:

Seed: Oversowing of 3 kg/ha at $2.30/kg	6.90
plus 0.6 hr/ha at $4.58/hr	2.75
Fertilizer: 125kg/ha lime reverted superphosphate at $81.50.tonne (includes cartage and spreading)	10.19
250kg/ha superphosphate at $82.00/tonne (includes cartage and spreading)	20.50
Heavy Rolling: 0.6 hr/ha at $4.58/hr	2.75
Weed Control: Asulox at 0.25 litres/ha at $9.84/litre	
Carbetamex at 4 kg/ha at $13.28/kg	
2,4-D ester at 2 litres/ha at $3.77/litre	
plus 0.9 hrs/ha spraying at $4.58/hr	67.24
Dessicating: Reglone at 3 litres/ha at $9.40/litre (includes cost of wetting agent) plus ⅓ hr/ha spraying at $4.58/hr	29.73
Mowing: 1¾ hrs/ha at $4.58/hr	8.02
Heading: 2½ hrs/ha at $28.94/hr	72.35
Sacks:14 sacks/ha at 73¢ each	10.22
Consolidated Dressing & Store Handling Charge: 500 kg/ha F.D. at 16.7¢/kg	83.50
Cartage: 7 sacks/ha at 54¢ each (24 km)	3.78
TOTAL DIRECT COSTS	$317.93

Gross Revenue:

Yield: 500kg/ha F.D.; 30% loss on machine dressing; 350 kg/ha M.D.
Price: $1.60/kg for 1st Generation seed

Income: 350 kg/x $1.60/kg	560.00
TOTAL REVENUE	$560.00

In this example, the gross margin is about $242/ha, with direct costs of about $318/ha and revenue of about $560/ha.

To this should be added some return from the winter grazing. A gross margin of $18.20/S.U. can be expected this season (See sheep Gross Margins, Section 5.2.3) from the consumption of 590kg D.M. over a 12 month period.

If one hectare produces 1500 kg D.M./ha in the winter-spring period, this represents 254% of the annual requirement of one S.U. Thus the return to be added to the above figure is:

$18.20 x 2.54 = $46.23, which brings the total white clover gross margin to about $288/ha.

(iv) 3rd Wheat Crop: (ex white clover):

Programme:

Following the white clover harvest, the tailings are fed to sheep and the paddock cleaned up before the cultivation for wheat. The cultivation is the same as for a wheat crop ex old grass and the only additional cost is for insect control.

Direct Costs (per hectare):

As for 1st wheat crop	176.91
Insect Control: Bidrin (for control of aphids) at 400ml/ha at $12.65/litre plus	
⅓ hr/ha spraying at $4.58/ha	6.58
TOTAL DIRECT COSTS	$183.49

Gross Revenue:

Yield: 3.7t/ha
Price: $151.55/tonne including storage increment

Income: 3.7t x $151.55/tonne	560.74
TOTAL REVENUE	$560.74

Thus the Gross margin for this crop (using own harvesting machinery) is about $377.00/ha.

(v) Greenfeed Oats (ex wheat):

Programme:

After the wheat stubble has been burnt off, the paddock is grubbed 3 times in February and the crop is drilled at the end of February. Amuri oats are used at the rate of 90 kg/ha. Nitrogen superphosphate is applied at 250 kg/ha.

Grazing:

The paddock is grazed during June and July.

Direct Costs:

Cultivation: 2½ hrs/ha at $4.58/hr	11.45
Seed: 90 kg/ha at $210/tonne	18.90
Fertilizer: 250 kg/ha nitrogen superphosphate at $112.70/tonne (includes cartage and spreading)	28.18
TOTAL DIRECT COSTS	$58.53

Gross Revenue:

If stock consume 590 kg D.M./year, and one hectare produces 3500 kg D.M./ha it would support 6 S.U./ha.

The revenue contribution of these 6 Stock Units at $18.20/S.U. is therefore:

$18.20 x 6	109.20
TOTAL REVENUE	$109.20

Thus the gross margin is about $50/ha.

(vi) **Field Peas (Blue Rondo ex greenfeed oats):**

Programme:

The paddock is disced twice at the end of July and then ploughed, heavy harrowed, vibratillered to mix in Treflan, rolled and drilled at the end of August. 250 kg/ha of peas are sown with 250 kg/ha of Mo superphosphate.

Weed Control:

The paddock is sprayed with Treflan in July at 2.5 litres/hectare.

Harvesting:

The crop is direct headed in February into sacks and then carted to a merchant for machine dressing. The pea straw is raked and baled and sold in the paddock.

Direct Costs (per hectare):

Cultivation: 4 hrs/ha at $4.58/hr	18.32
Seed: 250 kg/ha Blue Rondo at $240/tonne (Contract price includes treating and sacks)	60.00
Fertilizer: 250 kg/ha molybdate super at $100.35/tonne (includes cartage and spreading)	25.09
Weed Control: 2.5 litres/ha Treflan at $9.66/litre plus ⅓ hr/ha at $4.58	25.68
Harvesting: 1¾ hrs/ha at $28.94/hr	50.65
Sacks: 54 sacks/ha at 73¢ nett	39.42
Cartage: 2.69 tonnes or 40 sacks at 54¢/sack (24 km)	21.60

Consolidated Dressing & Store Handling Charge:	
2.69 tonnes at $27.50/tonne	73.98
Raking pea straw (own machinery):	
½hr/ha at $4.58/hr	2.29
Baling pea straw (contract):	
86 bales/ha at 45¢/bale	38.70
TOTAL DIRECT COSTS	355.73

Gross Revenue:

Yield: 2.69 t/ha	
Price: contract $140/tonne	
Income: 2.69t x $140/tonne	376.60
Pea Straw: 86 bales/ha at 75¢/bale	64.50
TOTAL REVENUE	$441.10

With costs approximating $356/ha and revenue in the vicinity of $441, the gross margin in this example becomes $85/ha.

(vii) **New Grass for Ariki Seed (ex peas)**

Programme:

Following the pea harvest in February, the paddock receives two grubbings and lime is worked into the soil. To sustain a rotation of this nature, the pH should be brought up to 6.2 at this stage which means 2.47 tonnes of lime per hectare if the pH following peas is about 5.7. Cultivation follows a programme of grub, harrow and roll in sequence three times to achieve effective weed control. New pasture is drilled with a mixture of 23kg/ha Ariki ryegrass and 3kg/ha white clover sown with 250 kg/ha of superphosphate.

Grazing:

This new grass is given a light first grazing in May and is lightly grazed over the winter to allow light into the clover seedlings. Then although the paddock is not available for the whole spring period, the equivalent spring grazing rate is 6 S.U./ha. The paddock is closed from grazing in the middle of September and at the end of September receives either 125kg/ha of urea or 250kg/ha of sulfate of ammonia

Harvesting:

In early January the crop is mown and left for 5-6 days before being headed. The field-dressed seed is then carted in sacks to the merchant for dressing and sale.

Direct Costs (per hectare):

Seed Bed Preparation: 6½ hrs/ha at $4.58/hr	29.77
Seed: 23kg/ha Ariki ryegrass at $1.40/kg	32.20
3 kg/ha Huia white clover at $2.30/kg	8.40
Fertilizer: Lime 2.47 t/ha at $14.70/tonne (includes cartage and spreading)	36.31
250 kg/ha superphosphate at $82.00/tonne (includes cartage and spreading)	20.50
250 kg/ha sulfate of ammonia at $181.00/tonne (including cartage and spreading)	45.25
Harvesting: Mowing 1½ hrs/ha at $4.58/hr	6.87
Heading 2¼ hrs/ha at $28.94/hr	65.12
Sacks: 18 sacks at 73¢ each	13.14
Cartage 18 sacks at 54¢ each (24 km)	9.72
Consolidated Dressing & Handling Charge: 5.6¢/kg F.D. weight x 880 kg/ha	49.28
Separating white clover and ryegrass: 18 sacks at 81¢/sack	14.58
Raking ryegrass straw (own machinery): 0.3 hr/ha at $4.58/hr	1.53
Baling ryegrass straw (contract): 100 bales/ha at 45¢/bale	45.00
TOTAL DIRECT COSTS	$377.67

Gross Revenue:

Yield: 900 kg/ha F.D.; 25% loss on machine dressing Thus yield becomes 675 kg/ha M.D.	
Price: 1st Generation Ariki at 81¢/kg	
Income: 675 kg x 81¢/kg	546.75
Ryegrass straw: 100 bales/ha sold in the paddock at 70¢/bale	70.00
TOTAL REVENUE	$616.75

This example suggests a gross revenue of $617/ha with direct costs of $378/ha, giving a gross margin of $239/ha. Some recognition in terms of income should also be attributed to the grazing provided by the paddock during the winter-spring period.

With an estimated feed production of 2200 kg/ha over the grazing period, representing an annual grazing equivalent of 3.7 S.U./ha, then the gross margin contribution is: 3.7 x $18.20 = $67.34, which brings the G.M. to $306. Without the liming charge, the gross margin would be about $36/ha extra.

(viii) **2nd Year of New Grass for White Clover Seed:**

Programme:

Following the ryegrass harvest, the paddock is grazed consistently until being closed in early October. The autumn application is 250kg/ha of superphosphate. The programme is very similar to the earlier white clover crop (example (iii)), except that no weed spraying is done and there is more likelihood of a case bearer problem. The crop is dessicated with Reglone 5-6 days prior to mowing.

Direct Costs (per hectare):

Fertilizer: 250 kg/ha superphosphate at $82.00/tonne (includes cartage and spreading)	20.50
Heavy Rolling: 0.6 hr/ha at $4.58/hr	2.75
Pest Control: Nexion 40EC (Bromophos 40% a.i.) at 1.3 kg (500g a.i.)/ha for case bearer moth 2 applications at $10.48/kg	27.25
Crop Dessication: Reglone at 3 litres/ha at $9.40/litre (includes cost of wetting agent)	28.20
Spraying: 0.9 hrs/ha at $4.58/hr	4.12
Heading and Mowing: as before	80.37
Sacks: 4 sacks/ha at 73¢ each	2.92
Cartage: 4 sacks/ha at 54¢ each (24 km)	2.16
Consolidated Dressing & Store Handling charge: 16.7¢/kg F.D. weight x 340 kg/ha	56.78
TOTAL DIRECT COSTS	$225.05

Gross Revenue:

Yield: 340 kg/ha F.D. (4-5 sacks/ha); 30% loss on machine dressing Thus yield becomes 225 kg/ha M.D.	
Price: White clover at $1.60/kg	
Income: 225 kg/ha x $1.60/kg	360.00
TOTAL REVENUE	$360.00

Thus with gross revenue of $360/ha and direct costs of about $225/ha, the gross margin becomes about $135/ha.

Again the grazing contribution should be added to this figure. The estimated feed produced over the grazing period is 2700 kg/ha or an annual grazing equivalent of 4.6 S.U./ha, which means a gross margin contribution of: 4.6 x $18.20 = $83.72.

Thus the white clover gross margin now becomes about $218/ha.

(ix) Pasture (2 years grazing):

Programme:

The pasture is grazed, and hay is made in the summer. Fertilizer is applied in the autumn.

Direct Costs (per hectare):

	$
Fertilizer: 250 kg/ha superphosphate at $82.00/tonne	20.50
Haymaking: Mowing and raking at $43/ha x 0.2	8.60
Baling: 140 bales/ha at 45¢/bale x 0.2 (contract rates)	12.60
Cartage: 140 bales/ha at 38¢/bale x 0.2 (contract rates)	10.64
TOTAL DIRECT COSTS	52.34

Gross Revenue:

The estimated utilized feed during the grazing period is 8250 kg/ha D.M., which at 590 kg D.M./S.U. means a stocking rate of 14 S.U./ha. At $18.20/S.U., the gross revenue becomes 14 x $18.20.

TOTAL REVENUE	$254.80

NOTE: Regarding the haymaking charges, the cost has been assessed as that of providing the 14 S.U./ha with 2 bales of hay per S.U. for wintering, i.e. 28 bales/ha required. This represents 20% of the normal hay crop of 140 bales/ha.

Thus with gross revenue of about $255 and direct costs of about $52/ha, the gross margin for pasture is $203/ha.

(x) Summary:

The gross margin per hectare has been assessed for each crop in the rotation given one set of parameters. Certain anomalies exist, such as the liming charge in the Ariki ryegrass direct costs, which, in actual fact should be shared by each crop. Similarly, the seed and cultivation charges for the ryegrass crop should be apportioned over the pasture's life for a more accurate picture of the individual crop's contributrion. Given that such anomalies exist, a summary of gross margins for the chosen rotation is presented below:

Year	Crop	Gross Margin $/ha
1	Wheat	432
2	Wheat	397
3	White Clover (sp.)	288

4	Wheat	377
5	Oats, greenfeed	50
	Field Peas	85
6	Ariki Ryegrass	306
7	White Clover	218
8	Pasture	203
9	Pasture	203

The average annual gross margin is therefore $284/ha.

Following this procedure and by comparing various rotations, a best rotation can be established, which then enables the formulation of a better farm plan.

The above analysis can be carried a stage further to the annual budget where fixed costs are then deducted from the gross margin total for the farm.

An illustration of the effect of varying a critical parameter, in this case price paid to the farmer, is given below:

Crop or Enterprise	Price	Gross Margin $/ha
Wheat	$120/tonne	307
(4.0t/ha Kopara)	$140/tonne	380
	$160/tonne	468
Barley	$100/tonne	270
(4.5t/ha Zephyr)	$120/tonne	360
	$140/tonne	450
Field Peas	$120/tonne	31
(2.7t/ha Rondo)	$140/tonne	85
	$160/tonne	139
Vining Peas	$120/tonne	381
(3.7t/ha Greenfeast)	$140/tonne	465
	$160/tonne	549
White Clover	$1.40/kg	218
(specialist crop)	$1.60/kg	288
(350 kg/ha M.D.)	$1.80/kg	358
Ariki Ryegrass	$0.60/kg	165
(657 kg/ha M.D. from	$0.80/kg	300
1st year pasture)	$1.00/kg	435
Cocksfoot	$2.40/kg	564
(340 kg/ha M.D.	$2.90/kg	734
	$3.40/kg	904
Pasture – sheep grazing	$15/S.U.	168
(14 S.U./ha)	$20/S.U.	228
	$25/S.U.	298

Other Selected Examples of Crop Gross Margins For 1980:

(xi) **Vining Peas:**

Direct Costs (per hectare):

Cultivation: 6 hrs at $4.58/hr	27.48
Seed: 270 kg/ha at $13.00/50 kg	70.20
Fertilizer: 250 kg/ha lime reverted superphosphate at $81.30/tonne (including cartage and spreading)	20.33
Spraying: M.C.P.B. at 5.6 litres/ha at $4.25/litre	23.80
plus ⅓ hr/ha at $4.58/hr	1.53
Irrigation: 2 irrigations at $6.50/ha/irrigation	13.00
TOTAL DIRECT COSTS	$156.34

Gross Revenue:

Yield: 4.2 t/ha	
Price: $13.78/kg at average tenderometer reading of 110	
Income: 4.2t x $137.80	578.76
Plus 45 bales pea straw at $1.50/bale	67.50
TOTAL REVENUE	$646.26
GROSS MARGIN	$489.92

(xii) **Garden Peas (William Massey contract):**

Direct Costs: (per hectare):

Cultivation: 5½ hrs at $4.58/hr	25.19
Seed: 236 kg/ha at $240/tonne	56.64
Fertilizer: 250 kg/ha Mo superphosphate at $100.35 (including cartage and spreading)	25.09
Spraying: M.C.P.B. at 4.5 litres/ha at $4.25/litre	19.13
Heading: 2¼ hrs at $28.94/hr	65.12
Irrigation: 2 irrigations at $6.50/ha/irrigation	13.00
Cartage: Full boxes at $7.56/tonne (24 km) (1 full box = 1.225 tonnes)	21.02
Empty boxes at $1.84/box (24 km)	5.12
Box Hire: $4.00/box	11.12
TOTAL DIRECT COSTS	$241.43

Gross Revenue:

Yield: 3.0 t/ha
Price: $240/tonne

Income: 3.0t x $240	720.00
Plus 86 bales of pea straw at 75¢/bale	64.50
TOTAL REVENUE	$784.50
GROSS MARGIN	$543.07

(xiii) **Spring Wheat (Karamu):**

Direct Costs (per hectare):

Cultivation: 6½ hrs at $4.58/hr	29.77
Seed: 112 kg/ha Certified 1st Generation at $228.50/tonne	25.59
Fertilizer: 200 kg/ha superphosphate at $82/00/tonne (including cartage and spreading)	16.40
Irrigation: 2 irrigations at $6.50/ha/irrigation	13.00
Heading: ¾ hr/ha at $28.94/hr	21.71
Raking and Ploughing Firebreak: ¾hr/ha at $4.58/hr	3.44
Cartage: from field to silos at $2.00/tonne	8.00
from silo to rail at $6.05/tonne	24.20
Levies: 50¢/tonne	2.00
TOTAL DIRECT COSTS	$144.11

Gross Revenue:

Yield: 4.0 t/ha	
Price: $119.00/tonne plus storage increment to 1st August $11.55/tonne	
Income: 4.0t x $130.55	522.20
TOTAL REVENUE	$522.20
GROSS MARGIN	$378.09

(xiv) **Barley (Zephyr for malting):**

Direct Costs (per hectare):

Cultivation: 6½ hrs at $4.58/hr	29.79
Seed: 130 kg/ha at $220/tonne	28.60
Fertilizer: 200 kg/ha superphosphate at $82.00/tonne (including cartage and spreading)	16.40
Weed Spray: M.C.P.A. at 3 litres/ha at $4.11/litre	12.33
plus ⅓ hr/ha at $4.58/hr	1.53
Irrigation: 2 irrigations at $6.50/ha/irrigation	13.00
Heading: 1¼ hrs/ha at $28.94/hr	36.18

Cartage: 32km at $8.57/tonne (in boxes)	38.57
Firebreak: ¾ hr/ha at $4.58/hr	3.44
TOTAL DIRECT COSTS	$179.84
Gross Revenue:	
Yield: 4.5 t/ha	
Price: $110/tonne (South Island)	
Income: 4.5t x $110	495.00
TOTAL REVENUE	$495.00
GROSS MARGIN	$315.16
North Island gross margin (price $130/tonne)	$405.16

(xv) **Lucerne:**

Establishment Costs (per hectare):

Cultivation: 13 hrs/ha at $4.58	59.54
Seed: 12 kg/ha at $5.50/kg	66.00
Fertilizer: 250 kg/ha lime reverted superphosphate at $81.50/tonne (including cartage and spreading)	20.38
Lime:2.5 t/ha at $14.70/tonne on the ground	36.75
Seed Inoculation: 12 kg	7.20
TOTAL ESTABLISHMENT COSTS	$189.87

(a) Dryland – Stand life = 9 years

∴ Annual Establishment Costs =	21.10
Annual Costs:	
Fertilizer: 250 kg/ha lucerne fertilizer at $117.65/tonne (including cartage and spreading)	29.41
Heavy Roll: 0.6 hr/ha at $4.58/hr	2.74
Weed Spray: 2, 4-DB at 4 litres/ha at $3.94/litre	15.76
plus ⅓ hr/ha at $4.58/hr (Spraying)	1.53
TOTAL ANNUAL COSTS (including establishment)	$70.54
Annual Revenue:	
Yield: 6000 kg/D.M./ha/year = 11.54 S.U./ha	
Income: $18.20/S.U. x 11.54 S.U./ha	210.03
TOTAL ANNUAL REVENUE	$210.03
GROSS MARGIN	$139.49

(b) Irrigated (for Dehydration) – Stand life = 7 years

∴ Annual Establishment Costs =	27.12
Annual Costs:	
Fertilizer: 1 tonne/ha lucerne fertilizer at $117.65/tonne (including cartage and spreading)	117.65
Irrigation: 3 irrigations at $6.50/ha/irrigation	19.50
TOTAL ANNUAL COSTS (including establishment)	$164.27
Annual Revenue:	
Yield: 13000 kg/ha (4 cuts) Price: $43.00/tonne dehydration contract Income: 13t x $43/t	559.00
TOTAL ANNUAL REVENUE	$559.00
GROSS MARGIN	$394.73

(xvi) **Cocksfoot Seed:**

Direct Costs (per hectare):

Average Renewal/hectare	20.00
Fertilizer: 375 kg/ha sulfate of ammonia at $181.00/tonne (including cartage and spreading)	67.88
Windrowing: $31.50/ha (contract)	31.50
Heading: 1¼ hrs/ha at $28.94/hr	36.18
Sacks: 17 sacks/ha at 73¢ each	12.41
Cartage: 17 sacks at 54¢ each	9.18
Consolidated Dressing & Handling Charge 450 kg F.D. at 16.7¢/kg	75.15
TOTAL DIRECT COSTS	$252.30
Gross Revenue:	
Yield: 450 kg/ha F.D.; 25% dressing loss; 340 kg/ha M.D. Price: $2.90/kg M.D. Income: 340 kg x $2.90/kg	986.00
TOTAL REVENUE	$986.00
GROSS MARGIN	$733.70

(xvii) Potatoes (Ilam Hardy)

Direct Costs:

Cultivation: 10 hrs/ha at $4.58/hr	45.80
Seed: 3.7 t/ha at $115/tonne	425.50
Cutting and Dipping: 22 bags at 20¢/bag	4.40
Planting: 2 hrs/ha at $25/hr (contract – 2 men + machine)	50.00
Fertilizer: 625 kg/ha potato fertilizer at $114.65/tonne (including cartage and spreading)	71.66
Spraying: Gesagard (Prometryn) for weed control at $15.06/litre	15.06
Disyston Ten G (Disulfoton) for weed control at 15 kg/ha at $2.40/kg	36.00
Reglone at 3 litres/ha at $9.40/litre	28.20
plus 1 hr/ha (3 sprayings) at $4.58/hr	4.58
Roguing: $28.00/ha (contract)	28.00
Digging and Picking: 30.13t at $17.75/t	534.80
Grading: 370 sacks/ha at $2.09/sack	773.30
Sacks: 370 sacks/ha at 73¢ each	270.00
Cartage: 370 sacks to rail at 54¢ each (24 km)	199.80
TOTAL DIRECT COSTS	$2487.00

Gross Revenue:

	$/tonne	$/ha
5.02 t/ha Table potatoes	95	476.90
10.04 t/ha Seed potatoes (112-170g)	105	1054.20
13.81 t/ha Seed potatoes (28-112g)	115	1588.15
1.29 t/ha Waste	-	-
30.13 t/ha TOTAL		

TOTAL REVENUE	$3119.25
GROSS MARGIN	$632.25

(xviii) **Lupins:**

Direct Costs:

Cultivation: 4 hrs at $4.58/hr	18.32
Seed: 100 kg/ha (Uniharvest) at $210/tonne	21.00
Fertilizer: 125 kg/ha reverted superphosphate at $81.50/tonne (includes cartage and spreading)	10.19
Weed Control: M.C.P.B. at 5.6 litres/ha at $4.25/litre	23.80
plus ⅓ hr/ha spraying at $4.58/hr	1.53
Pest Control: Metasystox 25 EC (Demeton-S-methyl 25% a.i.) 2 litres/ha at $8.58/litre	17.16
plus ⅓ hr/ha spraying at $4.58/hr	1.53
Irrigation: 2 irrigations at $6.50/ha/irrigation	13.00
Heading: 2½ hrs/ha at $28.94/hr	72.35
Box Hire: 2.04 boxes (1.225 tonnes/box) at $4.00/box	8.16
Cartage: Full boxes at $7.56 (24 km)	15.42
Empty boxes at $1.84 (24 km)	3.75
TOTAL DIRECT COSTS	$206.21

Gross Revenue:

2.5 tonnes/ha at $210/tonne	525.00
TOTAL REVENUE	$525.00

With gross revenue of approximately $525 and direct costs of approximately $206 the gross margin of this crop is about $319/ha.

5.2.3 Sheep Gross Margins

(Prepared by J.S. Clark, December 1979)

Introduction

The following two examples show relativity between the same breed of sheep (Corriedale) but under different management policies. It must be stressed that the prices and costs used are those ruling as at 10 December 1979.

The gross margins should therefore be adjusted as policies, and prices and cost parameters, change.

Example 1.

This example gross margin is for a Corriedale 2 year flock system, buying 2 year ewes annually, which are all mated to an export sire.

Production Parameters:-

110% lambing; 105% sold; 5% retained for home consumption; 10% of first year ewes culled; death rate 6%; ewes clip 4.5 kg of wool; lambs are not shorn.

Gross Revenue (per ewe):-	$ ¢
Lamb sales – 1.05 lambs at $14.90 (Lamb price 13 kg at 86.0 ¢/kg = $11.18 Skin payment + 0.75 kg woolpull at $3.72)	15.65
Cull ewe sales – 0.462 ewes at $15.80 (Cull ewe 25kg at 44.5 ¢/kg = $11.13 Skin payment + 0.5 kg woolpull $4.67	7.30
Wool Sale – 4.2 kg at $2.50 nett (Wool yield 0.98 sheep at 4.25 kg allowing for deaths and culling. Wool price is gross less 20¢/kg)	10.50
GROSS REVENUE	$33.45

Direct Costs (per ewe):-	$ ¢
Replacement purchase – 0.54 ewes at $23.00	12.42
Shearing (shearers only) – 0.96 sheep at $40/100	.38
Tup crutch – 0.46 sheep at $15.00/100	.07
Main crutch – 0.99 sheep at $20.00/100	.20
Drenching – ewes are drenched once before tupping and again before lambing i.e. 2 drenches at 10¢/dose for 0.99 sheep	.19
– lambs: 50% drenched once, 30% drenched twice, lamb drench 4.2¢/dose	.05
Vaccination – triple vaccine, 0.98 at 7.7¢/sheep	.07
Eartags, footrot and docking	.30
Dipping – purchased ewes are dipped, 0.46 sheep at 16¢/sheep	.07
Ram costs – 2 per 100, 4 year life, 0.005 at $60/ram	.30
Woolshed expenses – including woolpacks, twine, glue, emery paper and shearing plant expenses approximate cost = 15¢/head	.15

Cartage – cull ewe to works, 0.46 at 44 cents	.20
– replacement ewe from N. Canterbury, 0.54 at 77 cents	.42
– lambs to works, 1.05 at 38 cents	.40
– wool, 4.2kg at 1.5¢/kg	.06

(Note: All cartage based on 32km travel, except for replacement ewes, 80km)

TOTAL DIRECT COSTS	$15.28
GROSS MARGIN PER EWE	$18.17

Summary:

With a revenue per ewe of approximately $33.50 and expenses of about $15.30 per ewe, the gross margin per ewe in an export lamb, 2 year flock system is in the vicinity of $18.20. The direct costs per ewe (excluding replacement cost) are approximately $2.90.

The above gross margin of $18.20 can also be regarded as the gross margin per stock unit.

Example 2.

This example gross margin is for a Corriedale flock, selling genuine 5 year old ewes and breeding its own replacements. Ewes are on hand for 4 lambings. All ewes are mated with a Corriedale ram. Hoggets are culled as two tooths (15%). Lambs are not shorn, hoggets are. 80% of the wether lambs are sold prime for export, the remaining 20% being sold as stores.

Production Parameters:-

93% lambing; 5% culling; death rate 4%; ewes clip 4kg of wool, as do the hoggets.

Gross Revenue (per ewe):-

	$ ¢
Lamb sales – 0.37 lambs at $14.03	5.19
(Lamb prices 13kg at 86.0¢/kg = $11.18 Skin payment + 0.2kg woolpull at $2.85)	
– 0.09 lambs at $11.00	.99
Cull ewe sales – 2 tooths, 0.15 at $30.00	4.50
– 5 year olds in yards, 0.16 at $23.00	3.68
– cull ewes to works, 0.05 at $15.80	.79
Cull ewe 25kg at 44¢/kg = $11.13 Skin payment + 0.5kg woolpull at $4.67	

Wool sale – 3.9kg at $2.50/kg nett	9.75
(Wool yield 0.98 sheep at 4.0kg allowing for deaths and culling. Wool price is gross less 20¢/kg.)	
– 1.8kg at $2.60/kg	4.68
(0.45 ewe hoggets at 4.0kg)	
GROSS REVENUE	$29.58

Direct Costs (per ewe):-	**$ ¢**
Shearing (Shearers only) – 0.96 ewes at $40/100	.38
– 0.45 ewe hoggets at $40/100	.18
Tup crutch – 0.99 ewes at $15.00/100	.15
Main crutch – 0.99 ewes at $20.00/100	.20
Drenching – ewes are drenched once before tupping and again before lambing i.e. 2 drenches at 10¢/dose for 0.99 sheep	.19
– lambs are drenched 3 times i.e. 3 drenches at 4.3¢/dose x 0.66	.08
Vaccination – triple vaccine, 0.98 at 7.7¢/sheep	.07
– triple vaccine, 0.46 at 7.7¢/lamb	.04
Eartags, footrot and docking	.30
Dipping – 0.46 hoggets at 16/head	.07
– 0.66 lambs at 16¢/head	.11
– 0.99 ewes at 16¢/head	.16
Ram costs – 2 per 100, 4 year life, 0.005 at $80/ram	.40
Woolshed expenses – including woolpacks, twine, glue, emery paper, and shearing plant expenses approx. 15¢/ewe + 8¢/hogget	.23
Cartage – 2 tooths and 5 year olds to yards 0.31 at 86 cents	.27
– cull ewes to works, 0.05 at 86 cents	.04
– fat lambs to works, 0.36 at 70 cents	.25
– store lambs to works, 0.08 at 63 cents	.05
– wool, 5.7kg at 3.5¢/kg	.20
(Note: All cartage rates are based on 97km travel, the distance from North Canterbury to Christchurch).	
Selling Charges – Yard fees, 26¢/sheep x 0.31	.08
– Commission, 4.74% of $6.55	.31
TOTAL DIRECT COSTS	$3.76
GROSS MARGIN PER EWE	$25.82

This gross margin is for a ewe replacement and thus to compare it on a gross margin per stock unit basis, we must divide $25.82

by the 1.3 S.U. i.e. 1 ewe = 1 S.U.; (0.45 – 0.15)hoggets = 0.3 S.U.) which results in a Gross Margin per S.U. of $19.86.

Summary:-
The gross margin per stock unit for a breeding own replacement flock is $1.69 greater than that of an export lamb policy. Last season, the breeding policy was 81 cents less per stock unit than the export lands policy.

The factors which will have the greatest effect on the above gross margins are:

(i) Lambing percentage
(ii) Wool clip per head
(iii) Lamb sale price
(iv) Cull ewe prices
(v) Wool prices

The breeding own replacement policy shows wider fluctuations in the gross margins than the export lamb policy. The export lamb producer is able to work on a margin for purchase and sale of ewes whereas the store sheep farmer has no such margin available.

Once again, it must be stressed that these gross margins are examples only. As the price and cost parameters change throughout the season, the G.M.'s must be revised.

5.2.4 Beef Cattle Gross Margins

(Prepared by A. McIvor, December 1979)

(i) **Introduction:-**

The livestock market in New Zealand is divided into three main sections. These are:

(a) Store sales between farmers of breeding and fattening stock,

(b) Schedule sales of stock to freezing companies for export to world markers, and;

(c) Local trade sales of prime quality stock to butchers for sale to New Zealand consumers.

Each of these main markets, though operating on different supply and demand schedules, is related to the other and tends, even if for only short periods, to be influenced by demand from the other sections of the market.

(ii) **Factors Influencing Store Sales:**

Though sale values fluctuate from sale to sale and between districts for the same class of stock, in general values tend to follow broad trends over periods of 2 – 3 years. Factors influencing prices paid are:

(a) General profitability of finishing or breeding from the class of stock concerned at the current schedule or local trade price levels. In cases of forward stock, schedule values can virtually under-write the sale, setting minimum price levels.

(b) Trend of schedule or local trade prices and the effect of probable changes on forecasting profit margins.

(c) Availability of feed, and effect of climate conditions on feed. Generally New Zealand does not experience prolonged periods of drought or feed shortage, and depression of stock prices tends to be transitory frequently affecting sale values for only a part of the season.

(d) Availability of finance and credit.

(e) The level of confidence for say beef, sheep or dairying by the farming community and the people who service agriculture.

(iii) **Factors Influencing Schedule Values:**

Schedule prices are assessed by exporters who sell to world wholesale markets. These companies follow world market prices, particularly U.K., U.S.A., Japan and the Pacific Basin area, and assess the level at which they can set their prices to attract prime stock from farmers, meet all costs and attain a profit. Factors which influence price levels are:

(a) World Market conditions – supply and demand and price trends.

(b) Tariffs and quotas.

(c) Shipping and killing charges.

(d) Time and place of sale.

(e) Industrial unrest and effect of stoppages.

(f) To a limited extent competition between local trade and exporters for prime stock may for short periods inflate schedule values. In general during the winter and early spring little or no prime cattle are sold for export.

(g) The Guaranteed Price Scheme's price for beef and cow beef.

At times, local trade may purchase prime sheep and cattle through the yards at below schedule value due to the inability of exporters to process certain classes of stock because of industrial unrest or limited works capacity.

(iv) **Factors Influencing Local Trade Values:**

Approximately 30% of all beef slaughtered is consumed in New Zealand. In the South Island, because of the lower cattle population relative to people, about 50% of all cattle slaughtered are used for local trade. It is suggested, however, that up to 60% of all prime beef is consumed within N.Z. Most of this stock is bought by buyers for butchers either on the farm or in the prime pens at sale yards. i.e. about 50% of the Christchurch beef requirement is bought through Addington with the remainder bought privately on farms or supplied to the Freezing Company.

In some instances, exporting companies buy stock for wholesale to butchers. In periods of shortage of prime cattle, practically all prime quality beef is bought for local consumption at values above export schedule. Thus the supply demand schedule for local trade works independent to the export schedule. Practically all prime stock in winter and early spring are bought for the local trade with peak prices usually in October. Once feed supplies ease and most farmers are able to produce prime stock, the supply exceeds local trade requirements and price levels fall to export schedule values.

The influence of local trade buying is greatly affected by seasonal conditions. In general, local trade begins to have an effect on prime stock prices in May, but in periods of shortage may begin in March or conversely as late as July. October appears to be the peak month with demand influence falling rapidly in November and December. Local trade values usually range from 5 cents/kilogram of carcase above schedule for winter months to 5-10 cents/kilogram above schedule in October. Usually stock are bought by eye assessment of weight and it is an advantage to know actual live weight when selling in the paddock. A further point to note is that abattoir weights are taken when the carcase is hot, and includes the channel fats which can increase the killing out percentage by 2% over export weight.

The prices for beef in the 1979 season have increased dramatically; the December 1979 price for P1 steer beef, 141.5 cents per kilogram, almost 49% higher than that of December 1978, 95.0 cents per kilogram.

(v) Forecasting of Future Beef Cattle Values for Budgetary Purposes:

Forecasting the future outcme of events still to occur must be undertaken with reservation. However, for those who trade goods or livestock, the future course of prices is of paramount interest. For budgetary purposes, conservative prices with high probability of realisation are usually adopted. The purpose of the following illustraions is to endeavour to assist in a greater understanding to the influence of changing export schedule values upon cattle prices at various stages of livestock production.

Table 1

SCHEDULE MOVEMENTS IN THE SOUTH ISLAND

Steer P1 220.5 – 270kg (220.5 – 245kg in 1979)

(cents/kilogram)

	1972	1973	1974	1975	1976	1977	1978	1979
January	50	71	74	29	55	62	57	105
February	50	73	72	29	55	67	59.5	111.5
March	52	80	65	29	55	63	60.5	131.5
April	53	73	54	39	55	59	69.5	144.5
May	53	71	51	39	55	59	69.5	134.5
June	56	69	41	–	55	57.5	74.5	127.5
July	–	–	45	–	55	57.5	79.5	106.5
August	56	–	45	–	55	57.5	79.5	111.5
September	56	–	39	–	55	57.5	84.5	121.5
October	56	–	38	55	55	57	87.5	126.5
November	63	76	35	55	55	57	87.5	136.5
December	63	78	31	55	56	57	95.0	141.5

NOTE:

1972 & 1973 figures are for GAQ; 1974 & 1975 figures are for Chiller Grade.

Figure 1 illustrates the growth in value of a weaner to slaughter at 20 months at export values ranging from $22 to $100 per 100kg of carcase. The killing out percentage is assumed at 50% until yearling, increasing to 53% at 20 months. The figure not only shows the growth in the basic value of the 200kg weaner with increased schedule prices, but also the marked increase in the value of the additional weight grown between weaner and 20 months (127 kg carcase weight).

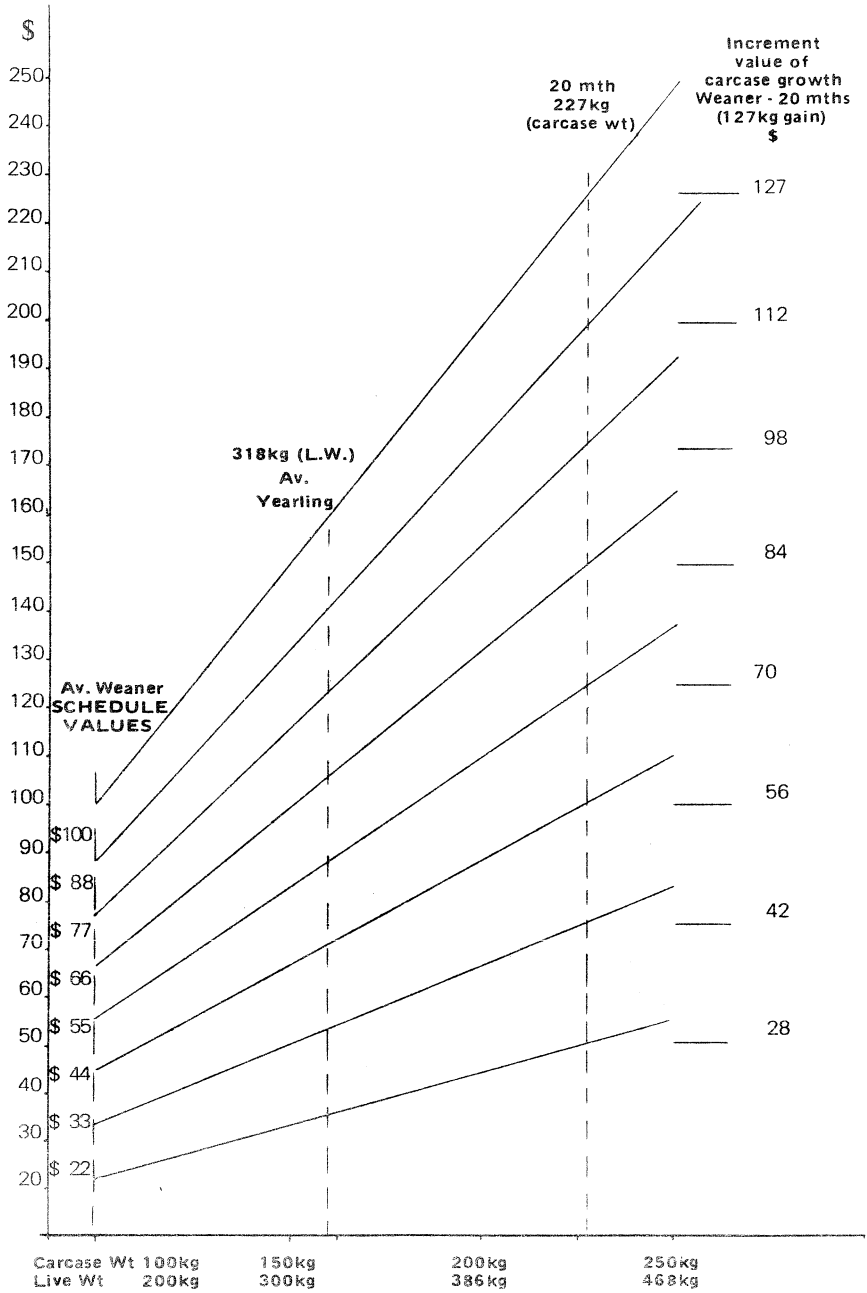


Fig. 1 VALUE OF CATTLE CARCASE WEIGHT AT DIFFERENT STAGES OF GROWTH AT SCHEDULE VALUES.
$20 – $100 per 100kg (for steers)

Historically, purchases of store weaners and yearlings for fattening on grass have paid a premium over export schedule values. This premium has fluctuated from year to year and is influenced by both the schedule value and the demand for stock due to availability of feed. The division of the value of the growth increment is shown in Fig. 2.

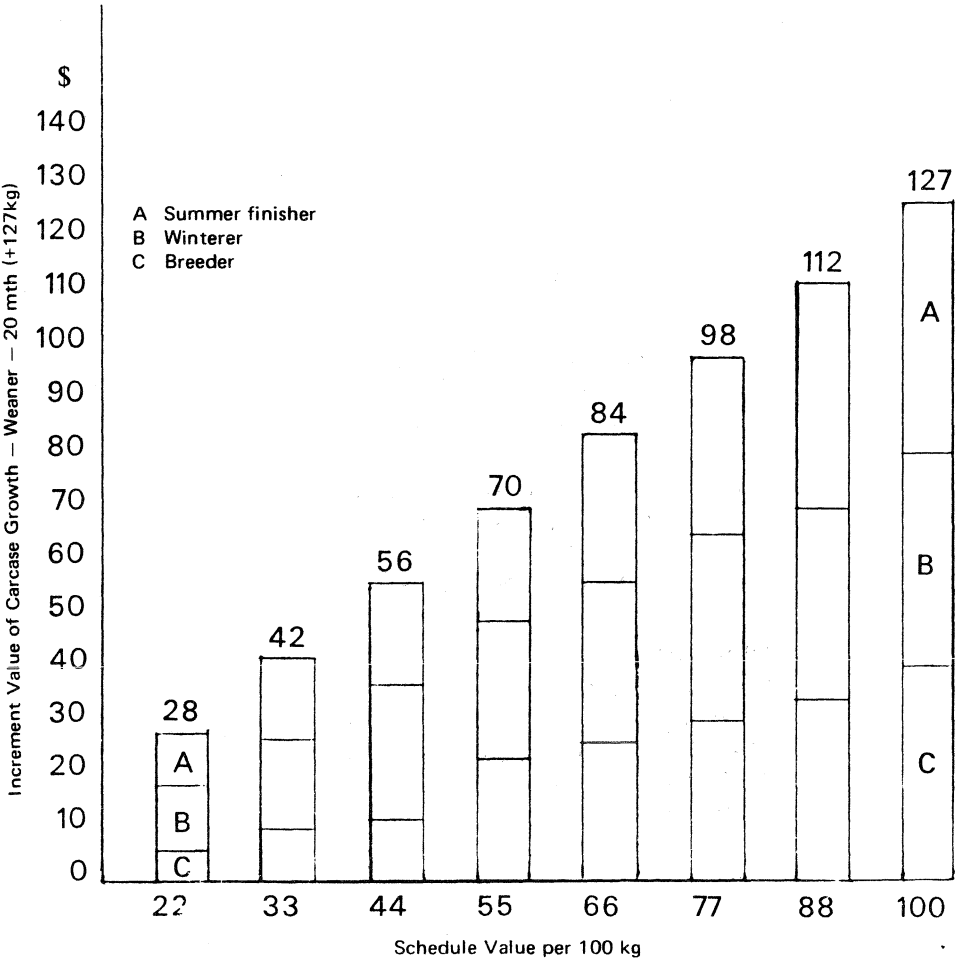


Fig 2 VALUE OF GROWTH AT SCHEDULE

An illustration of the general trend of how the value of growth from weaner to slaughter has been shared between breeder, winterer and summer finisher of steers. Values for $77 to $100 schedule projected estimates.

The questions which a forecaster will ask himself are:

1. What is the likely schedule value for the season, and what does the average buyer expect it to be?
2. How much profit did cattle finishers make last year, and what will they expect this coming year?

A useful indication can be obtained by following sales and calculating the value per kg of carcase actually paid by purchasers.

To assess likely prices for store cattle, one needs to consider both the effect of schedule prices and the likelihood of the sharing of the growth increment. For 1980 the position is likely to be as follows:

(a)	Value of weaner (100kg carcase @ $1.37	$137.00
	Growth Increment share Nil – $30.00	$30.00
	Price for Av. Weaner steer (200kg L. W.) 83.5¢/kg L.W. (167¢/kg carcase)	$167.00
(b)	Value of yearling (160 kg carcase @ $1.37)	$219.00
	Growth Increment share Nil – $30.00	$30.00
	Price for Av. yearling steer (320 kg L.W.) 77.8¢/kg L.W. (155¢/kg carcase)	$249.00
(c)	Value of 20 month steer (227kg carcase @ $1.37)	$310.00
	Value of 20 month steer (219kg carcase @ $1.34)	$293.00

Summary:		**Margin**
Price to store breeder	$167	
Price as yearling	$249	$82 for winter
Price as 20 month prime	$310	$61 for summer
Price as 20 month prime (under 220kg carcase)		$44 for summer

Due to the increased schedule above 220.5kg it is essential that the summer cattle farmer achieves maximum growth rates. This will ensure the carcase falls in the higher schedule payment range.

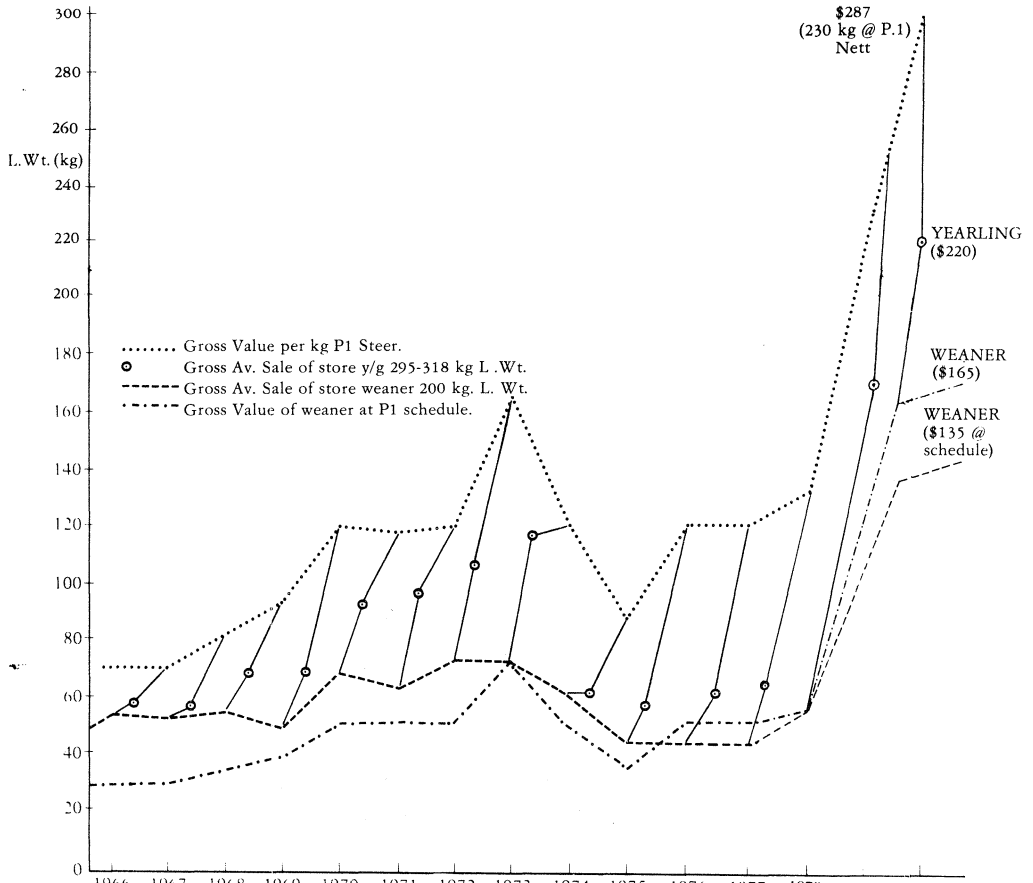


Fig 3. THE GENERALIZED HISTORICAL TREND OF GROWTH INCOME FOR AVERAGE WEANER STEERS TO SUBSEQUENT SLAUGHTER ON SCHEDULE P1 GRADE AT 20 MONTHS AS SHARED BETWEEN BREEDERS, WINTERERS AND SUMMER FATTENERS

STORE CATTLE VALUES AT ADDINGTON SALEYARDS

Table 2 Weaner Steers (April)

Year	Good $/head	Medium $/head	Small $/head	Av. Price Per Carcase kg	Differential to P1 Schedule
1965	57	–	26	37¢	+ $ 8 (31.90) GAQ Grade
1966	61	–	49	44¢	+ $11 (31.30)
1967	58	–	48	41¢	+ $12 (31.90)
1968	64	–	50	67¢	+ $10 (37.40)
1969	58	–	44	41¢	+ $ 6 (41.80)
1970	80	70	50	67¢	+ $16 (54.30)
1971	75	65	54	61¢	+ $ 9 (54.00)
1972	90	75	60	75¢	+ $22 (53.00)
1973	90	75	60	79¢	+ $ 0 (74.80)
1974	75	63	40	60¢	+ $ 9 (54.00) Chiller Grade
1975	55	45	30	43¢	+ $ 6 (39.00) Chiller Grade
1976	55	45	30	43¢	– $12 (55.00) P1
1977	55	40	25	40¢	– $17.50 (57.50)
1978	65	55	30	50¢	– $12.50 (67.50)
1979	190	160	120	160¢	+ $50 (110.00)

NOTE: Figures shown in brackets are differential values in cents/kg.
The Differential is based on 200kg L.W. with carcase at 50%.
The 1978 differential shows the effect of the serious autumn drought in Canterbury.

Table 3 Weaner Heifers (April)

Year	Good $/head	Medium $/head	Small $/head	Av. Price per Carcase kg	Differential to P1 Schedule
1965	37	–	28	31¢	Nil GAQ grade
1966	55	–	39	46¢	+ $15
1967	43	–	35	37¢	+ $ 5
1968	57	–	46	42¢	+ $ 4
1969	45	–	33	36¢	– $ 6
1970	65	55	35	53¢	Nil
1971	67	57	42	57¢	+ $ 4
1972	80	70	50	68¢	+ $18
1973	75	60	45	66¢	+ $ 6
1974	60	50	35	53¢	– $ 2 Chiller Grade
1975	40	30	15	31¢	– $ 8 Chiller Grade
1976	40	30	15	31¢	– $14 P1 Grade
1977	40	25	15	31¢	– $14
1978	50	30	15	31¢	– $22
1979	165	140	104	147¢	+ $42

NOTE: The differential is based on 190kg L.W. with carcase at 50%.

Table 4 Yearling Steers (October)

Year	Good $/head	Medium $/head	Small $/head	Av. Price per Carcase kg	Differential to P1 Schedule
1965	70	–	54	42¢	+ $14 (32.00) GAQ grade
1966	68	–	48	37¢	+ $ 9 (31.00)
1967	65	–	50	37¢	+ $17 (28.00)
1968	90	70	65	50¢	+ $15 (40.00)
1969	82	–	60	48¢	Nil (48.00)
1970	120	95	80	64¢	+ $22 (49.00)
1971	120	100	85	68¢	+ $23 (53.00)
1972	125	110	95	70¢	+ $23 (56.00)
1973	140	120	100	82¢	+ $ 9 (76.00)
1974	85	67	45	43¢	+ $ 6 (38.00) Chiller Grade
1975	75	60	40	39¢	− $15 (55.00) Chiller Grade
1976	80	60	40	39¢	− $15 (55.00) P1 grade
1977	85	65	45	42¢	− $23 (57.00)
1978	170	145	120	93¢	+ $10 (87.50)
1979	250	220	180	142¢	+ $34 (120.00)

Note: The differential is based on 310kg L.W. with carcase at 50%.
Figures shown in brackets are differential values in cents/kilogram.

Table 5 Yearling Heifers (October)

Year	Good $/head	Medium $/head	Small $/head	Av. Price per Carcase kg	Differential to P1 Schedule
1965	48	–	40	35¢	+ $ 4
1966	64	–	49	44¢	+ $15
1967	55	–	47	40¢	+ $18
1968	64	–	52	44¢	+ $ 5
1969	66	–	53	46¢	− $ 2
1970	110	100	75	75¢	+ $35
1971	111	100	77	75¢	+ $30
1972	110	95	70	70¢	+ $24
1973	110	90	60	69¢	+ $ 6
1974	55	45	35	35¢	+ $ 2
1975	55	40	30	31¢	− $31
1976	70	50	40	38¢	− $12
1977	70	50	40	38¢	− $22
1978	140	110	70	84¢	+ $ 4
1979	220	180	160	116¢	+ $ 6

Note: The differential is based on 260 kg L.W. with carcase at 50%.

Table 6 Range of Values for Heifers & Cows

	Unmated Heifers		Cows	
	1½ Yr April $	2 Yr Oct. $	April $	Oct. $
1965	40– 60	73– 79	46– 62	– 61
1966	52– 62	72– 93	70– 79	– 61
1967	60– 70	69– 74	60– 77	75– 80
1968	67– 74	70–106	78– 92	– 82
1969	54– 62	84–110	58– 70	– 71
1970	80– 85	85–110	84–117	–110
1971	80– 90	110–150	85–130	100–130
1972	80– 90	90–145	90–140	116–120
1973	100–140	120–165	110–180	120–150
1974	65–120	60–110	65–140	50– 90
1975	55– 65	45– 70	25– 60	40– 60
1976	60– 65	70–110	50– 80	70–110
1977	50– 65	70–100	40– 60	70–100
1978	80–100	150–200	80–100	180–220
1979	180–100	190–270	250–290	240–310

Table 7

Estimated Average Gross Profit in rearing steers, purchased at weaner and yearling for fattening with sale at P1 export schedule during the subsequent autumn carcase weight 230 kilograms.

Year	Av. Weaner Purchase	Av. Yearling Purchase	20 mth at P1	Gross Profit from Weaner	Gross Profit from Yearling
	$	$	$	$	$
1965	40	62	70	30	8
1966	55	58	72	17	14
1967	54	58	85	31	27
1967	57	70	95	38	25
1969	51	71	124	73	53
1970	70	95	120	50	25
1971	65	100	122	57	22
1972	75	110	168	93	58
1973	75	120	124	49	4
1974	63	65	90	27	25
1975	45	60	126	81	66
1976	45	60	126	81	66
1977	40	65	130	90	65
1978	55	145	230	175	85
1979	160	220	287	127	67

NOTE: (a) Though valuation and estimates of sales are given in discreet figures, it should be appreciated that a range of prices will be paid for equivalent beasts, within any sale and that gross profit will vary accordingly.

(b) 1965 - 1973 values are based on the GAQ grade
1974 & 1975 values are based on the Chiller grade
After 1976 values are based on the P1 grade and are taken at the subsequent autumn to weaner & yearling sales.

(c) Due to variable weather affecting food supply, cattle values have fluctuated markedly between the autumn and spring, particularly during the 1978 season.

(d) Value of 20 month @ P.1 assumes a nett value after the skin has been removed.

(vi) **Beef Gross Margins:**

The following examples are put forward to illustrate a technique of deriving a gross margin for two beef enterprises and will not necessarily reflect the margin derived by these policies in all situations, or as prices and costs change.

Further, costs for interest and supplementary feeds will not be included but will be discussed separately. To compare beef cattle with sheep or crop margins, it is essential to ensure that all direct costs, applicable to the situation are included, and further, that the comparison is made according to the most limiting resource which may be either capital or land. For this reason, the examples will express the margin in terms of return to Capital invested in stock, per hectare and per stock unit. It is convenient to compare sheep policies with cattle by means of the Stock Unit technique but care should be taken to ensure that the feed supply is adequate for both classes of stock due to the different requirements of cattle to sheep throughout the year.

Example 1.

This policy involves breeding from cows and 14 month heifers. All weaners, except replacements, are sold as store cattle in April.

Production Parameters:-

Calving, 95% in cows, 80% in heifers; 2% death rate.

Capital Stock:-

	No.		Total	S.U.	Total
Cows	128	at $250 =	$32 000	6	768
In-calf heifers	24	at $250 =	$ 6 000	5	120
Weaner heifers	25	at $140 =	$ 3 500	3.5	88
Bulls	4	at $700 =	$ 2 800	6	24
	181		$44 300		1 000 S.U.

Value per stock Unit $44.30

Income:-

70 weaner steers	at $165 =	$11 500
46 weaner heifers	at $140 =	$ 6 440
5 2-year heifers	at $220 =	$ 1 100
16 cull cows	at $250 =	$ 4 000
1 bull	at $400 =	$ 400
TOTAL INCOME		$23 490

Expenditure:-

Animal Health –			
Drench 25 weaners at 50¢/dose	$ 13		
Spray 181 cattle at 50 cents	$ 90		
Pregnancy test 128 cows at $1.	$128	$231	
Commision on Sale Stock –			
4.25% of $19 090		$811	
Freight – sale stock		$800	
Yard fees – 121 cattle at $1.00 per head		$121	
Bull purchase – landed at $500		$500	
TOTAL DIRECT COSTS			$3 463
GROSS MARGIN (before feed costs & interest)			$20 027
Gross Margin per Stock Unit			$20.02
Gross Margin per hectare (at 8 S.U./ha)			$202.00
Gross Margin as % of Capital Stock			45.2%

Example 2.

This policy involves the purchase of medium weaner steers in April, which are then sold at 20 months of age at an average carcase weight of 230kilograms. Death rate = 2%.

Capital Stock:-

		S.U.	Total
Weaner steers	250 at $165 = $41 250	4	1 000 S.U.

Value per Stock Unit = $41.25

Income:-

245 steers at $285 (230 kg at $1.25/kg) = $69 825

TOTAL INCOME $69 825

Expenditure:-

Animal health –		
Drench 250 steers at 50¢/dose	= $ 125	
Spray 250 cattle at 30¢	= $ 150	
Bloat control	= $ 100	
Freight – sale stock at $6/head	= $1 470	
Stock Purchase – 250 weaners at $165 landed	= $41 250	
TOTAL DIRECT COSTS		$43 095

GROSS MARGIN (before feed costs & interest)	$26 730
Gross Margin per Stock Unit	$ 26.73
Gross Margin per hectare (at 10 S.U./ha)	$267.00
Gross Margin as % of Capital Stock	64.80%

(vii) **Partial Budgeting for Beef:**

Interest and Feed Costs.

For comparison with gross margin analysis of sheep or crop alternatives in the same property, and when interest has been excluded from these analyses, it is necessary to exclude interest from beef analysis also in order to retain relativity.

However, due to the high capital requirements and the fact that in most instances borrowed capital is involved necessitating loan servicing (15% compounded if on current account with the stock firm) a partial budget approach is normally adopted, and includes estimates of interest and feed costs in order to provide a more accurate indication of actual returns.

Feed costs can be ignored where there is no change in the supplementary feed required to implement a cattle policy in place of a sheep alternative. Where there is a change however, all additional supplementary feed costs, should be included. There is a trend towards greater supplementing of beef cattle with hay, grain and green feeds and co-operative ventures involving grazing contracts. It should be noted that the opportunity to improve supplementary feed beef profitability increases with the increase in price per kilogram of carcase. Of the variable costs related to beef enterprises, the most variable excluding the purchase price of replacement stock, and frequently the most critical cost is feed cost. Following are partial budget examples of Examples 1 and 2 including interest at 15% and feed costs. However, as interest rates increase the effect on profitability is interesting to note.

Example 1

Gross margin before interest & feed cost			$20 027
Less: Interest on capital in stock at 15% on $44 300 for 1 year		$6 645	
Feed Costs			
152 cows and heifer, hay 1 bale to 5 for 120 days – 1600 bales			
25 weaner heifers, hay 1 bale to 7 for 120 days – 370 bales			
Total hay including bulk reg. say 2000 bales at 50¢	=	$1 200	$7 845
Gross margin after interest & feed			$12 182
Return per S.U.		$12.18	
per hectare		$128.00	
As % of Capital in stock		27.5%	

Winter Feeding Costs.

North Island:

Grass wintering – 5 weaners per hectare of A.S.P. + 1 bale hay to 10 weaners per day for 60 days = 6 bales per head.

Kale – 15 - 18 weaners per hectare plus some hay – up to 1 bale to 10 weaners per day.

Cows – pad feeding beef cows 1 bale to 4 cows meadow hay per day as a complete ration.

Grazing charges vary from season to season depending on availability of surplus roughage.

Surplus years – 50 cents per head per week.

Good grazing – $1.00 per head per week.

Winters following drought – $1.00 to $2.00 depending on quality and availability.

South Island:

Hay and grain feeding for 100 days.

Weaner steers – full hay ration, 5 kg, (1 bale to 7 weaners)
– hay, 4 kg, (1 bale to 9 weaners) plus 2kg grain
– Turnips (18 beasts per hectare), hay, 3.5kg, (1 bale to 10 weaners) and 2kg grain

Winter Growth Rates.

Great variability has been experienced in winter growth rate from year to year. Apart from parasitic effects, factors such as pre-weaning competition with cows for available

grass can check calf growth which appears to create a period of slow recovery. The farmer's intuition of paddock shifts and timing and some paddocks of soft grass can slow or check growth. Cold, late springs will continue the winter slow growth period into September and delay the rapid spring growth phase.

In order to assess the various costs of wintering, the following rates of growth have been selected as being the most likely expectation.

North Island:

All grass or grass plus hay	0.2 – 0.4 kg per day
Kale	0.2 – 0.25kg per day

South Island:

5 kg medium meadow hay plus some grass	0.2 – 0.25kg per day
4 kg medium meadow hay plus 2 kg grain	0.4 – 0.7 kg per day
Ad lib turnips plus 2 kg hay, 1.5kg grain	0.4 – 0.7 kg per day

To assess feed requirements and likely growth rates derived from food stuffs refer to "Livestock Production From Pasture", Section 7 in Lincoln College Farm Budget Manual – Part 1 Technical.

Example 2

Gross margin before interest and feed cost			$26 730
Less: Interest on capital 15% of $41 250		$6 187	
Interest on capital in grain silos, roller and feed lot $2,000 at 12%		$ 240	
Feed Costs			
250 weaner and 1 bale hay to 8 for 120 days = 3 760 bales at 60 cents		$2 256	
Grain at 2 kg each per day for 100 days = 50 tonnes at $110		$5 500	$13 943
Gross Margin after interest and feed			$12 787
Return per S.U.	$12.78		
per hectare	$127.00		
as % of capital in stock	31%		

Examples of Feed Costing per day for weaners:

Assessed cost of feed –	
Hay 1 bale at 30kg at 60 cents =	2.0¢/kg
Grain – barley	11.0¢/kg
turnips at	1¢/day

Ration	Cost/ Day	Growth/ Day	Carcase/ Day	Income/Day at 44¢	55¢	66¢	77¢	$1.00	$1.50
5 kg of hay	10.0¢	.25kg	.12kg	5¢	7¢	8¢	10¢	12¢	18¢
4 kg hay, 2 kg grain	30.0¢	.06kg	.13kg	13¢	16¢	20¢	23¢	30¢	45¢
4 kg hay, 1½ kg grain + turnips	22.7¢	.06kg	.13kg	13¢	16¢	20¢	23¢	30¢	45¢

Example of assessing actual value of carcase growth in purchased cattle to time of sale.

	Weaner	Yearling	20 mth	Growth Increment (kg) Weaner	Yearling
Live wgt in kilograms	210	310	400	190	90
Carcase wgt in kilograms	105	155	230	125	75

	Value of animal on sale Weaner	Yearling	20 mth	Net Increment value per kg Weaner	Yearling
1970/71	$ 70	$ 95	$120	40¢	33¢
1971/71	$ 65	$100	$130	52¢	40¢
1972/73	$ 75	$110	$174	79¢	85¢
1973/74	$ 75	$120	$130	44¢	13¢
1974/75	$ 63	$ 70	$ 90	20¢	27¢
1975/76	$ 45	$ 60	$126	65¢	88¢
1976/77	$ 45	$ 60	$126	65¢	88¢
1977/78	$ 40	$ 65	$131	73¢	88¢
1978/79	$110	$170	$230	96¢	80¢
1979/80	$160	$220	$285	$1.00	86¢

7.2.5 Pig Gross Margin Analysis

(Prepared by J.S. Clark, January 1980)

Gross Margins are frequently used when assessing the profitability of various production parameters. It should be noted that Gross Margins are not sufficient for comparing different types of pig enterprises as the fixed capital involved in plant and buildings will differ.

This section contains 3 gross margins which give some indication of the cash surplus for each enterprise. Firstly, there are some physical and financial assumptions that must be considered:

(i) Physical

(a) Sow productivity = 15 pigs weaned per sow per year.

(b) Average weight of weaners = 18kg L.W.

(c) F.C.R. Bacon = 3.3 : 1 to 82kg L.W.
Pork = 3.0 : 1 to 53 kg L.W.

(d) Dressing-out percentage = 75%

(e) Post-weaning mortality = 3%

(f) Grading Prime = 60%
Choice = 30%
Standard = 10%

(g) Stock Replacement = 33% sows per annum

(h) Sow/Boar ratio = 25:1

(ii) **Financial**

(a) Pig meat returns at current schedule rates – see Section 3.8, Financial Manual

(b) Feed Cost – Breeder Meal = $198.90 per tonne
Creep Meal = $283.80 per tonne
Grower Meal = $185.60 per tonne

(iii) **Gross Margins**

(a) **Weaner Production –**

Returns:	$
Sale of 15 weaners at $29.50	442.50
Less breeding stock	55.00
TOTAL RETURNS	387.50
Variable Costs:	
Food – sow (incl. boar at service)	
1.2 tonnes of breeder meal	238.68
Creep meal at 16kg/piglet	4.53
Veterinary expenses and medicines	10.00
Repairs and Maintenance	28.00
Miscellaneous expensed (e.g. electricity)	20.00
TOTAL VARIABLE COSTS	301.21
Gross Margin per sow	86.29
Gross Margin per weaner	5.75

(b) **Pork Production –**

Returns:	$
Sale of 38kg pigmeat at 180 cents/kg	68.40
Less weaner	29.50
Less cartage and levy	5.00
Mortality at 2%	1.36
TOTAL RETURNS	32.54

Variable Costs:

Food – 35kg gain at 3.0 : 1 at 18.56¢/kg	19.48
Veterinary expenses and medicines	1.75
Repairs and Maintenance	2.90
Miscellaneous expenses	1.50
TOTAL VARIABLE COSTS	25.63
Gross Margin per porker	6.91

(c) **Bacon Production –**

Returns:	$
Sale of 62kg pigmeat at 170 cents/kg	105.40
Less weaner	29.50
Less levy and transport	5.20
Mortality at 3%	3.16
TOTAL RETURNS	67.54

Variable Costs:

Food – 65kg gain at 3.3 : 1 at 18.56¢/kg	39.81
Veterinary expenses and medicines	2.25
Repairs and Maintenance	2.80
Miscellaneous expenses	3.00
TOTAL VARIABLE COSTS	47.86
Gross Margin per baconer	19.68

(iv) **Factors Affecting Profitability**

The factors which affect profitability are, in order of importance:

(a) **Pig Meat Prices –**

Returns for pig meats are presently influenced by the minimum price set by the Pork Marketing Board. Various other buyers and the fresh meat trade offer higher prices. Selling at the most profitable carcase weight will also affect returns.

(b) **Feed Costs –**

Feed is the most significant cost in pig meat production. Cost can be reduced by contract buying grain and home milling and mixing. However, it is essential that the quality of feed is not reduced particularly in protein content, as this will affect the Feed Conversion Ratio (FCR).

(c) **Feed Conversion Ratio (FCR) –**

Economy of gain of pigs from weaning to slaughter weight may be improved by the following methods:

(i) Correct feed formulation
(ii) Controlled environmental conditions
(iii) Use of genetically superior breeding stock
(iv) Accuracy of feeding
(v) Good pig health

(d) **Breeding Performance –**

This is the area in which most improvement can be made. As the cost of maintaining a sow remains relatively constant regardless of the number of weaners she produces, the margin per weaner will increase when more weaners are produced per sow per year. Factors influencing sow productivity are:

(i) Age of weaning
(ii) Number of days from weaning to first service
(iii) Number of pigs per litter
(iv) Mortality of pigs to weaning

(e) **Grading –**

Most buyers make differential payments within grades to encourage the production of carcasses preferred by the consumer. The grading profile can be influenced by:

(i) Breeding
(ii) Feed ration
(iii) Feeding rate per day

(f) **Average Daily Gain –**

This parameter has virtually no effect on gross margins but will influence the return on capital.

The return for pig meat is the single most important factor, but unfortunately the producer has little control of the meat prices, nor over feed costs. Therefore, it is better to concentrate on breeding performance and F.C.R. to increase the profitability of a pig enterprise.

(v) **Weighing Procedures at Abattoirs**

According to the Ministry of Agriculture and Fisheries, pig carcasses must be in a clean condition on leaving the work-up area at an abbattoir. The regulations do not however specify the procedures that should be followed when weighing pig carcasses. In many instances, the ears and cheeks are removed, presumably to expedite the presentation of clean carcasses. But this does reduce the weight of the carcass, at some loss to the producer. Cleaning of the external ear canals and dehairing the cheeks would overcome this problem, but an increase in killing charges would no doubt follow.

A further weight loss occurs with shrinkage deductions. These vary from zero to 4.5%, depending on the district.

At present, the Pork Industry Council is considering promoting the adoption of Purchase of Pigs Regulations, which would force all abattoirs to pay for pigs on a standard basis. In the interim it may introduce a standard sale by contract which farmers would get buyers to sign before selling pigs.

If these two procedures do not prove satisfactory, the producer can always sell ex hooks rather than ex farm. This is done through a butcher, and is an ideal way to sell pigs, especially if the farmer lives close to the abbattoir. The only drawback to this system is having to supply a set number of pigs, at a set time.

The following lists show the different payment systems for the abattoirs throughout the country:

(a) **Baconers –**

Auckland	Hot weight : 3% deduction
Hellabys'	Hot weight
Gisborne	Hot weight : 4% deduction
Wellington	Hot weight
Ashburton	Hot weight
Timaru	Hot weight : 4½% deduction
Longburn	Hot weight
Southland Frozen Meat	Hot weight

(b) **Porkers –**

Whangarei	Hot weight
Auckland	Hot weight : 3% deduction
Hellabys'	Hot weight

Gisborne	Hot weight : 4% deduction
Hawera	Hot weight : 2½% deduction
Wellington	Hot weight
Ashburton	Hot weight
Timaru	Hot weight : 4½% deduction
Westport, Motueka	Hot weight
Christchurch	Hot weight : 3% deduction
Longburn	Hot weight
Southland Frozen Meat	Hot weight

(c) **Choppers –**

Auckland	Skin on : 3% deduction
Hellabys'	Skin on
Gisborne	Skinned : 3% deduction
Wellington	Skinned : 3% deduction
Wanganui	Skinned : Head removed
Ashburton	Skinned
Westport	Skin on
Motueka	Skinned
Longburn	Skin on
Southland Frozen Meat	Skin on

SOURCE: "Pork Industry Gazette" October 1978, New Zealand Pork Industry Council.

5.2.6 Deer Gross Margin Analysis

(Prepared by J.S. Clark, January 1980)

The popularity of deer farming has increased greatly over the last few years. New Zealand is establishing markets overseas for venison, velvet and other deer by – products.
Many farmers are attracted to deer farming, either as a sideline to an existing farming operation or as a specialized venture. Most deer farmers in New Zealand are in the velvet business, as in the past year or two the returns have been very lucrative.

The first herds were based on animals captured in the wild. Since 1970 when the first deer farming licence was issued, the number of deer farms have increased to over 250, and the number of animals carried is in excess of 50,000. Over 15,000 fawns are now born every year in captivity.

When the first live deer auction was held in 1977 an average price of $417 was obtained, with the top price being about $800. Now, however, demand exceeds supply of domesticated deer and prices have escalated rapidly from the 1977 levels. Hinds cost about $3000, breeding stags about $4-4500, yearling hinds about $2000, and yearling stags $1200 – $1600.

Deer by–products include antler velvet, skins, tails, sinews, tusks, hearts, livers, tongues, kidneys, feet and blood. By–products are exported for manufacture into jewellery, leather products, oriental medicines and speciality meat preparations.

Gross Margin for a 1000 Hind Deer Herd

Herd Composition:

	S.U.
1000 breeding hinds	2000
50 breeding stags	100
475 R - 1 yr. hinds	475
475 R - 1 yr. stags	475
132 R - 2 yr. hinds (replacement)	224
315 R - 2 yr. hinds (culls)	536
447 R - 2 yr. stags	760
2894	4570

Physical Parameters:

Hind's Productive Life = 10 years
Calving Percentage = 95%
Death rate = 3%
Stag: Hind ratio = 1:20 (replaced every 3 years)
Dressed weight – stag (culled) = 90 kg
– hind (culled)= 60 kg
Average Venison Price = $1.70/kg
Average Velvet Price = $245/kg

Natural Increase per Year

1000 x 95% = 950
Hinds: 475 – 3% deaths = 461 1 yr. hinds
2 yr. hinds = 447 (132 for replacements, 315 for sale)
Stags: 475 – 3% deaths = 461 1 yr. stags
2 yr. stags = 447 (for sale)

After 2 years the 1000 hind herd will be producing 447 stags and 315 hinds for sale each year.

Gross Revenue:

2 yr. hinds (s.o.f.)* 315 x $2000	= $	630000
2 yr. stags (s.o.f.) 447 x $2500	= $	1117500
Velvet from 2 yr. fat stags 447 x 2 kg x $245/kg	= $	219030
Culled-for-age hinds 88 x 60 kg x $1.70/kg	= $	8976
Culled stags (⅓) ⅓ x 50 x 90 kg x $1.70/kg	= $	2525
Velvet from culled stags ⅓ x 50 x 7.2 kg x $245/kg	= $	29106
GROSS REVENUE		$2007137

Direct Costs:

Drench – 100 breeding hinds at 50¢/dose	= $	500
950 R-1 yr. olds @ 40¢/dose	= $	380
950 R-2 yr. olds @ 50¢/dose	= $	475
Freight – cull animals to processor (105) @ $3.50 per animal	$	368
– replacement stags 17 @ $3.50	$	60
Supplementary Feed – 5800 bales (2 per animal) lucerne hay @ $2.50	$	14500
Velvet Harvesting – anesthetic and vet. fees @ $10 per stag	$	4640
Stag Replacements – 17 stags @ $4000	$	68000
Total Direct Costs	$	88923
Gross Margin		$1918214
Gross Margin per Hind		$1918
Gross Margin per Stock Unit		$663

It should be noted that the prices for deer products are subject to wide variation, particularly velvet. In early 1980, the price paid for good quality velvet fell to about $150 per kilogram, a drop of almost $100 from the previous months' prices. There is no real degree of certainty associated with deer product marketing, and the price could recover as 1980 progresses. However, as when calculating any gross margin, check on the up-to-date prices for revenue and expenditure items.

* s.o.f. = sold on farm

5.2.7 Chicken Gross Margin Analysis

(Prepared by E.S. Burtt, December 1979)

Two gross margins for different enterprises are included in this section, the first for meat chickens, and the second for layers. They are intended as a rough guide only, as the size of the enterprise, and whether or not the operater is working within a contract system (meat, chicken system only) affects the costing greatly.

(i) Physical and Financial Parameters

(a) Meat Chickens
- 1 to 2.5% Mortality
- 1.5 to 2.0 kg liveweight when killed
- Dressing out percentage 67 to 73%
- 42 to 52 days from hatch to maturity.
- 2.0 to 2.4 feed / liveweight conversion
- Assume 95¢/kg liveweight

(b) Layers
- 7 to 15% mortality
- 12 month laying period
- 220 to 260 eggs per bird
- Feed conversion of 1.7 to 3.0 kg feed per dozen eggs
- Eggs 85–90¢/dozen

However, entitlement and various other levies are imposed and the final returns are likely to be 72.4¢ (N.I.) and 75.68¢ (S.I.)
- Cull bird meat 35¢ per kg (average bird 2.0 kg)

(ii) Meat Chicken Gross Margin

(per 1000 birds)

For the meat chicken gross margin two different costings are given based on:

(a) A small or part time chicken operator with 1 – 3000 birds per batch.

(b) A full time meat chicken operator with 20 – 30,000 birds per batch. This is normally a contract operation in which the contracting firm pays for feed, day old chicks, litter, and most health costs and deducts these costs from the payout.

Physical Parameters
1.5% mortality
1.75 kg live weight
70% dressing out
47 days hatch to maturity
2.2 feed/liveweight conversion

Expenditure	(a)	(b)
Day old chicks at 35 to 38¢ each	$380.00	$350.00
Feed 3.85 kg/bird at 26¢/kg (bulk)	$1001.00	$1001.00
Sawdust or Shavings 1.5¢/bird	$15.00	$15.00
Animal health 1¢/bird	$10.00	$10.00
Electricity 6 to 9.8¢/bird	$98.00	$60.00
Repairs and Maintenance 1 to 1.1 ¢/bird	$10.00	$11.00
TOTAL EXPENDITURE	$1516.00	$1447.00
Revenue 985 birds at 1.75 kg liveweight at 95¢/kg	$1637.56	$1637.56
TOTAL REVENUE	$1637.56	$1637.56

With total revenue being about $1 638 in each case, this gives a gross margin of $122 per thousand birds in the case of (a) and of $191 in the case of (b). These are very variable however. An independant operator may decide to have his birds processed (at a cost of approx. 55¢ per bird) and market them himself increasing the gross margin markedly.

E.g. for case (a)

Total revenue becomes $3073.20 (985 birds at 1.2 kg dressed out weight at $2.60 per kg) and total expenses are $2066 ($550 processing plus $1516); giving a gross margin of $1007 per thousand birds.

NB. This extra margin will be partially offset by extra costs involved e.g. marketing labour and overheads – costs which are not usually included in gross margin analysis.

(iii) Layer Chicken Gross Margin

(per 1000 birds)

Physical Parameters

10% Mortality

12 month lay 235 eggs per bird

Feed conversion 2.1 kg feed per dozen eggs

Eggs 75.68 per dozen net of levy (South Island prices)

Cull birds 35¢/kg – average bird 2.0 kg at end of lay

Average unit has 8000 birds.

Expenditure	
Stock (layer pullets) at $3.50 each	$3 500.00
Feed 41 kg / bird at 19¢ / kg (bulk)	$7 790.00
Animal health 5¢ / bird	$ 50.00
Electricity 27.5¢ / bird	$ 275.00
Repairs and Maintenance 2¢ / bird	$ 20.00
Freight 0.9¢ per dozen	$ 175.00
TOTAL EXPENDITURE	$11 810.00
Revenue	
19.5 dozen eggs per bird at 75.68¢ per dozen (net of levy)	$14 757.60
900 cull birds at 2.0 kg at 35¢ per kg	$ 630.00
TOTAL REVENUE	$15 387.60

With total revenue about $15 388 and total expenditure of $11 810 we have a gross margin for this enterprise of $3 578 per thousand birds.

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Purchase orders to: Accounts Office,
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