

A SURVEY OF
MID CANTERBURY FARMERS' ATTITUDES
TO GROWING SUGAR BEET

D. LEITCH
P.D. CHUDLEIGH
G.A.G. FRENGLEY

Discussion Paper No. 39
Agricultural Economics Research Unit
Lincoln College

CONTENTS

	Page
LIST OF TABLES	
LIST OF FIGURES	
SUMMARY	
CHAPTER 1 INTRODUCTION	
CHAPTER 2 METHODOLOGY	
2.1 Area Surveyed	4
2.2 Selection of Sample	4
2.3 Survey Technique	5
CHAPTER 3 RESPONSE AND RESPONDENT CHARACTERISTICS	
3.1 Response Rate	6
3.2 Response Pattern	7
3.3 Respondent Characteristics	9
3.3.1 Age Distribution	9
3.3.2 Status	9
3.3.3 Farm Type	10
3.3.4 Farm Size and Location	10
CHAPTER 4 RESULTS	
4.1 Interest in Sugar Beet Production	11
4.2 Characteristics of Interested Respondents	12
4.2.1 Interest by Farm Type	12
4.2.2 Interest by Age Group	13
4.2.3 Interest by Soil Depth Group	13
4.2.4 Interest by Farm Size Group	14
4.3 Labour and Machinery Resources of Respondents	14
4.3.1 Labour Resources	
4.3.2 Attitudes to Additional Labour	14
4.3.3 Machinery Resources	15
4.3.4 Attitudes to Forms of Access to Machinery	16
4.4 Attitudes to Contractual Agreements	18
4.5 Attitudes to By-Product Use	18
4.6 Experience and Knowledge of Beet Growing	19

4.6.1	Farmers' Experience	19
4.6.2	Problems Experienced by Fodder Beet Growers	20
4.6.3	Farmers' Knowledge of Sugar Beet	20
4.7	Farmers' Use of Extension Services	22

LIST OF REFERENCES	23
--------------------	----

APPENDIX 1	25
------------	----

LIST OF TABLES

	Page
1. Comparison of Mail Survey Response Rates	6
2. Age Distribution of Respondents	9
3. Status of Respondents	9
4. Farm Types of Respondents	10
5. Distribution of Farm Sizes of Respondents	10
6. Reasons for no Interest in Sugar Beet	12
7. Numbers of Respondents Interested in Sugar Beet by Age Group	13
8. Interest by Farm Size	13
9. Reasons of Interested Growers for not Wanting to Employ Additional Full-time Labour	14
10. Machinery Owned or Available to Respondents	15
11. Favoured Alternatives of Respondents Interested in Sugar Beet Production to Gaining Access to Sugar Beet Harvester	16
12. Favoured Alternatives of Respondents Interested in Sugar Beet Production to Gaining Access to a Precision Drill	17
13. Proportion of Interested Sugar Beet Growers Who Indicated an Interest in Using By-products for Livestock	18
14. Proportion of Interested Sugar Beet Growers who Indicated an Interest in Using Feed Nuts Derived From Pulp	18
15. Problems Experienced by Fodder Beet Growers	19
16. Sources of Most Useful Knowledge	20
17. Requirements Before Commencement of Growing	20
18. Use of Extension Services	21
19. Use of Extension Services by Interested and Non-Interested Sugar Beet Growers	22

LIST OF FIGURES

	Page
1. Cumulative Response Rate	8

SUMMARY

A postal survey of farmers in Mid Canterbury was carried out in 1977 in order to ascertain the interest, resources and attitudes of farmers to the growing of sugar beet in their region.

An extremely high net valid response rate was obtained to the survey. Results indicated that there was considerable interest in sugar beet production. Negative attitudes appeared to be associated with unfamiliarity with the crop. Greater interest was apparent on intensive cropping farms than on mixed cropping and livestock farms; greater interest was also displayed by younger as opposed to older farmers.

Expanding labour requirements associated with sugar beet production was considered a constraint by some of the interested growers. The use of contractors appeared a favoured alternative in gaining access to additional machinery such as a sugar beet harvester and a precision drill.

Commitment to a minimum area of beet for an initial period of years did not appear a major constraint to those interested in the crop. A strong interest was expressed in the use of by-products for livestock feed.

Eight percent of respondents had grown fodder beet on a regular basis. Most respondents indicated they required more advice on crop husbandry if they were to commence sugar beet production.

1. INTRODUCTION

With a renewed public interest in sugar beet production in 1976 and with the possibility of a Government feasibility study, the A.E.R.U. initiated an investigation aimed at establishing the capacity and willingness of farmers to undertake sugar beet production.

For many years Mid Canterbury has been considered as a suitable location for a first attempt to establish a sugar beet industry. Other areas have been evaluated, notably South Otago, (Frampton, 1964); however, Mid Canterbury was selected as the most suitable region for the purposes of the study reported here.

The investigation had the following objectives:

- (i) To assess farmers' interest in growing sugar beet.
- (ii) To ascertain farmers' present machinery and labour resources from the point of view of sugar beet production.
- (iii) To appraise farmers' reactions to different forms of access to specialist machinery and equipment.
- (iv) To test farmers' reactions to required planning and contractual arrangements.
- (v) To estimate the ability of farmers to achieve the expertise required for the production of beet.
- (vi) To assess attitudes to using sugar beet tops, crowns, and pulp by-products as livestock feed.
- (vii) To gauge farmers' attitudes to hiring additional labour.
- (viii) To review farmers' present use of extension services.

The investigation was carried out by means of a postal sample survey of farmers in the Mid Canterbury region.

Because of necessary limitations to questionnaire length, many questions were framed assuming certain specified conditions existed and farmers were required to answer with these conditions in mind. This requirement is a characteristic feature of most mail surveys, where interviewers are not present.

2. METHODOLOGY

2.1 AREA SURVEYED

An area within a 32 km radius of Ashburton Post Office was defined as the initial survey area. Some adjustment to this initial area was made by using the banks of the Rakaia and Rangitata rivers as overriding boundaries.

Soil types within this area were classified according to their depth with the aid of a soil map. Those areas of land where the combined A and B soil horizon did not exceed 30 cm were excluded from the sample area. The remaining area was stratified using two soil depth categories, 30 - 60 cm and 60 cm plus. Waterton soils were excluded from the sample area as they were considered unsuitable for sugar beet production.

2.2 SELECTION OF SAMPLE

The size of each farm within the sample area was obtained from the valuation roll at the Ashburton County offices. Farms less than 40 hectares were excluded. The reason for this was that sugar beet is generally grown in a four to five year rotation. The assumption was made that eight hectares would be a minimum area per farm desired by processing companies. This suggested that farms less than 40 hectares would be incapable of maintaining the annual minimum supply.

The restricted population of farms in the sample area was divided into the two soil depth groups earlier defined with the aid of a farm location map. A random sample of farms was selected from each soil depth group; proportional representation from each soil depth group was used to select a total of 140 farms, representing approximately 20 percent of the eligible population.

2.3 SURVEY TECHNIQUE

On the 4th February 1977, farmers were mailed the five page questionnaire with a covering letter (Appendix I). Five days later they were mailed a postcard thanking them if they had responded and prompting them if they had not done so already.

After a further nine days had passed, all non-respondents were mailed a further reminder letter. Fourteen days later, remaining non-respondents were sent a final reminder.

Large brown machine franked envelopes were used in outward mailings. Experience by Ambler (1977) and O'Donnell (1969) indicated there was little economic advantage in using white envelopes or stamps. Brown machine franked envelopes were used also for return mailing.

3. RESPONSE AND RESPONDENT CHARACTERISTICS

3.1 RESPONSE RATE

The mail survey yielded a net valid response of 92 percent. This outcome is compared to other recent A.E.R.U. mail surveys in Table 1.

TABLE 1.

COMPARISON OF MAIL SURVEY RESPONSE RATES

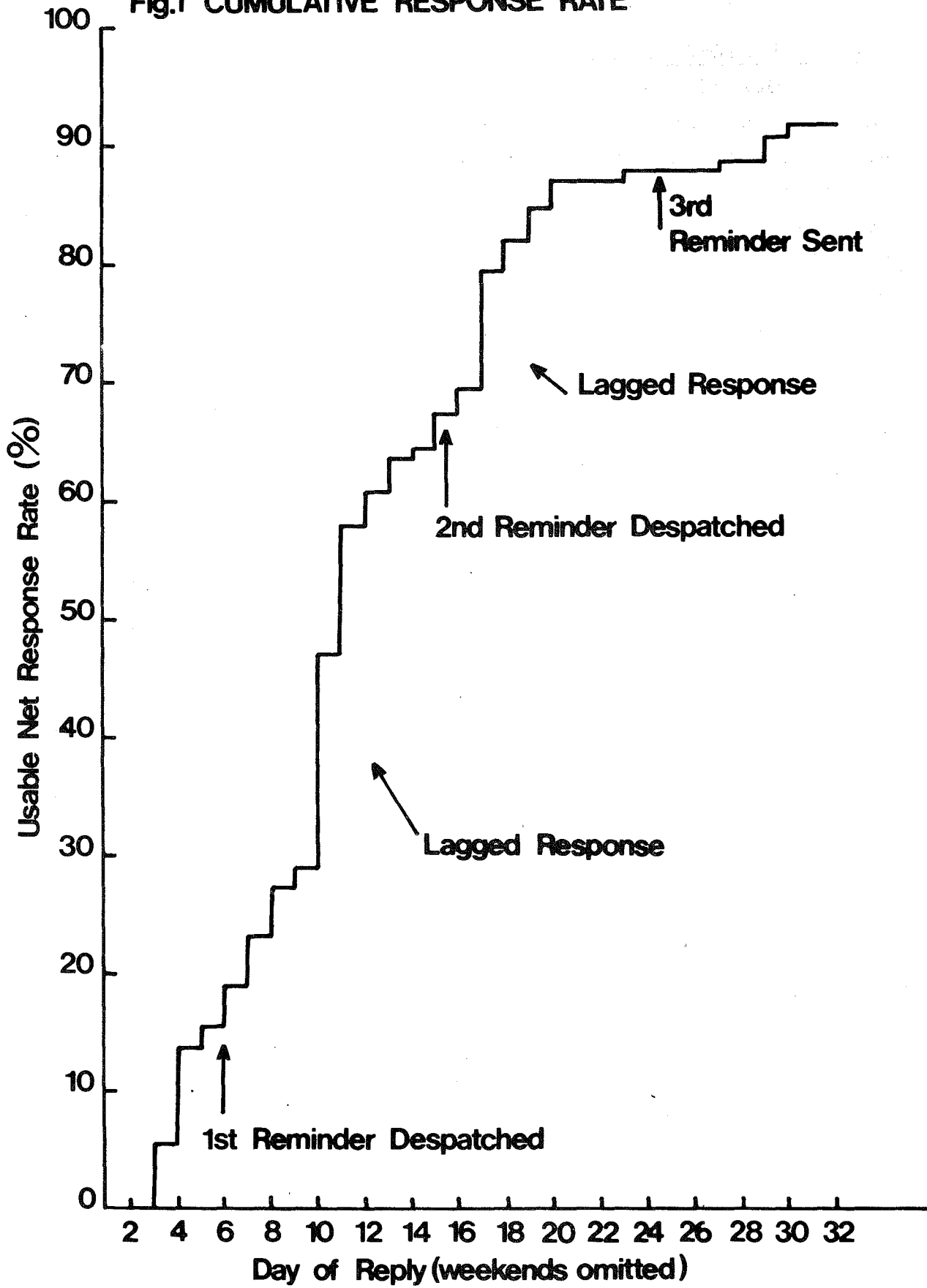
SURVEY	SAMPLE SIZE	USABLE RESPONSE AS % QUESTIONNAIRES DESPACHED	CORRECTED SAMPLE SIZE	USABLE NET RESPONSE RATE
A.E.R.U. Transport Use Survey 1975-76	3156	52.7	2811	59.2
Farmer Intentions Survey (Pryde, 1975)	548	61.5	502	67.1
Sugar Beet Survey	140	83.6	130	92.1

The corrected sample size allows for non-response due to known deaths, retirements or address changes. In the sugar beet survey, seven percent of the sample fell into this category despite using the most recent valuation roll in defining the population. Other postal surveys have yielded similar results. In the transport survey conducted by Ambler of the A.E.R.U. in 1975-76, returned letters and letters advising of death or retirement accounted for 10.4 percent of questionnaires mailed (Ambler, unpublished data). In this case names and addresses had been derived from a Ministry of Agriculture and Fisheries address list compiled 10 months previously. Pryde (1975) using the same source found 8.4 percent of questionnaires mailed out were returned due to address changes, deaths or retirements.

3.2 RESPONSE PATTERN

Questionnaires were despatched at a busy time of the year for farmers. However, 72 percent of replies were obtained within three weeks. As shown in Figure 1, there was a lagged response to the first two reminders. The less significant response to the third reminder was hardly surprising, considering that 89 percent of questionnaires had been returned at the time of its mailing.

Fig.1 CUMULATIVE RESPONSE RATE



3.3 RESPONDENT CHARACTERISTICS

3.3.1 Age Distribution

The age distribution of respondents is shown in Table 2. Sixty three percent of respondents were between 36 and 55 years of age.

TABLE 2.

AGE DISTRIBUTION OF RESPONDENTS

<u>AGE GROUP (YRS)</u>	<u>% RESPONDENTS</u>
18 - 25	5.2
26 - 35	12.9
36 - 45	27.6
46 - 55	35.3
56 - 65	16.4
65 +	2.6
Total	100.0

3.3.2 Status

Owner operators made up the majority of respondents (see Table 3).

TABLE 3.

STATUS OF RESPONDENTS

<u>STATUS</u>	<u>% RESPONDENTS</u>
Owner	90.6
Owner - non operator	1.7
Manager	2.6
Lessee Manager	4.3
Other	0.8
Total	100.0

3.3.3 Farm Type

Mixed cropping and livestock farms dominated the sampled farms. The distribution of farm types is shown in Table 4.

TABLE 4.

FARM TYPES OF RESPONDENTS

<u>FARM TYPE</u>	<u>% RESPONDENTS</u>
Mixed Cropping & Livestock	76.7
Intensive Cropping	19.0
Dairying	3.4
Store Lamb Production	0.0
Intensive Fattening	0.0
Other	0.9
Total	100.0

3.3.4 Farm Size and Location

The average distance of farms from Ashburton Post Office was 21 kilometres (standard deviation of 9.5 kilometres). The average farm size was 185 hectares (standard deviation of 94.1 hectares). The distribution of farm sizes is shown in Table 5.

TABLE 5.

DISTRIBUTION OF FARM SIZES OF RESPONDENTS

<u>FARM SIZE (ha)</u>	<u>% RESPONDENTS</u>
40 - 81	10.3
82 - 202	57.2
203 - 324	22.2
324 +	10.3
Total	100.0

4. RESULTS

4.1 INTEREST IN SUGAR BEET PRODUCTION

One of the objectives of the survey was to assess the interest of farmers in becoming regular sugar beet producers. The assumption was made that farmers would willingly commence sugar beet production only if net returns from the crop at least equalled the long run net returns that could be expected from other farm enterprises. Hence, farmers were asked if they would seriously consider growing sugar beet if it were more profitable than any other crop. Seventy percent replied in the affirmative to this proposal.

Considering the assumptions under which replies to this question were given, it would be unwise to conclude that 70 percent of farmers within the survey area were willing to commence sugar beet production. It does, however, indicate a wide interest in the crop.

The questionnaire also sought reasons from farmers who did not wish to consider beet production, even under the above assumption. A number of potential reasons were presented in the questionnaire and farmers were asked to indicate the appropriate reasons for their lack of interest.

Table 6 shows the frequencies of reasons indicated by respondents who did not wish to consider beet production.

These results do not indicate that any single factor represents a primary disincentive; however, the table does show that the respondents' reluctance to try the crop is largely inspired by the desire to see the crop proven. In addition, non interested farmers clearly wish to know more about the crop and how it can be integrated into their livestock system before accepting growing contracts.

TABLE 6REASONS FOR NO INTEREST IN SUGAR BEET

<u>Reason</u>	<u>Proportion of Respondents</u> ^a
Couldn't be bothered	5.9
Would try later when proven	41.2
Don't know enough about it	55.9
Soil not suitable for sugar beet	14.7
Doesn't suit livestock system	44.1
Other	26.5

^a Percentages do not add to 100 as many respondents indicated more than one reason for their non-interest in sugar beet.

4.2 CHARACTERISTICS OF INTERESTED RESPONDENTS4.2.1 Interest by Farm Type

Ninety six percent of respondents from intensive cropping farms expressed interest in growing the crop. This was in contrast to 68 percent of respondents from mixed cropping and livestock farms. These farm types were the only two with significant numbers in each category (See Table 4.)

4.2.2 Interest by Age Group

Age has often been cited as an influential variable in a farmer's decision to diversify his production or initiate a new enterprise. Statistically the survey was able to confirm this since more of the non-interested respondents were in the older age bracket. This is shown in Table 7. The value of the corrected Chi-square value was 2.715 which was significant at the 90 percent level.

TABLE 7
NUMBERS OF RESPONDENTS INTERESTED IN
SUGAR BEET BY AGE GROUP

		<u>Age Group</u>	
		18-45yr	45 yr +
<u>Interested</u>	YES	41	39
<u>in growing</u>	NO	11	23
<u>Sugar Beet</u>			

4.2.3 Interest by Soil Depth Group

The survey results did not show any relationship between the area of heavy cropping soil on the farm and interest in growing sugar beet. One possible reason for this is that farmers hold differing views on what constitutes a heavy cropping soil. This became apparent when analysis revealed the average soil depth in cropping soil termed as 'medium' exceeded that termed 'heavy' by 25mm.

4.2.4 Interest by Farm Size Group

Analysis showed no relationship between farm size group and interest in the crop. This is shown in Table 8, where the Chi-square value for differences was 1.316 which was not significant at the 90 percent level.

TABLE 8
INTEREST BY FARM SIZE

		<u>Farm Size (ha)</u>			
		40-81	82-202	202-324	324 +
<u>Interested</u>	YES	7	47	19	8
<u>in growing</u>	NO	5	19	6	4
<u>Sugar Beet</u>					

4.3 LABOUR AND MACHINERY RESOURCES OF RESPONDENTS

An estimate of the present labour and machinery resources of farmers was considered an important objective of the survey. This information allows some indication of the likely future demand for specialist machinery and labour if a sugar beet industry was established in the area.

4.3.1 Labour Resources

Fifty five percent of survey respondents were employing two or more full time staff. Of the farms which were single man units, 70 percent were using casual labour at some time during the year. Sixty two percent of all respondents were employing casual labour.

4.3.2 Attitudes to Additional Labour

Farmers were asked if they would still consider growing sugar beet if it meant additional full time labour would be required. Of potential grower respondents, 39 percent indicated that they would be amenable to hiring additional labour and 18 percent indicated they would not take on additional labour; 43 percent were uncertain.

Interested growers were asked their main reason for not wanting to employ additional full-time labour. Results are shown in Table 9. Although farmers were asked to state their main reason for not wanting to hire more full time labour, many gave the dual answer of 'costs and accommodation'.

TABLE 9

REASONS OF INTERESTED GROWERS FOR NOT WANTING TO EMPLOY

ADDITIONAL FULL - TIME LABOUR

<u>Reason</u>	<u>Frequency of Reason (%)</u>
No Accommodation	22.7
Labour Costs	13.6
Accommodation and costs	27.3
Other reasons	36.4
Total	100.0

4.3.3 Machinery Resources

Table 10 indicates that farmers are generally well equipped with basic farm implements required for sugar beet production. However, the low numbers of available precision drills and inter-row cultivators suggest that many farmers would be unable to commence immediate beet growing operations without additional capital outlay or the provision of a reliable contracting service. Fifty percent of respondents did not have access to top dressing equipment; however, contracting services already exist in the area.

Comparing respondents interested in the sugar beet crop with those not interested reveals non interested farmers were slightly less well equipped than those interested. It was not possible to ascertain whether availability of equipment may have influenced a farmer's decision to indicate interest in the crop.

If the precision drill is removed from the list of machinery items analysis revealed that only 10.2 percent of farmers owned or had access to all of the remaining items.

TABLE 10
MACHINERY OWNED OR AVAILABLE TO RESPONDENTS

<u>Machinery Item</u>	<u>% Ownership Amongst Interested Respondents</u>	<u>% Ownership Amongst Non-Interested Respondents</u>
Truck (greater than 2 tonnes)	81.5	44.1
Plough	100.0	100.0
Inter-row Cultivator	34.6	26.5
Spray Gear (for crop spraying by tractor)	74.1	61.8
Topdresser	53.1	47.1
Precision Drill	8.6	8.8
Trailer	63.0	41.2

4.3.4 Attitudes to Forms of Access to Machinery

Anticipating that many farmers would not own a precision drill the questionnaire sought from those respondents without drills their reaction to various forms of drill ownership or access, on the assumption that access to a drill was essential. Similar reaction was sought to different forms of access to a sugar beet harvester.

Farmers were told that a sugar beet harvester cost \$20,000 and a precision drill \$2,600. A range of access alternatives were presented and respondents were required to indicate their most probable action. Results are shown in Tables 11 and 12.

TABLE 11
FAVOURED ALTERNATIVES OF RESPONDENTS INTERESTED IN
SUGAR BEET PRODUCTION TO GAINING ACCESS TO
SUGAR BEET HARVESTER

<u>Alternative</u>	<u>% Favouring Each Alternative</u>
Would buy own	16.4
Rely on Leasing	0.0
Organise a Syndicate	13.9
Use Contractors	57.0
Rely on Friends or Neighbours	0.0
Would Use More than one of above Alternatives	12.7
Total	100.0

TABLE 12
FAVOURED ALTERNATIVES OF RESPONDENTS INTERESTED IN
SUGAR BEET PRODUCTION TO GAINING ACCESS
TO A PRECISION DRILL

<u>Alternative</u>	<u>% Favouring Each Alternative</u>
Would buy own	18.9
Rely on leasing	0.0
Organise a Syndicate	11.9
Use Contractors	44.6
Rely on Friends or Neighbours	1.4
Would use more than one of above alternatives	12.2

Inspection of both Tables reveals that despite the new price differential of \$17,400 between the two machinery items, there appears to be little change in the percentage of respondents who would purchase each of the two items.

Contracting appeared a favoured alternative for both machinery items.

4.4 ATTITUDES TO CONTRACTUAL AGREEMENTS

The questionnaire sought to assess farmers' attitudes to a commitment to an annual minimum area for an initial period of years. Of those respondents who indicated interest in the crop, 87 percent indicated they would agree to grow a specified minimum area (13 percent would not accept this), and 82 percent indicated they would be prepared to enter into a contract to grow beet for a number of consecutive years.

4.5 ATTITUDES TO BY-PRODUCT USE

Farmers were informed that the tops and crowns of sugar beet had a similar nutritive value per hectare to turnips. They were then asked if they would envisage using the windrowed tops and crowns as stockfeed. Seventy nine percent of those respondents who had indicated an interest in growing sugar beet replied in the affirmative with a further 17 percent uncertain.

Attitudes by farm type are shown in Table 13 which indicates a strong interest in the use of tops and crowns,

especially by mixed cropping and livestock farmers.

Farmers were also asked to indicate their interest in using pulp by-products such as a feed nut with a feed value equivalent to barley. Seventy one percent of potential sugar beet growers replied in the affirmative with 20 percent uncertain. Attitudes by farm type are shown in Table 14. Future promotion campaigns for such feed nuts would have some influence on these figures. In addition, processing companies would not be committed to selling by-products solely in Ashburton County.

TABLE 13

PROPORTION OF INTERESTED SUGAR BEET GROWERS WHO INDICATED
AN INTEREST IN USING BY-PRODUCTS FOR LIVESTOCK

<u>Farm Type</u>	<u>Interested</u> (%)	<u>Not</u> <u>Interested</u> (%)	<u>Uncertain</u> (%)	<u>Total</u> (%)
Mixed Cropping & Livestock	83.0	1.7	15.3	100.0
Intensive Cropping	66.7	9.5	23.8	100.0

TABLE 14

PROPORTION OF INTERESTED SUGAR BEET GROWERS WHO INDICATED
AN INTEREST IN USING FEED NUTS DERIVED FROM PULP

<u>Farm Type</u>	<u>Interested</u> (%)	<u>Not</u> <u>Interested</u> (%)	<u>Uncertain</u> (%)	<u>Total</u> (%)
Mixed Cropping & Livestock	76.3	5.1	8.6	100.0
Intensive Cropping	57.1	19.1	23.8	100.0

4.6 EXPERIENCE AND KNOWLEDGE OF BEET GROWING

4.6.1 Farmers' Experience

Sugar beet is an untried crop for most farmers, except for a small proportion who have had experimental plots on the farm or who have had overseas experience. For this reason the questionnaire sought to establish farmers' experience with a similar crop. Fodder beet was chosen as its sowing and harvesting requirements are similar in many respects to sugar beet.

Whilst 25 percent of respondents had some experience growing fodder beet, only 6 percent of respondents had grown fodder beet on a regular basis. Of these 8 regular fodder beet growers, 2 sowed their own beet and 3 carried out their own harvesting; 5 of these 8 regular growers were using their beet for grazing purposes.

4.6.2 Problems Experienced by Fodder Beet Growers

Farmers were asked to indicate the problems they had experienced with fodder beet. Results are shown in Table 15.

TABLE 15
PROBLEMS EXPERIENCED BY FODDER BEET GROWERS

<u>Problem</u>	<u>% Respondents Experiencing Problem</u>
Soil too shallow or stoney	3.4
Weeds	58.6
Unsuitable in rotation	3.4
Wet Soil at Harvesting	6.9
Other	20.7
No Problems	17.2

4.6.3 Farmers' Knowledge of Sugar Beet

Some knowledge of farmers' current knowledge of sugar beet production is of importance in planning future extension services. Farmers were requested to indicate where they had obtained the most useful knowledge

about sugar beet and to state what requirements in knowledge and other arrangements they would see as important before they would commence growing the crop. Results are shown in Tables 16 and 17.

TABLE 16
SOURCES OF MOST USEFUL KNOWLEDGE

	<u>% interested grower respondents indicating various source of useful knowledge on sugar beet</u>	<u>% non-interested grower respondents indicating various sources of useful knowledge on sugar beet</u>
Reading magazines and books	21.8	19.4
Previous Experience with Fodder Beet	14.1	0.0
Talking to other Farmers	7.7	9.6
Approach from a Commercial Firm	5.1	0.0
Other Sources	6.4	6.5
Have little or no Knowledge	44.9	64.5
Total	100.0	100.0

TABLE 17
REQUIREMENTS BEFORE COMMENCEMENT OF GROWING

	<u>% interested grower respondents indicating requirement</u>
More advice on crop husbandry	79.5
Information on long term financial returns	82.1
Guaranteed minimum price for crop	80.8
A financial interest in the processing factory	24.4
Information about irrigation requirements	60.3
An option to use the beet as livestock feed	43.6
Other	2.6

A major point of interest is that 45 percent of interested grower respondents admitted little or no knowledge of sugar beet production. This implies a concerted extension programme would be necessary if a sugar beet industry were established. Such a programme would have a good chance of success as almost 80 percent of interested respondents indicated they would require more advice on crop husbandry before commencing to grow the crop.

4.7 FARMERS' USE OF EXTENSION SERVICES

A list of extension services available to farmers in the survey area was presented in the questionnaire and farmers were asked to indicate whether they had sought advice from such sources in the last twelve months. Results are shown in Table 18.

TABLE 18
USE OF EXTENSION SERVICES

<u>Service</u>	<u>% respondents using the service</u>
Farm Improvement Club Adviser	18.3
Ministry of Agriculture & Fisheries Adviser	33.9
Private Farm Consultant	13.9
Lincoln Farm Advisory Service	1.9
A Commercial Field Service	46.7

Seventy percent of all respondents made use of at least one of the listed services. Those respondents who indicated they were interested in growing sugar beet were more likely to be using extension services (Table 19). This relationship was significant at the 99 percent level (Chi square = 7.46).

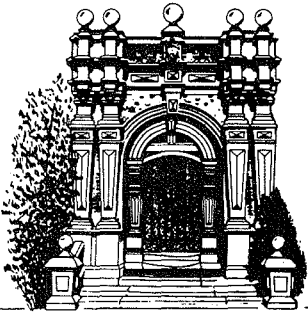
TABLE 19

USE OF EXTENSION SERVICES BY INTERESTED
AND NON-INTERESTED SUGAR BEET GROWERS

		<u>Use of Extension Services</u>	
		<u>YES</u>	<u>NO</u>
<u>Interested in</u>	YES	63	18
<u>Growing sugar</u>	NO	17	17
<u>beet</u>			

REFERENCES

- AMBLER, T.I. (1977): Response Patterns to a mail Survey of New Zealand Farmers, A.E.R.U. Research Report No. 78, Lincoln College, Canterbury.
- FRAMPTON, A.R. (1964): The Economics of Growing Sugar Beet on Farms in South Otago. M. Agr. Sc. Thesis. Massey University of Manawatu.
- O'DONNELL, B.C. (1969): The Mail Survey in Agricultural Economics Research. Occ. Paper No. 1. Dept. Ag. Econ. and Farm Mgt., Massey University.
- PRYDE, J.G. (1975): A Postal Sample Survey of Sheep Farmers Attitudes to Incentives and Obstacles to Increasing Farm Output and Other Agricultural Policy Issues. A.E.R.U. Disc. Paper No 31, Lincoln College, Canterbury.



1878

1978

Lincoln College

Lincoln College
Canterbury
New Zealand

UNIVERSITY COLLEGE OF AGRICULTURE

Telephone: Halswell 8029

APPENDIX I

4 February 1977

Dear Sir,

You may know that a detailed study on the feasibility of establishing a sugar beet industry in New Zealand is soon to be initiated. There appears to be wide farmer support and interest in such a development but there is little firm background information. Because of this we are conducting a survey of farmers in feasible sugar beet growing areas. Your name was selected at random to make up a sample of farmers in your county.

The success of the survey depends on you completing the enclosed questionnaire. We assure you that all replies received will be treated with the strictest confidence and that no information about individual farmers will go beyond this College.

The questionnaire takes about 10 minutes to complete and we would appreciate having your replies by the 18 February. You will find a stamped addressed envelope for the return mailing.

Thank you,

Yours sincerely,

J.B. Dent
Professor of Farm Management

SUGAR BEET SURVEY

PART A. GENERAL FARM INFORMATION

1. What is the total area of your property? _____ acres
2. How far is the property from the Ashburton Post Office? _____ miles
3. How would you classify your position?

3.1 Owner operator	
3.2 Owner non-manager	
3.3 Manager in consultation with owners	
3.4 Lessee manager	
3.5 Other (please state).	
4. How do you classify your property?

4.1 Mixed cropping and stock	
4.2 Intensive fattening	
4.3 Intensive cropping	
4.4 Store lamb production	
4.5 Dairying	
4.6 Other (please state).	
5. How many people work full time on the farm for more than 6 months of the year? (including owner/manager)

--
6. Did you employ any part time labour last year? (include wife but not contractors)

YES		NO	
-----	--	----	--
7. Which of the following machinery do you either own or have easy access to when the time arises?

7.1 Truck (greater than 2 tons)	
7.2 Plough	
7.3 An inter-row cultivator	
7.4 A precision drill	
7.5 Spray equipment (suitable for crop spraying by tractor)	
7.6 Trailer (heavy duty)	
7.7 Fertiliser topdresser	
7.8 None of the above	

11. Imagine that sugar beet has turned out to be a profitable crop and you have decided to commit yourself to long term sugar beet production. You must now obtain the use of specialist equipment (a harvester valued at approximately \$20,000 and a precision drill valued at \$2,600).

Which of the following would best describe your action in the case of the harvester?

- 11.1 I would probably look to buying my own harvester.
- 11.2 I would probably rely on leasing
- 11.3 I would try to organise a syndicate
- 11.4 I would most likely use contractors
- 11.5 I would rely on friends or neighbours
- 11.6 Other (state) _____

12. If you don't already have a precision drill, which of the following would best describe your action in acquiring the use of the drill?

- 12.1 I would probably buy my own drill
- 12.2 I would probably rely on leasing
- 12.3 I would try to organise a syndicate
- 12.4 I would probably rely on contractors
- 12.5 I would rely on friends or neighbours
- 12.6 Other (state) _____

13. In order to assure the initial supply for a factory would you be prepared to undertake the following two commitments:

- (i) an agreed minimum acreage
- (ii) growing for a number of consecutive years

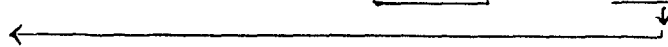
	YES	NO
(i)	<input type="checkbox"/>	<input type="checkbox"/>
(ii)	<input type="checkbox"/>	<input type="checkbox"/>

PART C.

14. Have you ever had experience in growing the similar crop fodder beet?

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

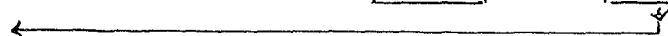
If 'NO' go to Q.18.



15. Do you grow fodder beet regularly?

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

If 'NO' go to Q.17.



16. If you do grow fodder beet regularly, do you
- | | | | | |
|------------------------------|---------|--------------------------|--|--------------------------|
| (i) do your own sowing? | YES | <input type="checkbox"/> | | <input type="checkbox"/> |
| (ii) do your own harvesting? | YES | <input type="checkbox"/> | | <input type="checkbox"/> |
| | I GRAZE | <input type="checkbox"/> | | <input type="checkbox"/> |

17. What problems have you experienced with fodder beet?
- | | |
|---------------------------------|--------------------------|
| 17.1 Soil too shallow or stoney | <input type="checkbox"/> |
| 17.2 Weed problems | <input type="checkbox"/> |
| 17.3 Does not suit rotation | <input type="checkbox"/> |
| 17.4 Wet soil at harvesting | <input type="checkbox"/> |
| 17.5 Other (please state) _____ | <input type="checkbox"/> |
| 17.6 No problems. | <input type="checkbox"/> |

18. Where have you acquired your most useful knowledge of sugar beet production? (Tick only one box)
- | | |
|--|--------------------------|
| 18.1 I have little or no knowledge of sugar beet production. | <input type="checkbox"/> |
| 18.2 Reading magazines, books, & newspapers | <input type="checkbox"/> |
| 18.3 Through previous experience growing fodder beet | <input type="checkbox"/> |
| 18.4 Through talking to other farmers | <input type="checkbox"/> |
| 18.5 Through approaches from a commercial firm | <input type="checkbox"/> |
| 18.6 Other (please state) _____ | <input type="checkbox"/> |

19. Before going into sugar beet production, which of the following would you consider necessary for yourself? (You can tick any number of boxes)
- | | |
|---|--------------------------|
| 19.1 More advice on the crop husbandry | <input type="checkbox"/> |
| 19.2 Information about the long term financial returns. | <input type="checkbox"/> |
| 19.3 A guaranteed minimum price for the crop | <input type="checkbox"/> |
| 19.4 A financial interest in the processing factory | <input type="checkbox"/> |
| 19.5 Information about irrigation requirements | <input type="checkbox"/> |
| 19.6 An option to withdraw from the contract | <input type="checkbox"/> |
| 19.7 An option to use the beet as stock feed | <input type="checkbox"/> |
| 19.8 Other (please state) _____ | <input type="checkbox"/> |

20. If sugar beet turned out to be profitable, but you found that to grow it you needed additional full time labour, would you still consider growing the crop?

YES NO DON'T KNOW

21. If 'NO' what main reason do you have for this?

21.1 No labour accommodation

21.2 Cost of labour

21.3 Other reasons

22. Over the past year have you ever sought advice from any of the following people?

22.1 Farm Improvement Club adviser

22.2 Ministry of Agriculture adviser

22.3 Private Farm Consultant

22.4 Lincoln College Farm Advisory Service

22.5 A commercial field service.
(e.g. a fertiliser or weed spraying firm)

YES	NO

23. Sugar beet tops and crowns have a similar nutritive value per acre to turnips. Would you envisage using these tops and crowns as stock feed? (The tops look a bit like fodder beet and are usually windrowed then set stocked.)

YES NO DON'T KNOW

24. Sugar beet farmers are usually given the chance to buy their dried sugar beet pulp back at a discount rate. The pulp is in nut form and has a feed value equivalent to barley. If the price made it worthwhile, would you consider using the nuts as stock feed.

YES NO DON'T KNOW

25. YOUR NAME

26. YOUR AGE (just tick the range).

18 - 25	25 - 35	35 - 45	45 - 55	55 - 65	65+

27. Correct postal address _____

28. Telephone No. _____

29. Any comments you may wish to add - they will be appreciated.