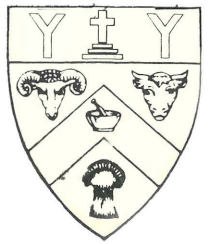


# Lincoln College Department of Farm Management and Rural Valuation



## **A Survey Of The Economics And Management Of Gummy Ewes**

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**DISCUSSION PAPER NO. 2**





A SURVEY OF THE ECONOMICS  
AND MANAGEMENT OF  
GUMMY EWES

BY

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## ACKNOWLEDGEMENTS

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Any remaining errors in analysis or interpretation remain our own.

Murray McGregor

Gerald Frengley

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## CHAPTER 1

### SUMMARY

The purpose of this survey was to investigate the practice of running gummy ewes. Their management, production and costing factors were analysed. The information was gathered from fifty farmers in the Canterbury, Otago and Southland areas by a personal interview survey. The questionnaire covered the above aspects and aimed to gain farmer opinion on the practice of running these ewes.

It is evident from this survey that a decrease in wool weight can be expected; 47 percent of the farmers stated that they expected the drop to be approximately 1 kg compared with their mixed aged ewes. Furthermore, 67 percent of the farmers have found that slightly higher losses could be expected. These losses are significantly offset by a gain in lambing percentage of between 10 and 15 percent compared with mixed aged flocks on the same farms.

Gross margin analyses showed that a five year breeding own replacements system gave highest returns when the cull ewe and lamb prices were similar but as the difference between these two became larger, the two year flock system of buying gummy ewes was the more profitable. For the majority of the surveyed farms this latter policy has proven the most profitable over recent years.

## INTRODUCTION

2.1 Reasons for the Investigation

The hypothesis for this study was that there is an unnecessary wastage of good breeding ewes in the New Zealand flock. Exploring this hypothesis involved identifying aspects of production in which gummy ewes were inferior or superior to mixed aged ewes in the same flock and where possible to put likely costs and returns on these factors.

2.2 Survey Description

In the late winter of 1976 a personal interview survey was carried out in Canterbury, Otago and Southland to investigate the factors involved in running gummy and broken mouthed ewes, their expected production and financial returns.

The names of 85 farmers were received from Ministry of Agriculture and Fisheries Farm Advisory Officers and Sheep and Beef Officers, private consultants, stock firms and the farmers themselves who replied to an article in "The Press" published during June 1976 and a subsequent radio talk outlining the survey. The greatest number of names came from this latter source and indicated that many farmers not identified by advisory personnel had had experience with this particular practice.

Each farmer was contacted and 58 farmers were interviewed, 26 in Canterbury, 8 in Otago, and 24 in Southland. Of these 58 farmers, 50 were accepted for the purposes of this survey. Eight were excluded because insufficient information was available or because the practice of running gummy ewes had only begun in the 1976/77 season. However, accurate information comparing the performance of mixed aged and gummy ewes

with respect to wool weights, lambing percentages, losses, age of ewes etc. was hard to obtain and many of the answers to the questions in the questionnaire are opinions based on the farmers' experiences with running these sheep. The questionnaire covered a wide range of considerations about aspects of the management practice to be used as indicative information for further research.

The completed questionnaires are analysed, presented and discussed in the following sequence:

1. An indication of the general characteristics of the farms surveyed.
2. The management practice for gummy ewes through the year.
3. Farmer opinions of the expected production from gummy ewes.
4. The marginal and actual financial costs and returns obtained in the 1975/76 season.

## CHAPTER 3

## RESULTS

3.1 General Data on Surveyed Farms1. Area

Of the 50 farms considered suitable for this survey the range in area was from 20 ha to 6880 ha. The majority of farms were smaller than 300 ha. (See Figure 1)

2. Topography

Flat	53%
Undulating to Rolling	41%
Hill Country	6%

Fifty-three percent of the farms were on flat land and 41 percent on undulating to rolling topography. The majority of the farms in the latter category being in the Southland area.

3. Rainfall

The surveyed farms were evenly spread throughout the 38-115 cm rainfall range. (See Figure 2)

4. Class of Farming

Dairy, South Island	2%
Hill Country, South Island (Class II)	2%
Fattening Breeding Farms, South Island (Class VI)	38%
Intensive Fattening Farms, South Island (Class VII)	36%
Mixed Cropping and Fattening, South Island (Class VIII)	22%



FIGURE 1

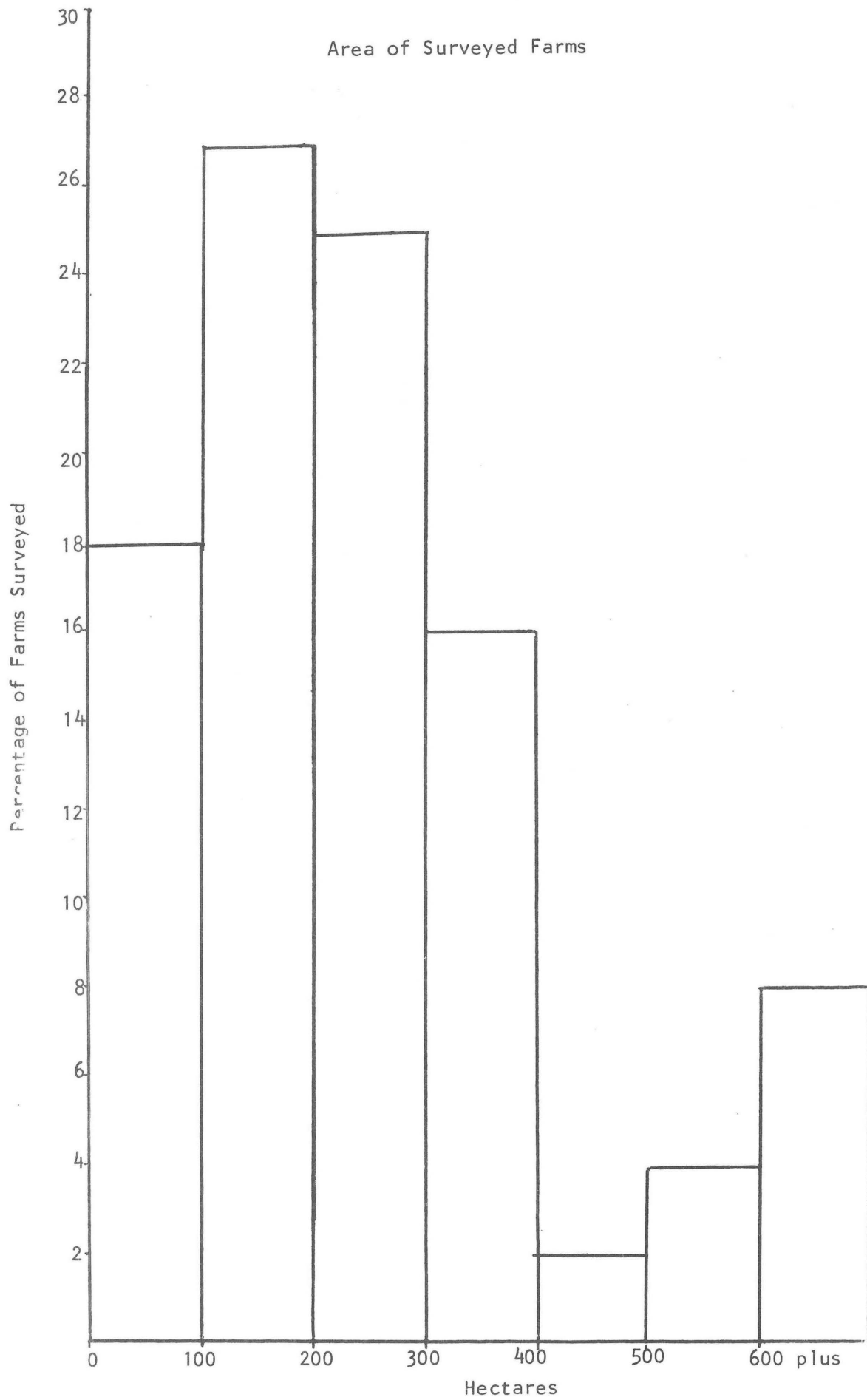
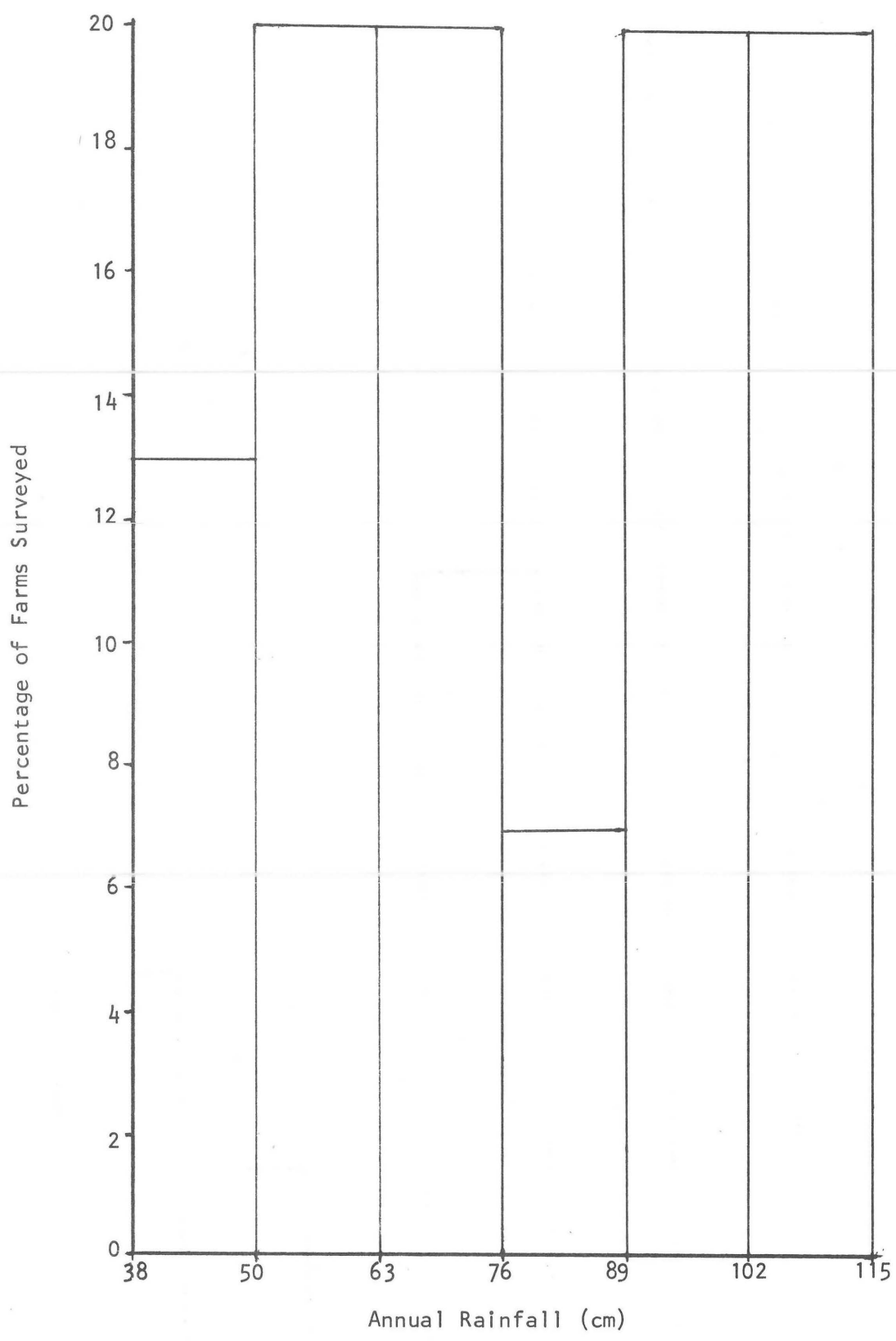


FIGURE 2

Annual Rainfall on Surveyed Farms



For the purpose of identification of farming type, the Meat and Wool Boards' Economic Service Classification was used. The majority of farms fell into the fattening breeding or intensive fattening farms classification. One farm was classified as a store sheep and cattle hill country farm and another as a dairy farm.

#### 5. Stocking Rate

Stocking rate ranged from 2.0 S.U./ha to 20 S.U./ha, with 47 percent of the farms falling into the 11-15 S.U./ha range. These latter farms are in the moderate to high stocking rate class.

(See Figure 3)

#### 6. Number of Gummy Ewes Held Each Year

The number of gummy ewes held in the flock varied considerably but the majority held less than 400 gummy ewes. (See Figure 4) The trends in the 1973-76 period were towards an increase in the number of gummy ewes held on 45 percent of the farms, no change on 39 percent of the farms while 16 percent had decreased the numbers held.

### 3.2 Management Factors

#### 1. Breed of Ewe

Romney	39%
Border Leicester cross Romney	20%
Corriedale	18%
Border Leicester cross Corriedale	9%
Coopworth	3%
Merino and Halfbred	9%
Perendale	2%

FIGURE 3

Stocking Rate on Surveyed Farms

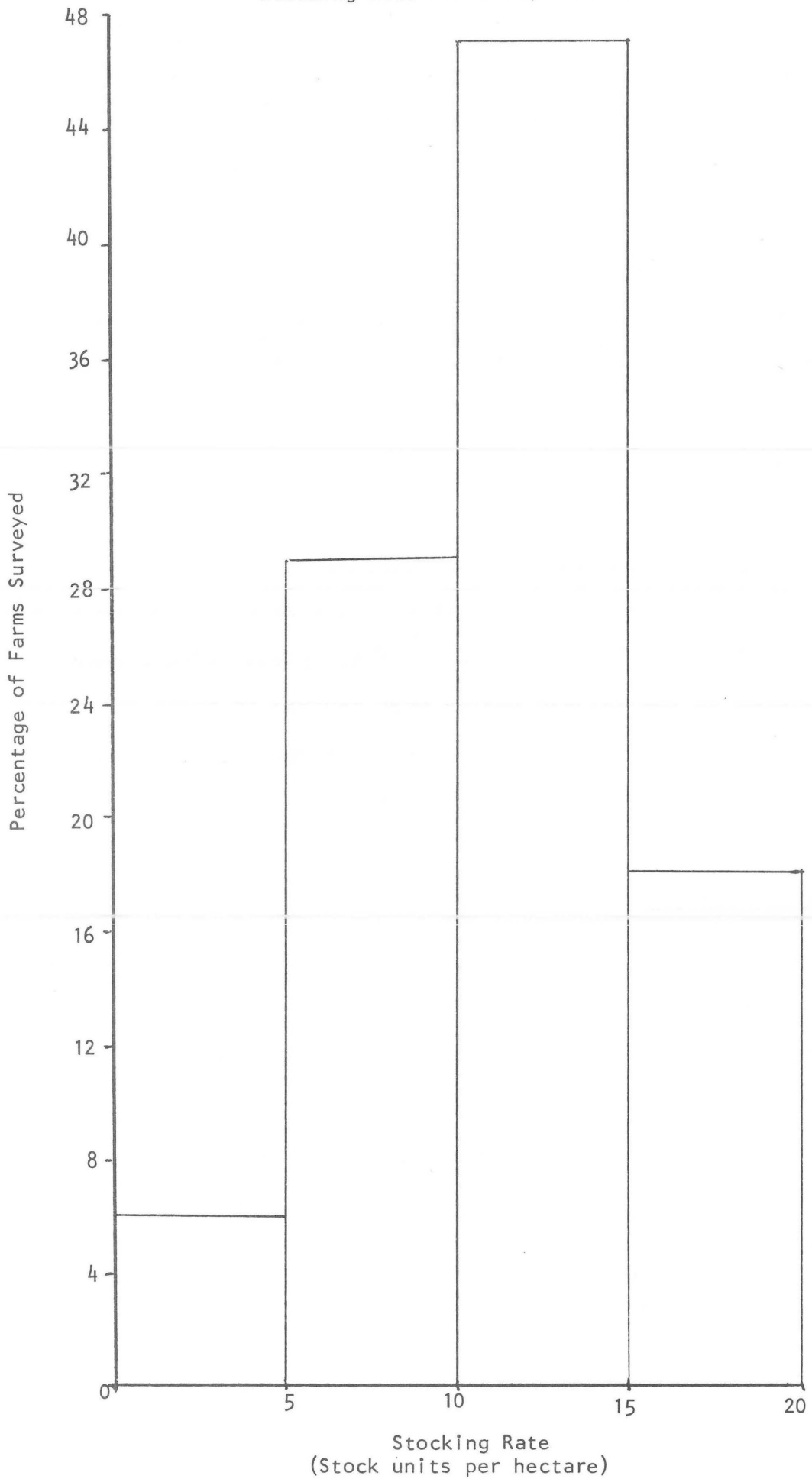
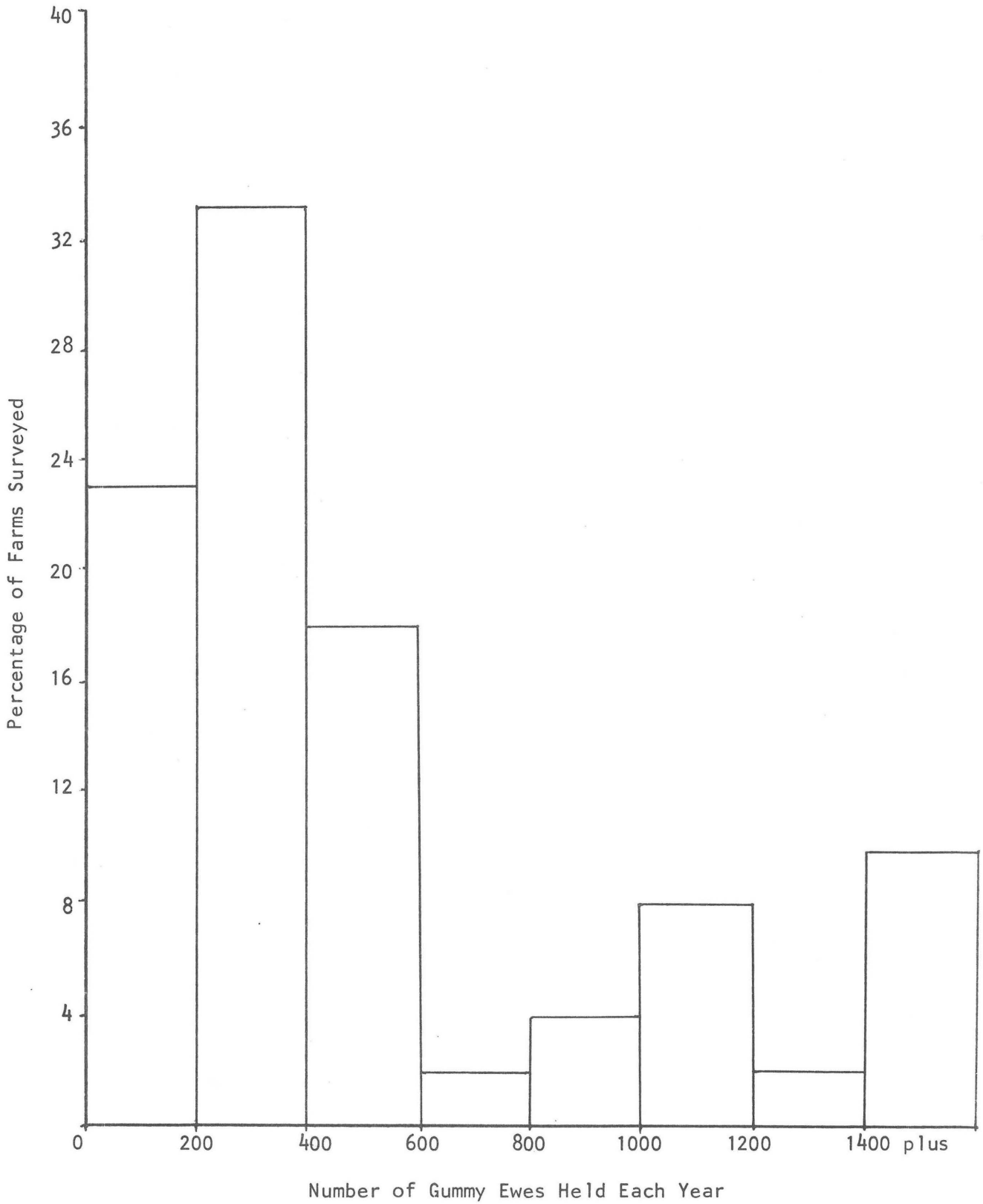


FIGURE 4

Number of Gummy Ewes Held Each Year



The Romney was the major breed of ewe run, followed by the Border Leicester cross Romney and Corriedale. The reason for the Romney and Romney cross sheep being dominant is due to their availability and suitability for the farms within the surveyed area.

2. Average Age of Gummy Ewes.

5 years old	10%
6 years old	60%
7 years old	20%
8 years old	6%
9 years old	4%

The range in age of the gummy ewes was from 5 years old to 12 years old. Sixty percent of the farmers felt that the gummy ewes run in their flocks were 6 years old.

3. Number of Years Gummy Ewes are Retained

One year	54%
Two years	40%
Three years	6%

On average 54 percent of the farmers surveyed ran these ewes as a one year flock. This meant that the ewes were identified and marked at culling if they would last another year. Once a ewe was identified it had no chance of going on in subsequent years. Forty percent of the farmers held gummy ewes two years past the gummy stage. In one case a farmer held gummy ewes up to 5 years past the gummy stage but the number held in each successive year decreased.

4. Purchase or Retention of Ewes

To the question "Are these gummy ewes bought in or are they your own", 42 percent of the farmers replied that the gummy ewes had come through their own flock and 42 percent said they purchased gummy ewes. A further 16 percent had a practice of both buying gummy ewes and retaining gummy ewes from their own flock.

(a) Farmers retaining their own ewes

## (i) What age do mouths fail in your flock?

4 years old	17%
5 years old	69%
6 years old	11%
7 years old	3%

The majority of farmers, ie. 69 percent, said mouths failed at 5 years old in their flocks. This varied between farms, particularly in Canterbury, between a drought year and a good year.

## (ii) What proportion of your own failed mouth ewes are suitable to be retained?

less than 20%	10%
21-40%	23%
41-60%	30%
61-80%	17%
81-100%	20%

The question of whether a ewe was suitable to be retained depended largely on the district, the type, quality, and amount of feed available, and the constitution of the ewe, ie. fewer of this class of ewe would be held on harder country where grazing pressure would be put on them.

(b) Farmers purchasing ewes

## (i) Requirements:

## First choice -

constitution	78%
teeth	7%
breed	4%
other	11%

The constitution of the ewe was the prime concern of 78 percent of the farmers when purchasing ewes. Only 7 percent of the farmers stated that the ewe's teeth or lack of teeth affected their choice when buying. By this they meant that if a ewe's mouth had one or two teeth protruding, and therefore hindering eating, it would not be purchased.

## Second choice -

constitution	5%
teeth	16%
breed	42%
other	37%

Breed was the next concern of most farmers. Teeth again played only a minor role but farmers again stated that they would rather see an even mouth whether it had teeth or not. The "other" factors mentioned above are in the main the price paid for the ewes and that the sheep must be free of defects.

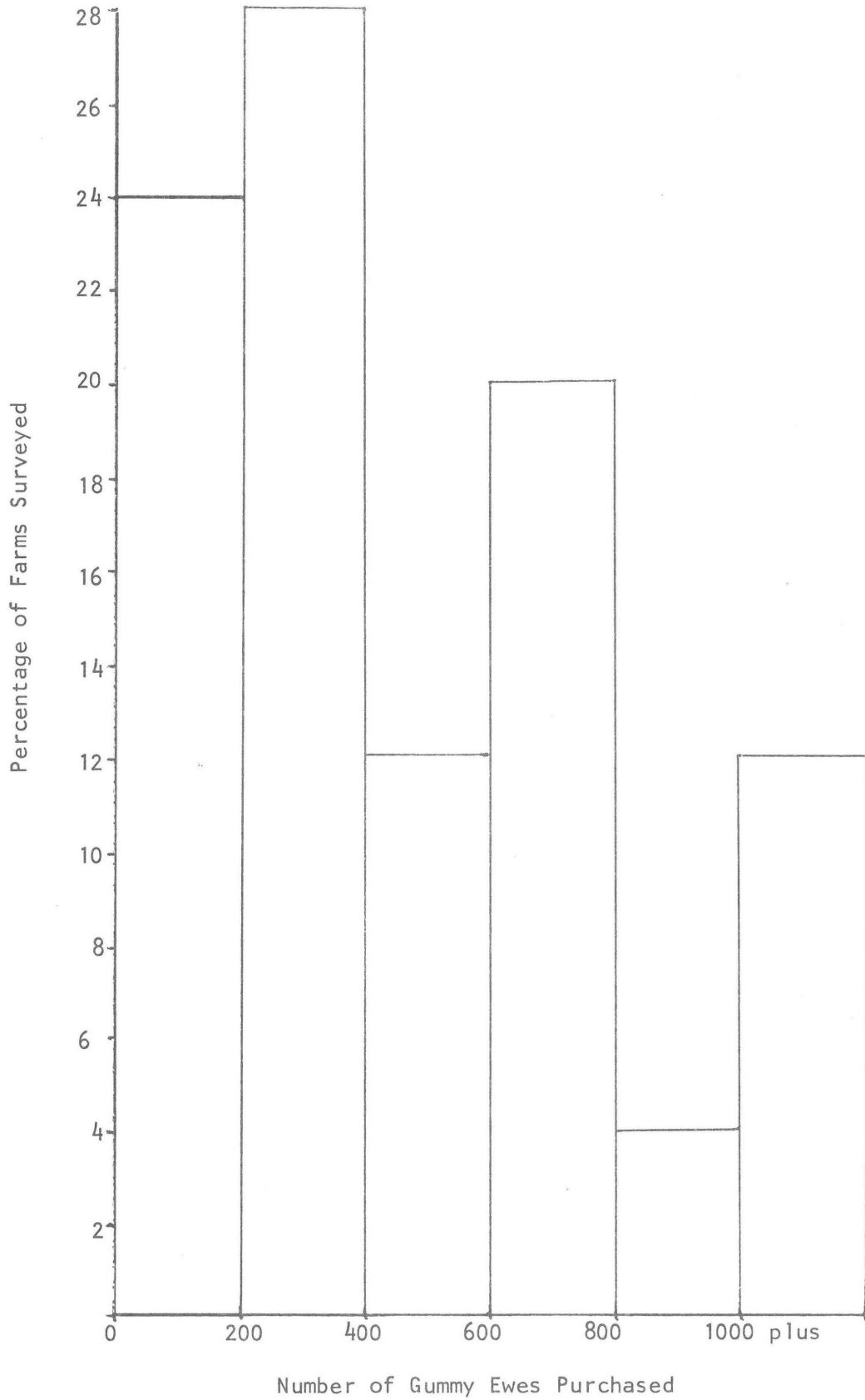
## (ii) Numbers purchased:

The number of ewes purchased by farmers ranged from 100-2000 depending on the different management policies of the farmers and also on the differences in the size of their farms. The majority, however, purchased less than 600 ewes per year. (See Figure 5)



FIGURE 5

Numbers of Gummy Ewes Purchased



(iii) Of those ewes purchased, what percentage are retained for breeding purposes in that year?

Fifty four percent of the farmers stated that of the ewes they purchased, the total number were suitable for retention. (See Figure 6) In some cases farmers purchased a mob of "works ewes" from a neighbour and only retained a percentage of these ewes. This explains the variation evident. The ewes retained did not meet the requirements expressed above as farmer preferences.

(iv) Source of ewes:

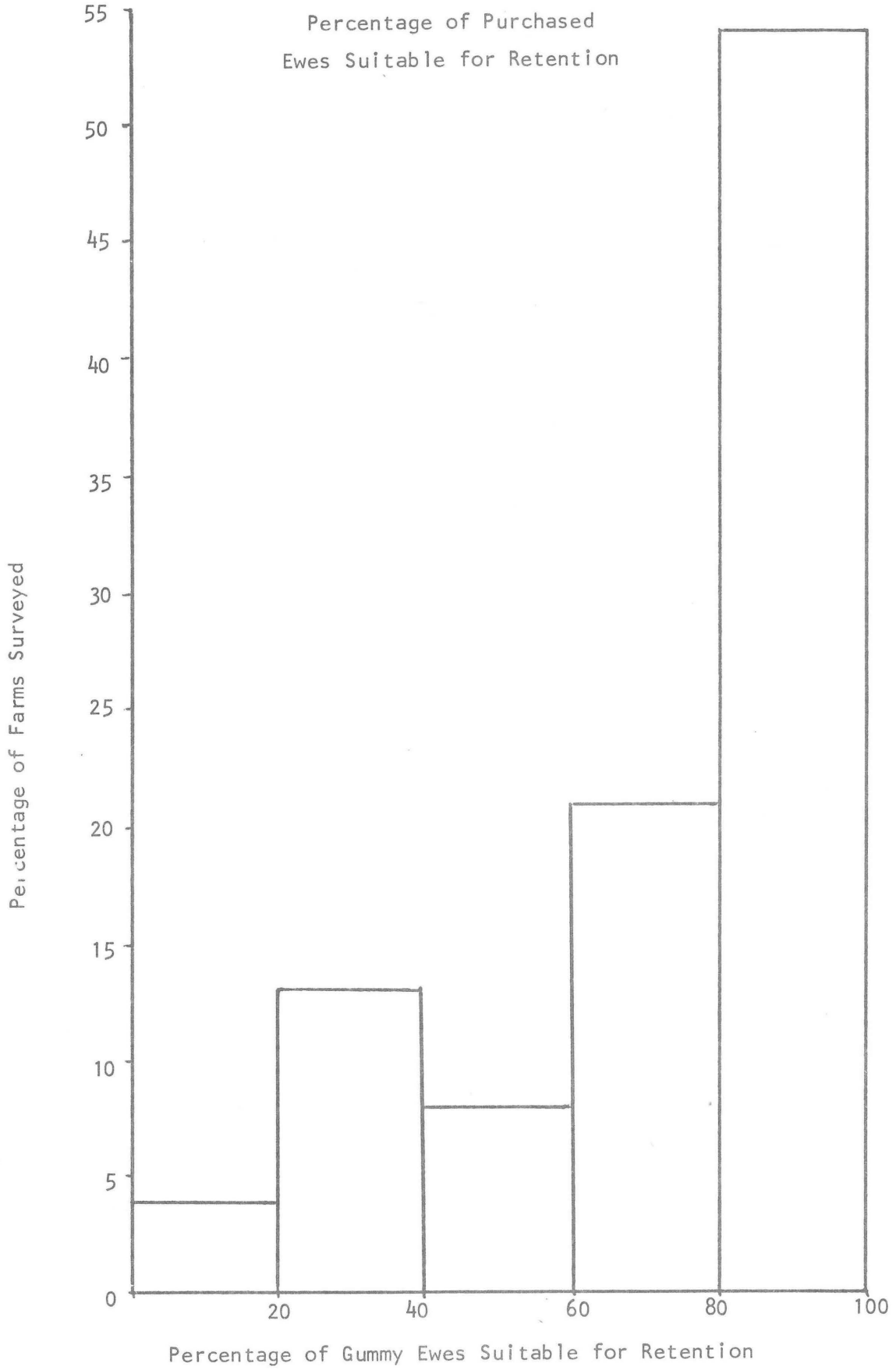
The main source of ewes was by private sale. This accounted for 59 percent of the ewes purchased. The remaining 41 percent were purchased through the saleyards.

When asked, "Do you ever buy from other sources"? 58 percent of the farmers stated that they would. Of the 42 percent who said they would not, the main reason was that they did not want to buy other people's problems, by buying ewes through the saleyards.

(v) Date of purchase:

before January	4%
early January	-
late January	15%
early February	22%
late February	22%
early March	22%
late March	4%
later than March	11%

FIGURE 6



The main period for purchasing ewes was in the February to early March period when 66 percent of the ewes were purchased. Within the later than March category, one farmer specialised in the purchase of in-lamb ewes.

(vi) How far are the bought-in ewes transported?

Thirty six percent of the farmers purchased their ewes within 16 km of their farm. (See Figure 7) The majority of such farmers drove the ewes home themselves. The farmers purchasing ewes further than 64 km from their farm would prefer not to do so in the future, due to the rising costs of transport.

#### 5. Stock Grazing Management

Rotational Grazing	50%
Set Stocking	22%
Combination	28%

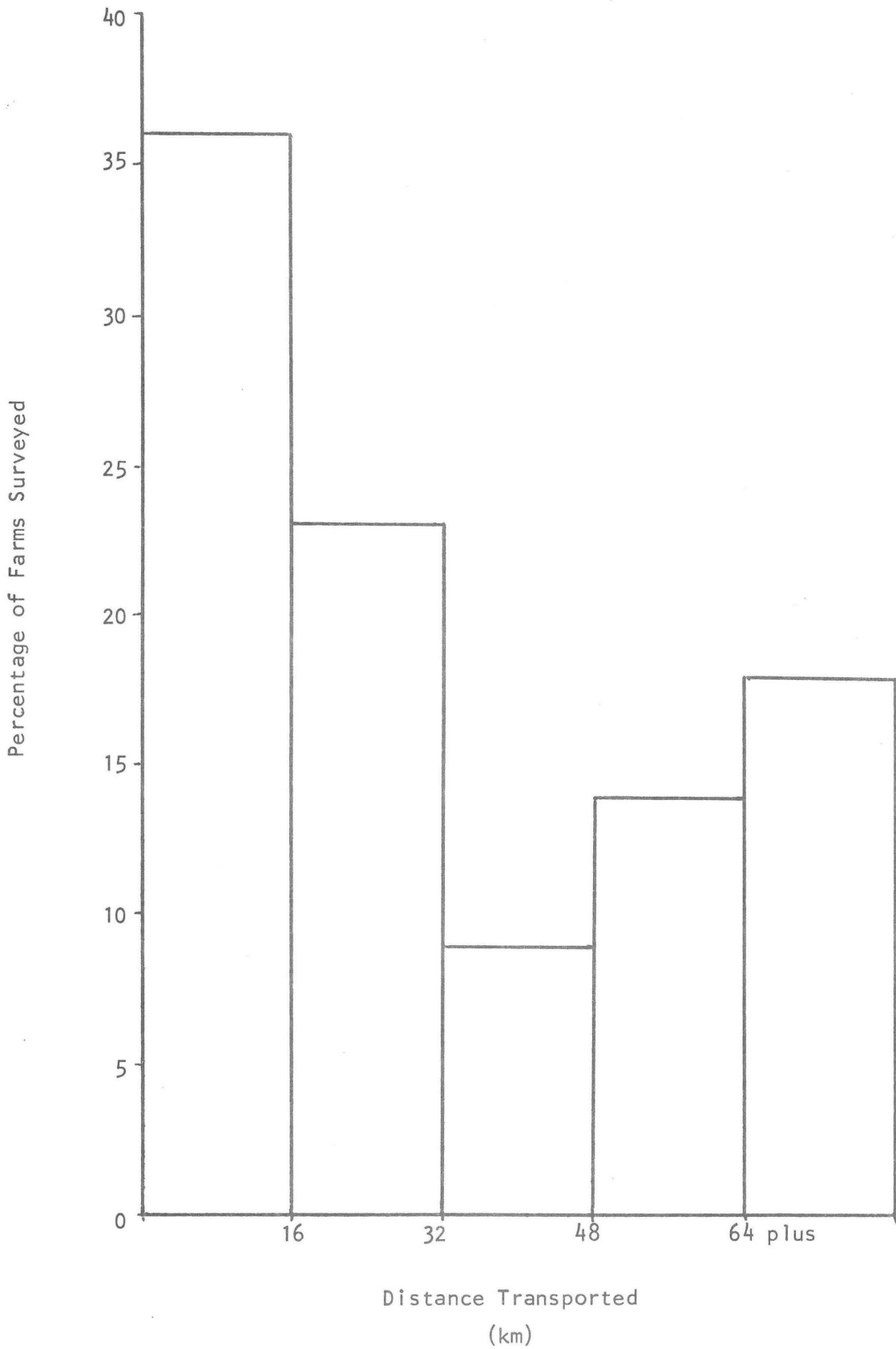
Rotational grazing was the most common method of grazing the gummy ewes. A small number, ie. 22 percent, set stocked the gummy ewes while a further 28 percent had a policy combining both set stocking and rotational grazing.

#### 6. Winter Management

(a) When asked the question, "Are the gummy ewes run separately or with the flock ewes?" 68 percent of the farmers replied that they ran these ewes separately. The remainder, ie. 32 percent, ran these ewes together with their flock ewes.

FIGURE 7

Distance Bought-In Ewes are Transported



(b) Winter Feeding

Grass plus Hay	31%
Grass, Hay and Greenfeed	31%
Grass only	12%
Grass, Hay and Grain	12%
Grass, Hay and Turnips	8%
Grass plus Greenfeed	2%
Grass, Turnips, Hay and Greenfeed	2%
Grass, Silage, Hay and Grain	2%

As can be seen by the information above, there are a number of winter feeding policies used by farmers running gummy ewes. The grass plus hay and, the grass, hay and greenfeed, are the most popular methods of feeding these ewes over the winter. Soft feeds are generally preferred by farmers running these ewes. Two farmers, however, did run gummy ewes on turnips. The two points to come out of their practices were that where turnips are fed:

- (i) feed the tops rather than the bulbs, or
- (ii) feed turnips which have previously been crushed with a Cambridge roller.

One farmer interviewed went to the extreme of feeding his old ewes daily rations of cut grass and hay in sheltered yards. He had not experienced other systems of grazing these ewes.

(c) Purchase of Supplementary Feed

To the question "Do you need to purchase supplementary feed for these ewes", 15 percent replied that this was necessary. The feeds purchased were hay, grain, sheep nuts and in one case grazing. The remainder, ie. 85 percent of the farmers, found it unnecessary to purchase any supplementary feed for these ewes.

(d) Is Hay Made on the Property

More than required	57%
Required amount	35%
Less than required	4%
None	4%

More than the required amount of hay was made by 57 percent of the farmers with 35 percent of the farmers making the required amount. The hay made in excess of requirements was rarely sold; generally it was held over in anticipation of harder conditions.

7. Lambing(a) Lambing Date

The following information shows when the gummy ewes lambed in relation to the mean main flock lambing date.

6 weeks plus	prior to mean main flock lambing date	2%
4-6 weeks	prior to mean main flock lambing date	9%
2-4 weeks	prior to mean main flock lambing date	11%
0-2 weeks	prior to mean main flock lambing date	20%
	the same as the mean main flock lambing date	51%
0-2 weeks	after the mean main flock lambing date	7%

The August and early September periods were the most popular lambing dates. Those lambing in July were on light land in the Canterbury plains area. They lambed early in order to sell both the ewes and lambs to the works early therefore avoiding summer drought feed shortages. The earliest lambing date was in Canterbury on the 29 June and this was 8 weeks prior to that farmer's mean main flock date. The farmer concerned obtained a similar lambing percentage to his main flock ewes

(all sheep were Corriedales). The early lambing in most cases was aimed at helping to spread labour requirements at lambing and to allow, where possible, for early culling of cull ewes.

The reasons obtained from those farmers lambing later than the mean main flock lambing date were:

- (i) they had endeavoured to put weight on the ewes before tugging.
- (ii) labour becoming available at this time, and
- (iii) ewes in question were kept after problems were experienced having them killed.

It would appear that farmers would prefer to lamb gummy ewes with the rest of their flock or in some cases slightly before the main flock ewes.

(b) Reasons for Choosing a Particular Lambing Date

Problems getting ewes killed ie. enable early killing	34%
Labour availability	8%
Fit growth pattern	50%
To obtain a high lambing percentage	8%

The majority of farmers, ie. 50 percent, stated that their lambing date was chosen to suit the growth pattern on their farm. The second factor was that by shifting the lambing date forward farmers were able to get cull ewes killed when it suited them. Labour, particularly school children at home over the August holidays, influenced 8 percent of the farmers as did the ewe cycling information given by their local veterinary club.



(c) Spread of lambing

Shorter	42%
Same	29%
Longer	19%

The spread of lambing was shorter, on 42 percent of the farms, compared with the main flock ewes. This was due to the older ewes taking the ram quicker. A similar lambing pattern was experienced in 39 percent of the cases. Farmers that stated that they had a longer lambing were generally those lambing early. In these cases it is unlikely that as many ewes would have been cycling when the rams were put out.

(d) Dry dry ewes

Slightly lower	34%
Same number	47%
Slightly higher	19%

This refers to ewes which have not lambed as distinct from ewes which have lost their lambs. From these figures it appears as if there is not a dry ewe problem with gummy ewes. In fact 34 percent of farmers said they got fewer dry ewes when compared with their main flock ewes. This is probably due to all dry ewes being culled in previous years.

Thirty two percent of the farmers surveyed found that they had more problems with gummy ewes having bad udders, ie. wet-dries. This meant extra work at lambing as lambs had to be mothered on.

(e) Breed of ram used

Ewe and wool breed	39%
Lightweight lamb sire	33%
Medium-weight lamb sire	17%
Heavy-weight lamb sire	11%

The gummy ewes were used primarily for the production of prime lambs rather than breeding for replacements because farmers thought that better genetic material was obtained from younger stock. The ewe and wool breed ram was put over the gummy ewes on 39 percent of the surveyed flocks but prime lamb sires were used over the remaining 61% of the flocks.

Of the above classifications the following were the most commonly used rams in each class,

- (i) ewe and wool breed - Romney and Border Leicester.
- (ii) lightweight lamb sire - South Dorset Down. This was the most commonly used ram overall as it is used in 15.5 percent of the flocks.
- (iii) medium-weight lamb sire - South Suffolk.
- (iv) heavy-weight lamb sire - Suffolk.

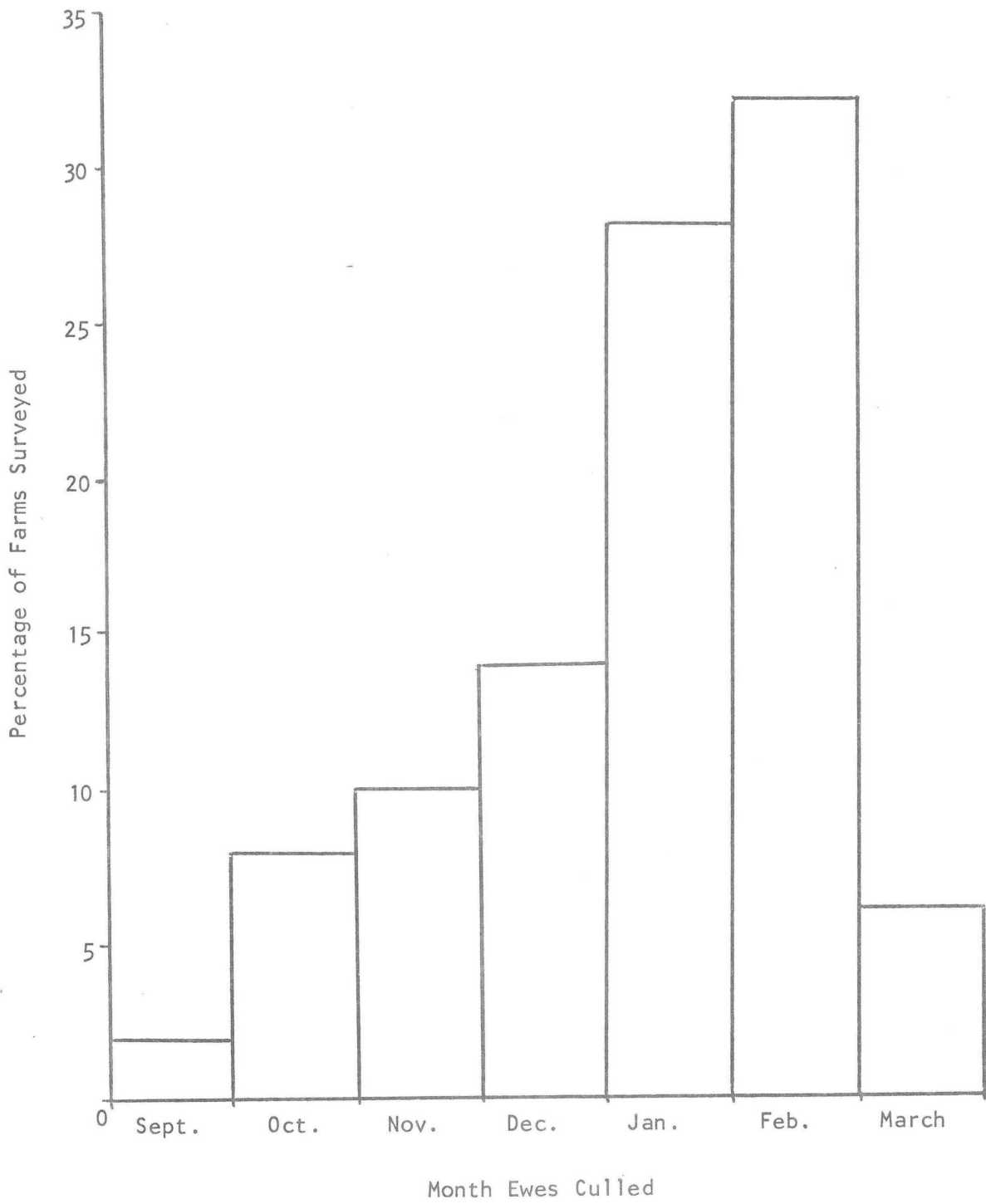
8. Culling(a) Culling Criteria

At culling the prime consideration in 68 percent of the cases was constitution. By culling solely on constitution, farmers were able to save time by not having to mouth all possible cull ewes. Other factors taken into consideration at culling were:

- (i) age of the ewe. Some farmers had a policy of all sheep going at a specific age.
- (ii) obvious faults, ie. wool, udders, feet etc., and
- (iii) lambing and mothering problems.

FIGURE 8

Surveyed Farms Time of Culling



(b) Time culled

The main time of culling was in the January/February period. (See Figure 8) Farmers culling earlier than December were those farmers who were lambing early. Three farmers sold ewes and lambs 'all counted' as a common practice. These were sold in September in two cases and October in one case. The culling times mentioned above are for a normal year, as disputes in the freezing industry, in Southland particularly, have meant that cull ewes may not be killed until May/June.

In response to the following question, "Do you normally have any problems getting your ewes killed?" 50 percent of the farmers replied in the affirmative. But 53 percent of the farmers had trouble getting ewes killed in the 1975/76 season due to disputes in the freezing industry.

9. Labour

When asked, "Is any extra labour required for the gummy ewes?" the following was found:

More work	27%
Same work	51%
Less work	22%

It would appear from the above that the gummy ewes required the same amount of work when compared with the main flock ewes. Of those that stated these ewes required more work, the major factor was that the ewes had to be run as a separate mob. The major factor for those farmers which stated that these ewes required less work was that they were less trouble over lambing.

None of the farmers surveyed had to employ extra labour because they were running gummy ewes.

## 10. Machinery

To the question, "Is any extra machinery required for the running of the gummy ewes?" all farmers replied in the negative.

### 3.3 Production Data

#### 1. Lambing percentage

The majority, ie. 56 percent of farmers, thought that their gummy ewes gave a higher lambing percentage when compared with the average from their mixed age flock ewes. (See Figure 9) The major factors involved are a greater number of twins with fewer dry ewes. This could be due to the fact that these ewes are older and ovulate more heavily and also that generally they have been fed better than the flock ewes, therefore giving them an advantage. These ewes were generally fed better prior to tugging and the body weight was maintained through the winter, if the feed was available. Farmers found in general that these ewes were good lambers and required less shepherding over lambing.

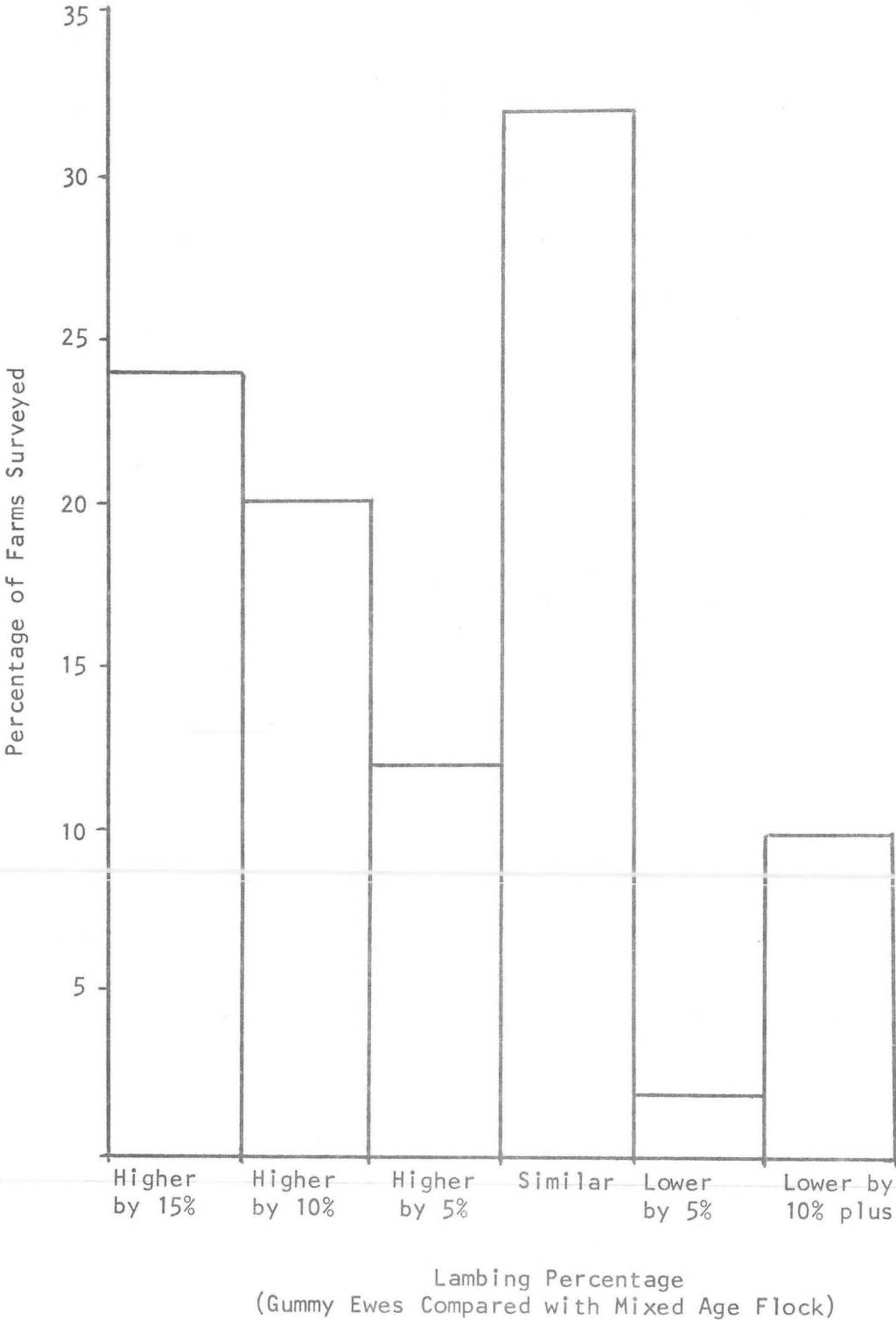
In some cases farmers were not looking for a very high lambing percentage from the gummy ewes as this could present them with mothering up problems because of the udder problems they had experienced with these ewes. Another factor influencing this viewpoint was that a ewe rearing twins tended to lose condition rapidly if there was a post-lambing pinch for feed.

#### 2. Wool weights

Class of Farm	Range (kg/hd)	Average (kg/hd)
S.I. Mixed Fattening	3.06-4.00	3.74
S.I. Intensive Fattening	3.18-4.08	3.66
S.I. Fattening Breeding	3.18-4.51	3.78
S.I. Hill Country	3.63	3.63
S.I. Dairy	4.32	4.32

FIGURE 9

Gummy Ewes Lambing Percentage  
Compared with Mixed Age Flock



The above table shows that wool weights from the gummy ewes were similar on all classes of country with the exception of the dairy farm where no pressure at all was placed on these ewes.

The majority of farmers found that wool weights were lower from their gummy ewes compared with the rest of their flock (including 2 T's). A drop of 1.0 kg was expected by 47 percent of the farmers. (See Figure 10) Farmers also stated that wool from the gummy ewes was of a lower quality. The major cause of the loss of wool production can be attributed to the age of the sheep but this may also be due to poor feeding over the summer period.

### 3. Deaths

0-5% deaths	58%
6-10% deaths	40%
10% plus deaths	2%

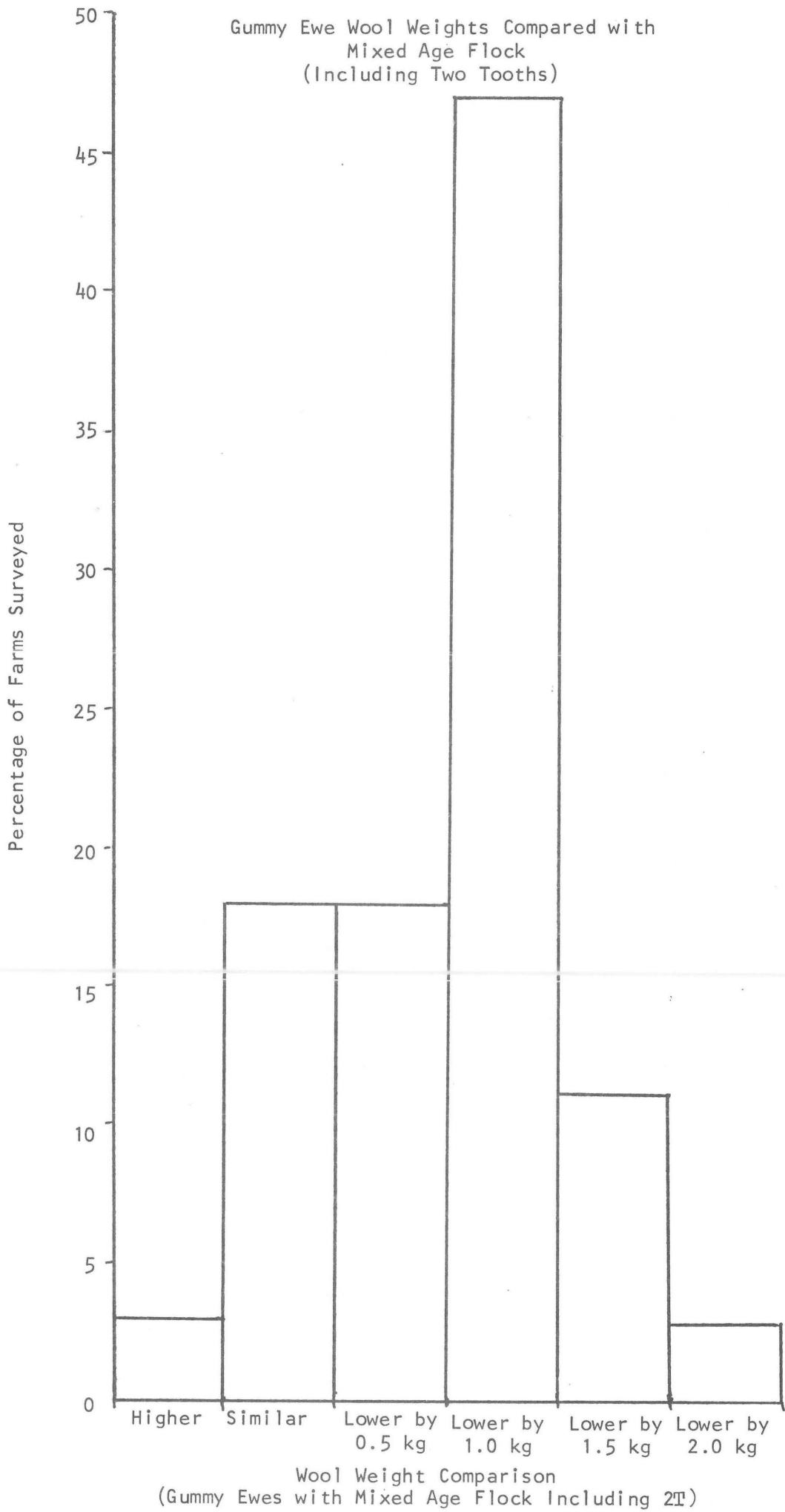
In 58 percent of the cases the expected losses were less than 5 percent with the major part of the remainder falling into the 6-10% bracket. These figures would suggest that a slightly higher number of deaths could be expected from these old ewes.

This was confirmed by the following, which states whether the losses were higher, the same, or lower than the rest of the flock.

Slightly higher	67%
Similar	22%
Slightly lower	11%

The main factors responsible for these losses being higher, are that the old ewes are more susceptible to fading and sleepy sickness. When a ewe faded it lost condition and no matter how it was fed this condition could not be regained. The above two factors accounted for 42 percent

FIGURE 10





and 31 percent of the deaths respectively within the gummy ewes on the surveyed farms.

e.g. Major causes of death.

Sleepy sickness	31%
Milk fever	4%
Black Leg	7%
Bearing trouble	1%
Lambing trouble	15%
Fading	42%

It was generally found that more ewes died after lambing than before. This was due to two things. The feed conditions which may prevail in a late or dry spring and more ewes rearing twins. If a feed pinch was experienced post lambing the gummy ewes suffered noticeably compared with the rest of the flock. Ewes rearing twins were more affected than those with singles.

#### 4. Percentage of Ewes Rejected at the Freezing Works

The range here was from 2 percent to 97 percent. (See Figure 11) The highest reject rate was over a small mob of ewes which were killed very late due to disputes in the freezing industry. It would appear that the expected reject rate would be approximately 9 percent. The major factor here was that once the works ewes were identified they were fed only to maintain weight or at a below maintenance diet on 88 percent of the surveyed farms.

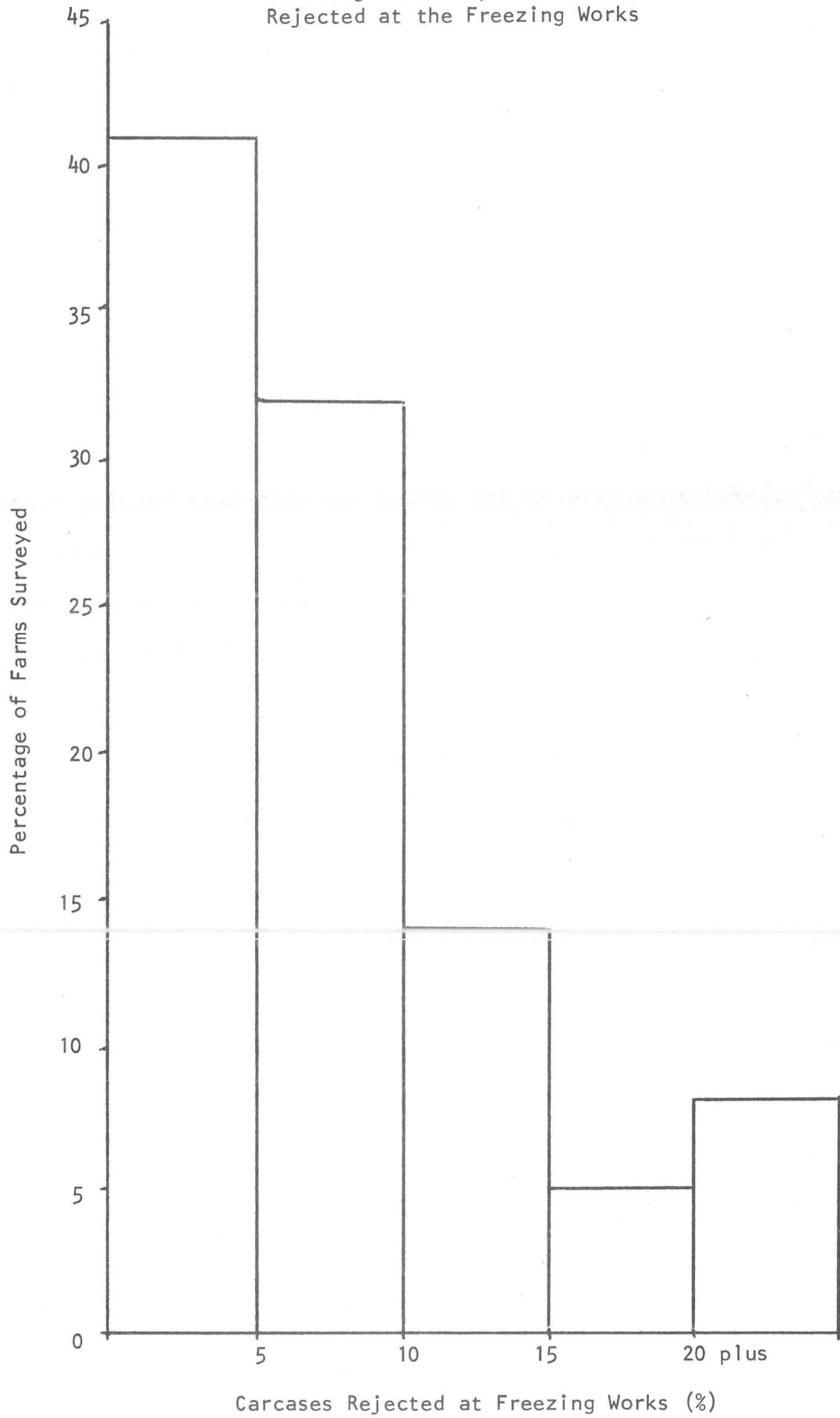
### 3.4 Financial Data (1975-76)

#### 1. Animal Health Costs

From the table below it can be seen that the average cost would appear to be in the 24-26c/hd range. The average cost and marginal

FIGURE 11

Percentage of Gummy Ewe Carcasses Rejected at the Freezing Works



Class of Farm	Range (c/hd)	Average Cost (c/hd)	Marginal <sup>2</sup> Cost (c/hd)
S.I. Mixed Fattening	10.5-37.5	26.35	+3.00
S.I. Intensive Fattening	10.5-35.03	19.81	-0.91
S.I. Fattening Breeding	10.5-41.5	24.55	-0.95
S.I. Hill Country	25.5	25.5	zero
S.I. Dairy	10.5	10.5	n/a

cost depend on:

- (a) whether ewes were drenched and if so, how many times, ie. the range was from zero to three drenches, and
- (b) whether ewes were vaccinated.

The trend on the majority of farms was to only dip the ewes and drench them once. The use of vaccines was not widespread. Farmers saw the animal health costs as an area where costs could be cut by only giving these ewes minimal animal health treatment.

The marginal costs show that gummy ewes would require slightly less in terms of cost per head than the mixed age ewe flock. The high value for the S.I. Mixed Fattening properties is due to the fact that only a small number of farms ran mixed age ewes in conjunction with gummy ewes, thus few comparisons were available.

## 2. Feed Costs

Provision for extra feed had to be made on seven of the surveyed properties. This was made in the form of hay, oats, barley, and fodder beet. The costs for this extra feed varied from 5c/head to 72c/head.

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<sup>2</sup>Marginal cost refers to the difference in costs associated with running gummy ewes when compared with a farmer's mixed age flock.

The wide range was due to some farms requiring more feed than others because of conditions and stocking rate.

Some idea of the costs when this feed was purchased are:

i.e. 1975/76 season.

0.75 bales hay per head at 60c per bale

0.74 bales hay per head at 97c per bale

3.8 kg of barley per head at \$75 per tonne

6.8 kg of oats per head at \$81 per tonne

6.5 kg of oats per head at \$84 per tonne

5 tonne of fodder beet at \$12 per tonne

8 tonne of fodder beet at \$11.50 per tonne

### 3. Shearing and Crutching Costs

Class of Farming	SHEARING		CRUTCHING	
	Range (c/hd)	Average Cost (c/hd)	Range (c/hd)	Average Cost (c/hd)
S.I. Mixed Fattening	23-27	26.38	0-15	8.58
S.I. Intensive Fattening	0-29.5	22.97	0-18	11.55
S.I. Fattening Breeding	0-58	24.75	0-18	11.63
S.I. Hill Country	23	23	16	16
S.I. Dairy	24	24	0	0

Costs only differ through regional effects. The farmer therefore has little or no influence over these costs. They give no added cost when compared with a mixed age flock. The reason for the 58c/hd in the S.I. Fattening Breeding range is due to one farmer double shearing.

4. Freight Costs for Ewes and Lambs (1975/76)

Class of Farming	Range (c/hd)	Average Cost (c/hd)	Marginal Cost (c/hd)
S.I. Mixed Fattening	51.0-172.25	91.93	+2.12c
S.I. Intensive Fattening	12.55-171.15	82.90	+1.03c
S.I. Fattening Breeding	36.70-135.00	77.23	+1.43c
S.I. Hill Country	50.56	50.56	0
S.I. Dairy	21.00	21.00	n/a

The freight costs varied according to the distance to the freezing works at which stock were killed. This varied from 16-100 km. The costs in the 1975/76 year on average were higher due to farmers in Southland having to truck stock to freezing works in Canterbury to be killed.

The marginal cost is a measure of the freight required for the extra lambs from the gummy ewes to be freighted to the freezing works as the gummy ewes in general gave a higher lambing percentage.

5. Gummy Ewe Purchases (1975/76)

Class of Farming	Range (\$/hd)	Average Cost (\$/hd)
S.I. Mixed Fattening	4.56-7.50	5.52
S.I. Intensive Fattening	4.31-6.88	5.68
S.I. Fattening Breeding	4.30-5.58	4.91
S.I. Dairy	7 00	7.00

The range in prices was \$4.30-\$7.50/hd overall. This wide range was due to the variation in the quality of the ewes purchased and the local demand. The farmers paying better prices for their ewes were paying for the extra body weight or because the ewe had a full fleece at the

time of purchase. The ewes purchased at \$7.50/hd were a line of overfat Corriedale ewes, thus accounting for the high price paid. One farmer purchased a line of in-lamb ewes at \$7.00/hd. The variation between classes of farms was minimal with the S.I. Fattening Breeding farmers paying the least for their ewes.

#### 6. Ewe Sales

Class of Farming	Range (\$/hd)	Average Price (\$/hd)
S.I. Mixed Fattening	4.23-8.83	6.68
S.I. Intensive Fattening	4.80-8.62	6.46
S.I. Fattening Breeding	4.50-10.10	6.96
S.I. Hill Country	7.40	7.40
S.I. Dairy	6.80	6.80

The above table refers to ewes sold to the freezing works in the 1975/76 season. Sales of ewes and lambs all counted were made by two farmers, who received an average price of \$5.40/hd.

Very little difference is evident between the classes of farms surveyed. The prices received were lower than the average price received for an EL ewe (under 22 kg) in the 1975/76 season which was \$6.99. This may suggest that these ewes were in poorer than average condition due to lack of feeding pre-slaughter. This is borne out by the following table.

Class of Farming	Range (kg/hd)	Average Weight (kg/hd)
S.I. Mixed Fattening	17.68-23.66	20.59
S.I. Intensive Fattening	14.46-21.59	19.10
S.I. Fattening Breeding	16.97-23.83	19.57
S.I. Hill Country	23.50	23.50

This table confirms that these ewes are in the lighter weight class, i.e. E.L., with only the ewes sold from the S.I. Hill Country farm being eligible for the E.M. class. Farmers fed their works ewes a maintenance or below maintenance diet on 88 percent of the farms surveyed and only 12 percent made an effort to fatten ewes for slaughter. Losses in this post weaning period were noticeably higher in some cases.

7. Lamb Sales (1975/76)

Class of Farming	Range (\$/hd)	Average Price (\$/hd)
S.I. Mixed Fattening	8.40-10.75	9.57
S.I. Intensive Fattening	8.79-12.38	10.53
S.I. Fattening Breeding	9.30-13.00	9.86
S.I. Hill Country	8.91	8.91
S.I. Dairy	11.00	11.00

The average price received for lambs in the Canterbury region in the 1975/76 season was \$9.93<sup>3</sup>. The above table shows that the surveyed farms produced lambs of this average value. Farmers who were lambing earlier have in some years been able to take advantage of an early season premium paid for lamb meat by the freezing companies. This then would appear to be an advantage of running this class of stock on those management lines, but this premium is not always evident. The fact that these lambs can be held longer and to higher weights is borne out in the following table.

Class of Farming	Range (\$/hd)	Average Price (\$/hd)
S.I. Mixed Fattening	12.80-16.46	14.49
S.I. Intensive Fattening	13.29-15.24	14.46
S.I. Fattening Breeding	13.48-16.78	14.65

<sup>3</sup>Source: Meat & Wool Boards' Economic Service.

The average weights of the lambs killed is very similar. They are higher than the 13.6 kg<sup>4</sup> lamb which was the average for the 1975/76 season in Canterbury. This is possibly due to the farmers lambing earlier having more time to put weight on these lambs.

#### 8. Wool Sales (1975/76)

Class of Farming	Range (c/kg)	Average Price (c/kg)
S.I. Mixed Fattening	95.3-176	145
S.I. Intensive Fattening	143.5-175	156
S.I..Fattening Breeding	105.5-180	155
S.I. Hill Country	160	160
S.I. Dairy	170	170

The above table shows the prices received for the wool from the gummy ewes in the 1975/76 season. The prices when combined with the drop in wool weights show that the wool production of these gummy ewes is the critical factor in any consideration of running this class of stock. As the drop in wool weight may be due to poor feeding over the summer period it would appear that these sheep would need to be fed on a good plane of nutrition over this period.

#### 9. Gross Margin (per head) Analysis

The policies used for determining the following gross margins were:

1. a policy of selling genuine 5 year old ewes and breeding own replacements. Ewes are on hand for four lambings.

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<sup>4</sup>Source: Meat & Wool Boards' Economic Service



Policy	5 Year, Breeding Own Replacements			2 Year Flock, Buying Gummy Ewes			2 Year Flock, Buying 5 Year Old Ewes		
	Gross Revenue	Direct Costs	Gross Margin	Gross Revenue	Direct Costs	Gross Margin	Gross Revenue	Direct Costs	Gross Margin
1970	8.02	0.99	7.03	9.67	2.27	7.40	8.98	3.45	5.53
1971	8.12	1.11	7.01	10.47	2.41	8.06	9.66	3.59	6.07
1972	8.52	1.22	7.30	10.47	2.59	7.88	9.66	3.70	5.96
1973	12.37	1.42	10.95	13.35	2.87	10.48	12.48	4.28	8.20
1974	19.52	1.85	17.67	20.33	6.16	14.17	18.80	8.00	10.80
1975	11.04	1.92	9.12	13.39	3.09	10.30	12.45	3.85	8.60
1976	17.96	2.16	15.80	20.23	5.77	14.46	18.72	8.08	10.64
1977	26.44	2.54	23.90	29.39	7.07	22.32	27.33	8.42	18.91

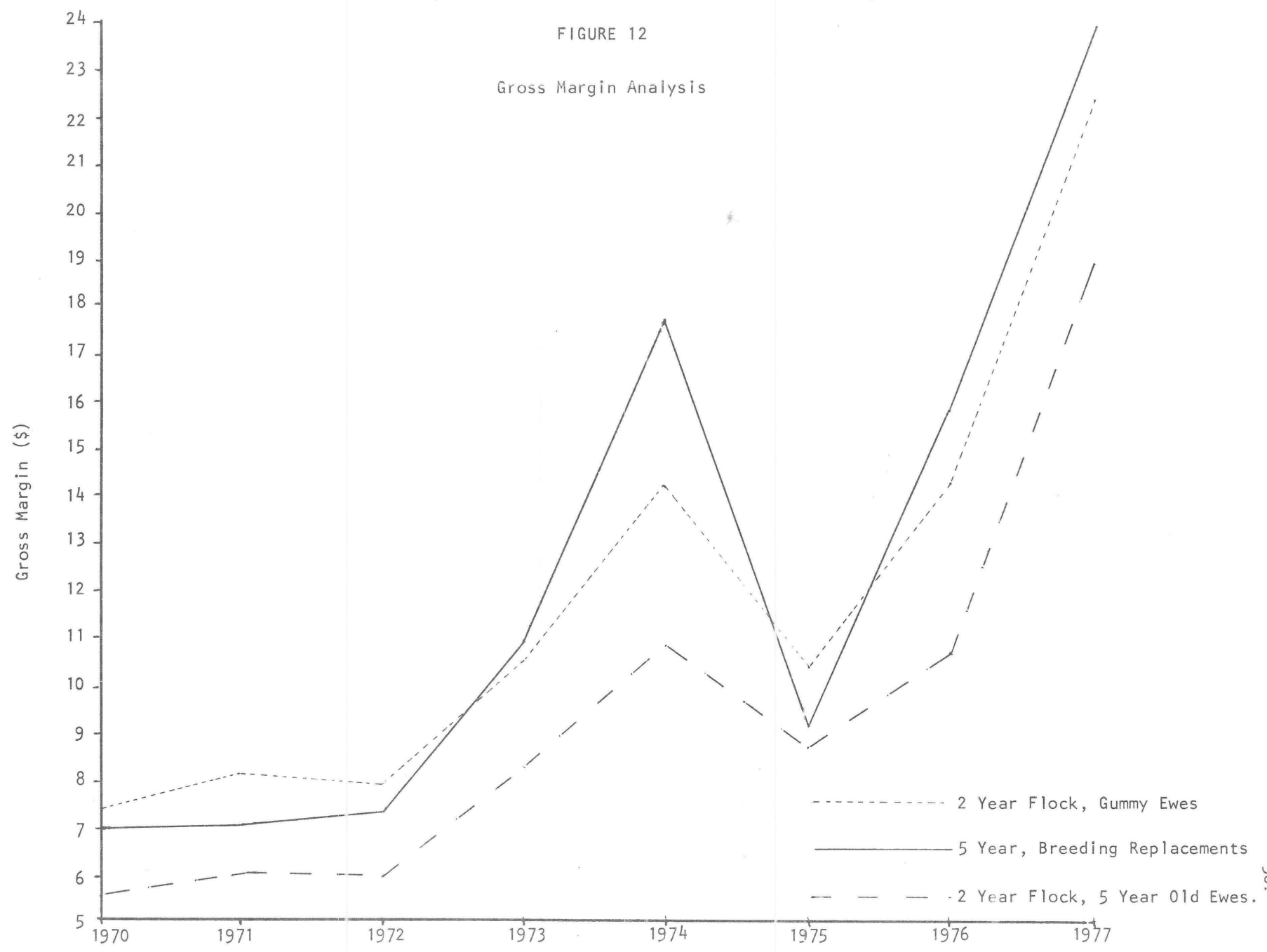
2. a 2 year flock system, buying gummy ewes and all going to a fat lamb sire.
3. a 2 year flock system, buying 2 year ewes annually and all going to a fat lamb sire.

Assumptions made in the gross margin analysis are presented as Appendix A. Prices used are as per Lincoln College Financial Farm Budget Manuals for the respective years.

The above table has been presented as Figure 12. The table and the accompanying graph show that the policies of selling genuine 5 year old ewes and a 2 year flock system (buying gummy ewes), would have been most profitable over the eight year period. This is borne out by the average gross margins for the three policies over the 1970-77 period, i.e.

5 year, breeding own replacements	\$12.35
2 year flock, buying gummy ewes	\$11.88
2 year flock, buying two year ewes	\$9.34

FIGURE 12  
Gross Margin Analysis



This shows the 5 year system to be the best, but a comparison between the two, 2 year flock systems would have more bearing in this study as 58 percent of the farms surveyed had a policy of fattening lambs and a further 38 percent had a policy of fattening in conjunction with a breeding programme. In a fattening situation therefore it would appear that the 2 year flock system buying gummy ewes would be more profitable by \$2.54 per ewe over the eight year period as presented, ie. 1970-77.

The most important factor contributing to the higher profitability of the gummy ewes on fattening farms is their lower direct cost per head when compared with conventional ewe flocks. Over the period 1970-77, gummy ewes averaged \$1.38 per head lower direct costs than the conventional two year ewe flocks. Major savings for the gummy ewe flocks were:

1. lower replacements costs as gummy ewes were generally purchased at the equivalent of freezing works meat price.
2. minimal animal health costs for gummy ewes in most flocks.

Prices for lamb meat, cull ewe meat and wool for the period 1970-77 corresponding to the gross margin data above are given in Figure 13 following. It is notable that the difference between the cull ewe meat price and the fat lamb price is the factor which determines the superiority of gummies over the conventional 5 year flock system. As the value of a fat lamb relative to the value of a cull ewe increases gummy ewes become increasingly more profitable. Conversely, when this difference falls, and cull ewes rise in value relative to fat lambs, gummy ewes become less profitable. Thus, in 1970, 1971, 1972 and in 1975, the years where the fat lamb price relative to the works ewe price is greatest, the gummy ewes have been more profitable than the 5 year flock. It is clear that fluctuations in wool price do not affect the relative profitability of gummies against the other systems.

FIGURE 13

Price Relationship to Year



## CHAPTER 4

## CONCLUSIONS

4.1 General Information

The farms included in the survey ranged in size from 20 ha to 6880ha. These farms were fattening and breeding or intensive livestock fattening having stocking rates within the range 2.0s.u./ha to 20 s.u./ha. The number of gummy ewes held each year had increased on 45 percent of the surveyed farms with no change being shown on 39 percent of the surveyed farms in the period 1973-76.

4.2 Management

The Romney ewe was the main breed represented on the surveyed farms. The average age of these gummy ewes was 6 years old with the oldest being 12 years old. Mouths generally failed at 5 years of age but this varied according to breed, area, climate and the type and amount of feed available. The gummy ewes were in the main run as a one year flock with only a small number being held for a longer period.

Fifty percent of the farmers purchased gummy ewes. The main criterion for purchase was that a ewe had a good constitution, ie. the ewes purchased looked as if they would last another year. Breed and price were the next two important factors cited. The farmers who purchased ewes generally purchased fewer than 400 gummy ewes per annum. These ewes met their requirements when buying although in some cases, the policy of buying a mob of ewes destined for the freezing works and culling those surplus to requirements, was practised. The practice of buying in-lamb ewes was carried out by one farmer. The majority of ewes were bought by private treaty because farmers were wary of buying in other people's problems. The ewes were generally purchased in February to early March.

Half the farmers surveyed rotationally grazed these ewes as a conscious policy. In 68 percent of the cases the gummy ewes were run separately through the year thus placing an extra burden on labour but this was thought to be compensated for by less trouble at lambing. Farmers preferred to feed these ewes soft winter feed but in two cases turnips had been fed successfully. This again required a little more time but meant little change in the farmers overall management plan. The fact that very little feed was purchased for the gummy ewes shows that they were not an added burden on the surveyed farms but an integral part of the management system.

The earliest lambing date was in July with the majority of farmers lambing in the August-September period. Farmers tended to lamb those ewes at the same time as their main mob ewes but there was a move evident to lambing them slightly earlier. The earlier lambing allowed farmers to have the lambs from the gummy ewes weaned earlier and where possible to have these ewes into the freezing works earlier. The early lambing ewes had a slightly longer lambing period but in general the old ewes tended to take the ram better when compared with the mixed age flocks. A fat lamb sire was the most commonly used ram over the gummy ewes.

It was noticed that the gummy ewes had a wet-dry problem. This was due to lack of milk or just poor udders. It is thought to be attributed to the age of the ewes. The wet-dry problem caused problems for farmers at lambing if too many twins were born. This aspect of the study is of sufficient concern to warrant further investigation. There would appear to be less dry-dry ewes as these have been eliminated in earlier years.

Gummy ewes were culled on constitution and age but the major factor on the surveyed farms was age. This was due to farmers holding these ewes only as a one year flock regardless of constitution at the end of that year. This judgement may be unsound in the light of other findings shown in this survey.

Ewes were culled in the January - February period as killing space was unavailable any earlier. If space were available farmers would prefer to have their ewes killed in December. The practice of selling ewes and lambs all counted was used by two farmers but would have been used by others if there had been a pinch for feed.

#### 4.3 Production

The feeling of the farmers in the survey was that the lambing percentage from their gummy ewes was approximately 10-15 percent higher than their mixed aged ewes (including 2 tooth). The factors they thought to be responsible for this increased lambing percentage were:

1. their gummy ewes in the majority of cases were fed better than their mixed aged ewes at most times during the year, affecting flushing and pre-tupping body weights.
2. the condition of the ewes was maintained and not allowed to alter much.
3. the fact that as a ewe gets older her productivity will rise to a plateau. This means that the gummy ewes because of their age should produce more lambs than the younger mixed aged ewes.
4. the incidence of fewer dry-dry ewes. Some farmers preferred not to get a higher lambing percentage due to the following facts:
  - (a) they felt there was a wet-dry problem with the gummy ewes and thus too many lambs meant more time mothering on lambs at lambing,

(b) ewes rearing twins tended to lose too much condition post lambing, especially if there was a late spring.

The second point could be overcome by earlier weaning but the first point is thought to be an age related problem.

The survey showed that deaths of gummy ewes were slightly higher, ie. 2-3 percent higher, than would be expected from their mixed aged ewes. This higher death rate was mainly due to the irreplaceable loss of condition, ie. fading, and sleepy sickness. The problem therefore would appear to be a feed problem but age again may be a contributing factor.

The number of old ewe carcasses rejected at the freezing works was thought to be approximately 9 percent. This is slightly higher than other cull ewes but could be a factor of poor feeding post-weaning. This would appear to be the biggest contributing factor as 88 percent of the farmers interviewed felt their cull ewes were inadequately fed from identification as culls until slaughter.

#### 4.4 Financial

The animal health costs associated with running gummy ewes were low as farmers were not prepared to spend a lot of money on these ewes. The farmers felt this was an area where costs could quite easily be cut. Feed costs were low and only seven farmers had to make extra provision for feed because they were running gummy ewes. This meant then that these ewes were not an added burden on the surveyed farms but were an integral part of the management systems of the farms. Shearing, crutching and freight costs were standard for the areas surveyed. Any differences in these costs were due to the variations in prices between areas and not because the farms were running gummy ewes.

The average purchase price for gummy ewes was \$5.00-\$5.70. This, when compared with the average sale price for the same ewes of \$6.80,



shows that there is a margin of \$1.80-\$1.10 in the trading of stock. The average price received for cull ewes was lower than average as were the ewes weights. This could be attributed to the fact that the ewes were fed poorly before slaughter and also the necessity to hold ewes longer in the 1975-76 killing season due to disputes within the freezing industry. The policy of selling ewes and lambs all counted had been carried out by some farmers and others had considered it in the past and would do so in the future if they experienced feed shortages.

The lambs sold from the gummy ewes were slightly heavier than average and prices were comparable with the average prices paid in Canterbury in the 1975/76 season. The possibility of gaining premiums for early lambs in some seasons was put forward by some farmers as a reason for lambing earlier. Another advantage of early lambing would be that lambs could be taken to a heavier weight than normal.

The wool prices were average for the 1975/76 season. The wool production factor would appear to be a major one, as too big a drop in wool production may drop returns quite considerably. It is though that poor feeding over the summer may be the cause of such a decline in wool weight. This is being investigated in further work.

The gross margin analysis showed that over the eight years period 1970-77, a policy of selling genuine 5 year olds and breeding own replacements would be most profitable. This was not the case, however, when the cull ewe price and lamb price received by the farmer showed a big difference. In this case it was more profitable to have a system of buying gummy ewes and running these for two years. For the type of farm that this survey covered, ie. in the main fattening properties, this latter system would be the most preferred. Buying gummy ewes showed a \$2.54 advantage over a policy of carrying two year ewes. The reason

for this higher average gross margin was because of two things:

- (a) higher cost of two year ewe replacements, and
- (b) the lower costs of these ewes for animal health.

The overall picture therefore is that gummy ewes could be expected to drop approximately 1 kg of wool and have slightly higher losses compared to a mixed aged flock but would produce approximately 10-15 percent more lambs. This, when fitted into a two year flock system buying gummy ewes, would seem to be optimal for a fattening proposition.

#### 4.5 National Importance

The research is continuing as intriguing considerations are suggested by the results of the survey. National flock wastage may be currently exaggerated by flock management and culling practices which may have been more appropriate several decades ago. It is apparent from the table on page 33 that gummy ewes have a significant opportunity cost to sheep farmers. They represent a bank of selected genetic material which is lost to the industry when their quality has only just been established. The data suggests many ewes could be held for at least one extra lambing reducing the demand for lamb replacements, reducing the annual kill of and the volume of old mutton and increasing the effective kill and the volume of fat lambs sold.

Replacement ewe lambs required would be reduced in number and the opportunity for genetic gain is significantly increased by improved culling margins and a greater opportunity for an initial selection of hoggets of sufficient genetic merit.

## APPENDIX A

## GROSS MARGIN ASSUMPTIONS WITH 1977 EXAMPLES

The example gross margin here is for a policy of selling genuine 5 year old ewes and breeding own replacements. Ewes are on hand for four lambings. The total Romney flock goes to Broder Leicester rams. Culling hoggets at 2T stage, being shorn as hoggets and not as lambs. All wether lambs sold fat to the freezing works. Prices used as at 1.2.77.

1. Production Parameters

Lambing 110%, deaths 5% and culls 5%, ewes clip 4.1 kg per head

2. Gross Revenue (per ewe)

	\$
Lamb Sales: 0.55 lambs at \$12.25	6.73
fat lamb price for 12.5 kg at 82.9c/kg	
plus pelt \$2.62	
Cull ewe sales: cull 2T's 0.15 at \$21.00	3.15
5 year olds in years 0.16 at \$15.00	2.40
cull ewes to works 0.08 at \$8.50	0.68
Wool sales: 0.98 of ewes at 4.1 kg/ewe	
i.e. 4.02 kg at \$2.25 net/kg	9.04
0.45 ewe hoggets at 4.2 kg/hogget	
i.e. 1.89 kg at \$2.35 net/kg	4.44
	<u>Gross Revenue</u> \$26.44

3. <u>Direct Costs</u>	\$
Shearing: 0.96 ewes at \$32/100	0.31
0.45 ewe hoggets at \$32/100	0.14
Tup crutch: 0.99 ewes at \$11.00/100	0.11
Main crutch: 0.99 ewes at \$15.00/100	0.15
Drenching: ewes receive 2 drenches, one pre-tupping and one pre-lambing, i.e. 2 drenches at 9.7c/dose for 0.99 sheep	0.19
lambs receive 3 drenches: 0.66 at 12c	0.08
Vaccination: triple vaccine 1.44 at 6.4c/sheep (i.e. lambs also)	0.09
Cartage, docking and footrot	0.11
Dipping 1 ewe at 14c, plus 0.67 lambs at 13c, plus 0.44 hoggets at 12c	0.28
Cost of ram (2 per 100, 4 year life) 0.005 at \$90	0.45
Woolshed expenses incl. woolpacks, twine, glue, emery papers and shearing plant expenses: 5.91 kg at 2c	0.12
Cartage: 2 tooths and 5 year olds to yards, 0.31 at 26c	0.08
fat lambs to works 0.55 at 22c	0.12
wool - 5.91 kg at 0.9c/kg	0.05
(all cartage over 24 km)	
Stock selling charges, yard fees 9c/sheep (0.52 x 9c)	0.05
Trucking fee 1c/sheep in ward; commission 3.5% of \$5.87	0.21
<u>Total Direct Costs</u>	<u>\$2.54</u>
<u>Gross Margin per Ewe</u>	<u>\$23.90</u>

The example gross margin below is for a 2 year flock system, buying gummy ewes annually and all going to a fat lamb sire. Romney ewes mated to Dorset Down rams. Prices used as at 1.2.77.

1. Production Parameters

120% lambing, 30% of first year ewes culled, death rate 7%, ewes clip 3.83 kg per head, lambs not shorn.

2. Gross Revenue (per ewe)

	\$
Lamb sales: 1.2 lambs at \$13.39	16.07
fat lamb price for 12.5 kg at 82.9c/kg plus pelt \$2.62	
Cull ewe sales: 0.575 ewes at \$8.50	4.89
Wool sale: 3.83 kg at \$2.20 net/kg	8.43
	<u>Gross Revenue</u> \$29.39

3. Direct Costs:

Replacement purchase 0.613 ewes at \$8.75	5.36
Shearing (shearers only) 0.94 sheep at \$32/100	0.30
Tup crutch: 0.44 sheep at \$11/100	0.05
Main crutch: 0.99 sheep at \$10/100	0.15
Animal health costs: 50% of lambs one drench and 30% two drenches. Lamb drench at 3.9c/dose 0.4 x 6c	0.02
Eartags, footrot and docking	0.11
Dipping, allowing for purchased ewes having been dipped; 0.387 at 14c/sheep	0.05
Cost of ram (2 per 100, 4 year life) 0.005 at \$70/ram	0.35
Woolshed expenses: including woolpacks, twine, glue, emery papers and shearing plant expenses: 3.83 kg at 2.0c/kg	0.08
Cartage: cull ewes to works - 0.575 at 26c	0.15
purchased ewes to farm - 0.613 at 26c	0.16
lambs to works - 1.20 at 22c	0.26
wool - 3.83 kg at 0.9c/kg	0.03
(all cartage over 24 km)	
	<u>Total Direct Costs</u> \$7.07
	<u>Gross Margin Per Ewe</u> \$22.32

The example gross margin here is for a 2 year flock system, buying 2 year ewes annually and all going to the fat lamb sire. Romney ewes mated to Dorset Down rams. Prices used as at 1.2.77

1. Production Parameters

110% lambing, 10% of first year ewes culled, death rate 5%, ewes clip 4.0 kg per head. Lambs not shorn.

2. Gross Revenue (per ewe)

\$

Lamb sales: 1.10 lambs at \$13.39 14.73  
fat lamb price for 13.0 kg at 82.9c/kg  
plus pelt \$2.62

Cull ewe sales: 0.462 ewes at \$8.50 3.93  
(cull ewe 22 kg at 29.5c/kg plus pelt)

Wool sale: 3.94 kg at 220c net/kg  
wool yield 0.98 sheep at 4 kg allowing  
for deaths 8.67

Gross Revenue \$27.33

3. Direct Costs

Replacement purchase: 0.54 ewes at \$12.00 6.48

Shearing (shearers only): 0.96 sheep at \$32/100 0.31

Tup crutch: 0.46 sheep at \$11/100 0.05

Main crutch: 0.99 sheep at \$15/100 0.15

Drenching: ewes receive two drenches, one pre-tupping,  
and one pre-lambing: 2 drenches at  
9.7c/dose for 0.99 sheep 0.19

Lambs: 50% of lambs 1 drench and 30% 2 drenches;  
lamb drench at 3.9c/dose 0.4 x 6c 0.02

Vaccination: triple vaccine 0.98 at 6.4c/sheep 0.09

Eartags, footrot and docking 0.11

Dipping: allowing for purchased ewes having been  
dipped 0.46 sheep at 14c/sheep 0.06

	\$
Cost of ram (2 per 100, 4 year life) 0.005 at \$70/ram	0.35
Woolshed expenses including woolpacks, twine, glue, emery papers and shearing plant expenses: 3.94 kg at 2.0c/kg	0.08
Cartage: cull ewes to works: 0.462 at 26c	0.12
purchased ewes to farm: 0.54 at 26c	0.14
lambs to works: 1.10 at 22c	0.24
wool: 3.44 kg at 0.8c/kg	0.24
(all cartage over 24 km)	

Total Direct Costs    \$8.42

Gross Margin Per Ewe    \$18.81

APPENDIX B

BREEDING FLOCK WASTAGE SURVEY

NAME:

ADDRESS:

TELEPHONE NUMBER:

AREA:

NUMBER OF PADDOCKS:

CLIMATE:

SOILS:

TOPOGRAPHY:

TYPE OF FARMING:



## NUMBER OF STOCK RUN:

Sheep:	Old ewes	Cattle:	Cows
	Breeding ewes		Heifers
	2 T		Steers
	Hoggets		Bulls
	Wethers		
	Rams		

## NUMBER OF 'GUMMY' EWES HELD IN FLOCK EACH YEAR:

1973

1974

1975

ARE THESE BOUGHT IN OR ARE THEY YOUR OWN?

AVERAGE AGE OF THESE 'GUMMY' EWES:

ARE THEY MOUTHED OR AGE MARKED:

BREED OF EWE:

1. FARMERS RETAINING THEIR OWN GUMMY EWES

AT WHAT AGE DO MOUTHS FAIL IN YOUR FLOCK?

WHAT PROPORTION OF THOSE EWES ARE SUITABLE TO BE RETAINED?

WHAT ARE THE MAIN REASONS FOR CULLING THE 'GUMMY' EWES NOT  
RETAINED?

WHAT ARE THE MAIN REASONS FOR CULLING ANY OTHER EWES FROM THE  
FLOCK?

2. FARMERS PURCHASING 'GUMMY' EWES:

REQUIREMENTS WHEN PURCHASING (please tick)

Constitution:

Teeth:

Breed:

Other (specify):

NUMBER PURCHASED:

OF THOSE PURCHASED WHAT PERCENTAGE ARE RETAINED?

WHY ARE THESE EWES NOT RETAINED?

SOURCE OF EWES: (please tick)

Price Paid:

Private:

Yards:

Freezing works:

Other (specify):

APPROXIMATE DATE OF PURCHASE:

DISTANCE FROM FARM:

Miles

Km

DO YOU EVER BUY FROM OTHER SOURCES:

IF SO PLEASE TICK:

Private:

Yards:

Freezing Works:

Other (specify):

HOW LONG ARE 'GUMMIES' RETAINED (please tick):

1 year:

2 years:

3 years:

Longer than 3 years:

LAMBING PERCENTAGE:

	'gummy'	rest of flock
1973	%	%
1974	%	%
1975	%	%

## WOOL WEIGHT:

	'gummy'	rest of flock
1973		
1974		
1975		

## LOSSES:

	'gummy'	rest of flock
1973		
1974		
1975		

## MAJOR CAUSES OF DEATH (please tick):

Sleepy sickness

Milk fever:

Black leg:

Bearing trouble:

Lambing trouble:

Other (specify):

## STOCKING RATE THIS YEAR:

'Gummy':

Rest of flock:

## STOCK GRAZING MANAGEMENT:

	'gummy'	rest
Set stocking:		
Rotational grazing:		

## TYPE OF PASTURE:

Tussock:

Lucerne:

Ryegrass/clover:

Other grasses (state):

## WINTER AND SPRING FEED (please state quantity, if possible):

'gummy'

rest

Turnips:

Greenfeed:

Hay:

Grain:

Other (specify):

## SUPPLEMENTARY FEED PURCHASED:

Hay:

Grain:

Agistment:

Other (specify):

IS HAY MADE ON THE PROPERTY? IF SO STATE NUMBER OF BALES:

## FEED REGIME FOR YEAR:

(a) pre-tupping

(b) tupping

(c) post-tupping to 6 weeks prior to lambing

(d) 6 weeks prior to lambing to lambing

(e) lambing

(f) lambing to weaning

(g) post-weaning

LAMBING DATE: 'gummy' rest

REASONS FOR THIS DATE:

SPREAD OF LAMBING:

NUMBER OF DRY EWES:

BREED OF RAM USED:

LAMB WEIGHTS: 'gummy' rest

1973

1974

1975

CULLING RATE:

'gummy'

rest

WHAT TIME OF YEAR ARE THEY CULLED:

'gummy'

rest

WHERE ARE THEY KILLED AND DISTANCE:

ANY PROBLEMS WITH HAVING THESE EWES KILLED:

YES

NO

WHAT PERCENTAGE OR NUMBER GO AS REJECTS AT THE WORKS:

WHY CULLED:

Constitution:

Teeth:

Dry:

Other (specify):

IS ANY EXTRA LABOUR REQUIRED FOR THE 'GUMMY' EWES:

IS ANY EXTRA MACHINERY REQUIRED FOR THE RUNNING OF 'GUMMY' EWES:

WHAT IS THE WORKS PRICE FOR THE 'GUMMY' EWES AND CULLS:



## ACCOUNTS

## ANIMAL HEALTH COSTS:

	Total	Attributable to 'gummys'
1973		
1974		
1975		

## FEED COSTS:

	Total	Attributable to 'gummys'
1973		
1974		
1975		

## WAGES:

1973	
1974	
1975	

## CROPPING EXPENSES:

	Total	Attributable to 'gummys'
1973		
1974		
1975		

## SHEARING COSTS:

	Total	Cost/100
1973		
1974		
1975		

STOCK PURCHASES:

No.	Class	Price	Total
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STOCK SALES:

No.	Class	Price	Total
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## WOOL SALES:

	Weight	Price	Total
1973			
1974			
1975			

## LAMB SALES:

	Weight	Price	Total
1973			
1974			
1975			

## FREIGHT COSTS:

1973  
1974  
1975