

CANTERBURY CHAMBER OF COMMERCE

AGRICULTURAL BULLETIN

INCREASING FARM PRODUCTION

Prepared by the Canterbury Agricultural College, Lincoln.

Bulletin

CHRISTCHURCH, JANUARY, 1944.

No. 174.

Introduction

The following declaration was made by the representatives of the forty-four United Nations assembled in conference at Hot Springs, Virginia, from the 18th May to 3rd June, 1943.

"This conference meeting in the midst of the greatest war ever waged, and in full confidence of victory, has considered the world problems of food and agriculture and declares its belief that the goal of freedom from want of food suitable and adequate for the health and strength of all peoples, can be achieved.

1. The first task is to complete the winning of the war and to deliver millions of people from tyranny and from hunger. During the period of critical shortage in the aftermath of war, freedom from hunger can be achieved only by urgent and concerted efforts to economise consumption, to increase supplies, and distribute them to the best advantage. . . ."

See New Zealand Hot Springs Conference Report, Government Printer. Cost 9d.

The urgency of the need to increase food production is generally recognised. The means by which this can be done is equally well known. The practical application, promptly and effectively, of already existing knowledge is what is required.

In England production and economies in consumption have increased to such an extent that whereas formerly she supplied approximately 30 per cent of her requirements she now supplies approximately 70 per cent. In other words, output in relation to consumption as reported above has more than doubled.

In New Zealand farm production

during the present season shows alarming evidence not of an increase but of a decline. For example pig production has decreased to approximately one-half of its former figure and dairy production for the first two months of this season has been estimated to be 28 per cent lower than for the corresponding period of last season.

The problem is how to convert this decrease in some lines, and possible trend towards a decrease in other lines through sale of capital stock, into a large increase of farm output. It is certain as shown by England's example and some individual farmers' increased production in N.Z. that, provided labour, materials and prices are favourable, a very great increase of farm output is possible.

Methods of Increasing Production

In England the handling of the problem of increased output was narrowed down by placing responsibility on small local committees whose job it was to give helpful advice as to methods of achieving the increased output required. Encouragement was given by raising the prices of farm products, subsidising ploughing up programmes, advancing working capital and providing and maintaining on the farm some skilled male labour and a large increase of female labour.

Somewhat similar steps might be advisable in New Zealand if we intend to carry out our obligations and increase our farm production. The problem can be narrowed down by considering production by counties and appointing advisory committees headed by men appointed by the farmers in each county or riding or sub-county area who have proved their ability to increase farm production. Certain little used roads and areas within boroughs at pres-

ent vacant should be utilised. Areas concerned with city milk supply, market gardening, poultry, honey, and pig production would also require to be included in the programme for increased production.

An example will serve to demonstrate the type of problem to be dealt with and the method by which an actual increase in farm production might be achieved. A particular farmer who formerly ran six cows now runs only three and the cows have not been replaced by increased production of other lines. His production has declined as the result of pasture deterioration and culling of the cows. Production could easily be brought back to 6 or 7 cows by rearing three extra calves, by regrassing, and, to a still greater extent, by provision of a small area of lucerne for hay and winter feed. The most productive method of establishing the necessary pasture and lucerne would be first to take a crop of potatoes out of the ground as a clearing crop, then resow in good grass and lucerne; lime and top-dress.

Advice from the representatives of the local production committee combined with suitable prices and financial assistance as indicated above could effect the necessary changes.

In general the methods of increasing farm production are well known. They involve farming more intensively, i.e., raising land from a lower to a higher plane of use, farming the more marginal areas, overcoming the factors limiting production in each particular case, getting the land in good heart and making the plant, stock, crops and pastures suitable for increased production. For example, on most of the medium to good land merely placing one paddock of lucerne on the farm together with necessary harvesting facilities through increased provision of supplementary feed, contribute to an increased stock production.

Food Production per Acre

The following may serve as a guide in selecting the methods of farming that should be adopted in any particular case.

The greatest food production is obtained by the market garden system of farming where the fertility is maintained by green manuring, application of farmyard manure and other fertilisers. Therefore as large

an area as possible of suitable land on which marketable products can be grown, should be put into market garden crops. Concentration on main crop products and storage of these will permit a much greater total production from a given area than will be obtained by the production of special extra early or extra late crops. Similar principles apply to out-of-season stock production.

Next to market gardening in food output per acre comes the rotational cropping system whereby such crops as potatoes, wheat, peas, etc. are grown. Direct consumption of crops from the land will sustain approximately eight times as many persons as when the stock eat the grass and crops and the resultant meat or milk is then consumed by the people. Nevertheless not all land is immediately suitable for direct crop production.

Next in food productivity comes grassland farming. The most productive method of grassland farming occurs where the grass is treated as a crop and periodically resown. Italian ryegrass and red clover, underseeded on a cash crop where the land is in good heart and free from weeds, alternating every two years cash crops, probably secures the highest possible stock and crop production per acre. Old and run-out permanent grassland provides much less food per acre.

Assistance Required

(a) Finance.

In order to secure the necessary improvements, finance, labour, plant, materials and stock are required. Additional finance could be obtained, provided, under war conditions, a sufficient price to induce the increased production aimed at is offered. Sustained and increased production is the immediate and urgent need to replace the present declining trend. Therefore as in England the financing of efforts to increase production where necessary should be introduced.

Where high income taxation is a deterrent—higher net incomes after taxation being obtainable by extensive rather than intensive methods of farming—this deterrent might be overcome by establishment of maintenance reserve funds to be available for use after the war or if not so used, to be finally taxed away. This fund could be set against working account losses in later years when used for post war working and rehabilitation expendi-

ture but if not so used could be finally taxed away. A procedure somewhat similar to this applies in England.

(b) Labour.

In New Zealand farm labour is strictly limited. According to the results published in a recent book by Colin Clark, the net productivity per head of New Zealand farm workers is amazing. It is the highest in the world, being almost four times that of U.S.A.; over five times that of Great Britain and twenty times that of Japan. Colin Clark's figures are: New Zealand, 2,444; Australia, 1,524; Argentine, 1,233; U.S.A., 661; Great Britain, 475; Japan, 120 units. These figures mean that farm production in New Zealand is maintained to date by the work of the farmer, his wife, and those of his family still on the farm, together with a relatively few employees. For example, in dairying where the milking machines do both the milking and the stripping, output per unit of labour employed has greatly increased. The labour on many small farms could in many cases be more productively used on larger farms. But in the present emergency period this trend must be reversed and more intensive, rather than as at present, more extensive, methods of farming adopted. The training of new labour takes time and the farmer's wife is in many cases already fully occupied in attending to her present work. The diversion of experienced farm labour from other occupations, labour which would need to provide its own household facilities, would provide the best immediate source of additional labour. To induce transference of this labour to farming, with its relative long hours instead of forty hours and overtime, and seven days instead of five days a week, would almost certainly require a complete reversal of present labour rewards for the emergency period.

At present, minimum award rates for adult married or single farm workers are £2/17/6 per week and keep or £3/17/6 per week without keep. All other minimum wage rates on a comparable basis average 33 1-3 per cent higher. To reverse this trend would require either a relative halving of all other wage rates or a doubling of farm wage rates. By this reversal farm wage rates would average 33 1-3 per cent higher than other wage rates. Even

then rates per hour might be lower on the farm. Nevertheless such a reversal of weekly wage rates would provide at least in part some of the stimulus required for a return to the farm for such jobs as team work, dairying, shepherding and sidelines. A transference of labour from unnecessary or less urgent work to farm work would almost certainly very greatly increase New Zealand's real income, provided the effect of the reversed farm labour trend was accompanied by a farm produce price trend that had the result of securing a large increased output.

(c) Plant and Materials.

Much of the plant and materials required to be imported can be obtained under lease lend finance and by special shipping allocations. For example increased supplies would be required of animal feedstuffs and/or fertilisers as well as such items as grass mowers, haysweeps, etc. At the same time increased local production of such commodities as fertiliser, lime, drain tiles and farm accommodation would be required and could be effected by working in shifts with the increased labour devoted to these lines.

(d) Stock.

The increased stock can only be obtained through the breeding, feeding and rearing of the animals required, combined with a curtailment of the selling of good young female stock for meat. Much of the present breeding stock are first bred on the hill country and mountain areas and it is on these more marginal areas that a reversal of the present financial labour and relative price declining trends requires to be immediately induced. The surplus stock from this hill country provides the breeding and fattening stock for the lower areas and enables production to be thus multiplied up.

(e) Land Improvement.

The return from the crops and pasture can be assisted by such methods as draining, clearing, irrigating, crop and stock improvement, provision of fertiliser and supplementary feed, growing of leguminous, inter-row cultivated and preparatory crops, regrassing, liming, topdressing, subdivisional fencing and more intensive methods generally. As indicated above the methods

of securing an increased output, the overcoming of the factors limiting production in each particular case, are well known. What is required first of all is that the fullest possible use is made of machinery and labour diverted from less essential to these more essential uses. For example, public works drag-line excavators can be used where local production committees consider improved drainage is the factor limiting production. Caterpillar tractor rolling and ploughing down of weed infested areas provide in some cases the best method of clearing the land preparatory to supplementary forage cropping and regrassing.

As indicated above, provision of increased winter and supplementary feed and increased skilled labour on a relatively profitable basis are urgently required especially on the poorer hill, mountain grazing and marginal plains areas generally.

The prior provision of contract labour and contract machinery, as a reserve for assisting farm production wherever it is most urgently required at the immediate time that changing seasonal conditions warrant it, would also assist production and enable the hay crops grown to be stored for future use.

The making available from the machinery firms of multi-row potato planters and cultivators for the increased potato acreage requested,

mowers, sweeps and grab stackers, etc. for the improved stock feeding indicated above, would also enable the farmer to increase production along the more intensive lines now required with his present labour supply.

The requirements of large areas of New Zealand land for lime is well known or can be immediately determined.

By application of contract methods, cartage by rail and lorries, and increased use of lime crushers, a very great increase of liming might be effected.

Conclusion

The urgency of the need to maintain and increase farm production is universally agreed upon; the means by which this can be done are well known; what is required is the diversion of labour, materials and capital from present less urgent uses to the more urgent objects of maintaining and increasing farm production. The raising of the relative price of farm products and of farm labour rewards above those of other activities would probably be necessary. Action along these lines which in fact would increase farm output would also increase New Zealand's real income and at the same time, assist in winning not only the war but also the post-war peace.

Copies of this Bulletin may be obtained from the Secretary, Canterbury Chamber of Commerce, P.O. Box 187, Christchurch.