# AN ECONOMIC SURVEY OF NEW ZEALAND TOWN MILK PRODUCERS

1981-82

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Lincoln College, Canterbury, N.Z.

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# PREFACE

This report is the ninth in an annual series of economic surveys of New Zealand town milk supply farms. These surveys have been undertaken by the Agricultural Economics Research Unit at Lincoln College on behalf of the New Zealand Milk Board and the Town Milk Producers' Federation of New Zealand (Inc.).

As in the past the major objective of this survey has been to estimate the average net farm income received by town milk producers in New Zealand. In addition, however, the opportunity provided by the surveys has been used to collect additional data so that a more comprehensive profile of the industry emerges.

The field work and analysis for this survey was carried out by Russell Moffitt with some assistance from Michael Clemes. The report was compiled by Russell Moffitt.

P.D. Chudleigh,
Director.

ACKNOWLEDGEMENTS

The Agricultural Economics Research Unit gratefully acknowledges the co-operation and assistance willingly provided by officers of the New Zealand Milk Board, Town Milk Producers' Federation of New Zealand (Inc.), and Milk Producer Companies. In particular, thanks are expressed to the individual town milk producers for co-operating in the survey and making the information contained in their accounts available.

The report was typed by Cathy Hill and Rosalie Beck.

## ABBREVIATIONS USED IN THIS REPORT

| | | |
|---|---|---|
| Avg. | = | Average |
| Assn | = | Association |
| C.V. | = | Capital Value |
| Dairy prod. ha | = | Dairy productive hectares |
| equip. | = | equipment |
| exps | = | expenses |
| ha | = | hectares |
| l | = | litres |
| L.U. | = | Labour Units |
| m. | = | million |
| milk prod. | = | milk produced |
| M.P. | = | Milk Producer |
| N.A. | = | Not Available |
| no. | = | number |
| prod. ha | = | productive hectares |
| RSE | = | Relative Standard Error |
| s.u. | = | stock units |

SUMMARY OF THREE YEARS NEW ZEALAND

SURVEY RESULTS

| Characteristic | 1979-80 | 1980-81 | 1981-82 |
|---|---|---|---|
| Farms Surveyed (no.) | 152 | 152 | 152 |
| Total Farm Area (ha/farm) | 95.93 | 94.99 | 97.71 |
| Dairy Productive Farm Area (ha/farm) | 82.68 | 83.72 | 86.55 |
| Daily Quota (l/farm) | 807 | 803 | 786 |
| Herd Size (cows/farm) | 112.89 | 119.28 | 116.71 |
| Cows in Milk in December (cows/farm) | 96.46 | 102.20 | 100.86 |
| Labour Units (L.U./farm) | 2.25 | 2.27 | 2.33 |
| Milk Production (l/farm) | 484,611 | 499,772 | 498,797 |
| (l/total ha) | 5,052 | 5,261 | 5,105 |
| (l/dairy prod. ha) | 5,861 | 5,970 | 5,763 |
| (l/labour unit) | 215,383 | 220,164 | 214,076 |
| (l/cow) | 4,293 | 4,190 | 4,274 |
| Total Value of Farm Assets ($/farm) | 345,140 | 434,788 | 557,999 |
| Gross Revenue ($/farm) | 70,121 | 86,056 | 103,044 |
| Total Expenditure ($/farm) | 53,412 | 66,388 | 78,853 |
| Net Farm Income ($/farm) | 16,709 | 19,668 | 24,191 |
| Net Income per Dairy Prod. ha ($/ha) | 202 | 235 | 280 |
| Net Income per Daily Quota ($/l) | 20.7 | 24.5 | 30.8 |
| Net Income per Cow ($/cow) | 148 | 165 | 207 |
| Net Income per Litre (cents/l) | 3.45 | 3.94 | 4.85 |
| Gross Revenue per Litre (cents/l) | 14.47 | 17.22 | 20.66 |
| Total Expenditure per Litre (cents/l) | 11.02 | 13.28 | 15.81 |

## SUMMARY

### Physical and Production Aspects

- The average total area of the New Zealand farms surveyed was 97.71 ha. This was marginally larger than the 1980-81 survey figure (94.99 ha). The average dairy productive area was 86.55 ha compared with 83.72 ha in 1980-81. The smallest dairy productive area was 18.98 hectares and the largest 226.71 hectares.

- The average daily quota recorded on the surveyed farms was 786 litres compared with the previous 1980-81 survey estimate of 803 litres. The North Island survey average of 830 litres was 14.3 per cent higher than the South Island average quota (726 litres).

- The average number of cows in the herd (including dry cows) per farm was 117. In 1980-81 the corresponding figure was 119. Herd sizes on individual farms ranged from 25 to 384 cows. The number of cows being milked during December 1981 averaged 101 and ranged from 22 to 310.

- Total milk production per farm (498,797 litres) was less than one per cent below the 1980-81 total. North Island farms showed a 1.54 per cent fall, and South Island farms a 1.90 per cent increase.

- The proportion of milk sold at townmilk quota prices was 67 per cent. This is similar to the 66 per cent for the 1980-81 survey. The South Island again sold a greater proportion at quota milk prices (67.3 per cent) than the North Island (66.1 per cent).

- Milk production per cow was 4,274 litres. It increased by 4.0 per cent compared with the 1980-81 figure. Production per labour unit decreased marginally (down 2.77 per cent). Milk production per dairy productive hectare dropped slightly by 1.76 per cent to 5,763 litres per dairy farm.

- The average total labour employed on survey farms (2.33 labour units) was greater than the 1980-81 figure of 2.27 labour units. In the North Island there was little change in the total labour used (2.35 units). In the South Island the labour units per farm increased slightly from 2.18 to 2.30 units.

## Financial Aspects

- Average net farm income for all surveyed farms for 1981-82 was $24,191 compared with $19,668 in the previous year. This represented a 23.0 per cent increase. The average for North Island farms was $25,226 (up 17.11 per cent) while the average for South Island farms was $22,794 (up 32.72 per cent).

- Total gross revenue for New Zealand surveyed farms was $103,044. This was 19.74 per cent higher than the previous year's result. The North Island farms had a 17.97 per cent increase in gross revenue whereas the South Island farms had a 22.34 per cent increase.

- Total farm expenditure ($78,853) was 18.78 per cent higher than the previous survey ($66,388). The average North Island farm had an increase in total expenditure of $12,666 to $82,142 (up 18.23 per cent). The average South Island expenditure increase was $12,133 to $74,409 (up 19.48 per cent). Average net depreciation was $7,706, an increase of 29.7 per cent compared with the 1980-81 survey estimate of $5,942.

- Almost every individual expense component increased compared with the previous survey result. Labour expenses for all farms rose by 12.66 per cent, operating expenses were up by 18.41 per cent, administration was up by 26.03 per cent, overheads were up by 19.40 per cent and depreciation increased by 29.69 per cent.

- From the revenue from milk sales the average price received per litre of all milk produced can be calculated. For the current survey it was 17.6623 cents compared with 14.5850 cents in 1980-81. In the North Island the average price received for all milk was 16.7998 cents per litre and in the South Island it was 19.1310.

- Milk sales accounted for 85.5 per cent of gross revenue on the average farm (84.7 per cent in 1980-81).

- Net farm income on a cents per litre of total milk produced basis was 4.85 cents compared with 3.94 cents in 1980-81 and 3.45 cents in 1979-80.

- Livestock trading profit increased by 18.43 per cent from $8,523 in 1980-81 to $10,094 in 1981-82.

- The average value of total farm assets was $557,999. This represents an increase of 28.34 per cent over the figure recorded for 1980-81 ($434,788). The value of freehold land increased by 31.43 per cent to $465,492 for 83.0 hectares.

- Total liabilities per farm were $110,611, a 6.0 per cent increase in the survey figure of the previous year. The increase was due to a rise in current liabilities; there was no change in fixed liabilities for the average New Zealand surveyed farm.

- Equity as a per cent of the value of all assets averaged 80.91 per cent. This increased compared with the previous survey (76.7 per cent) North Island farms had a higher proportion (82.1 per cent) than South Island farms (79.0 per cent).

# CHAPTER 1

# BACKGROUND

## 1.1 Objectives of the National Farm Survey

As in previous years, the principal objective of the 1981-82 Survey was to determine the average net farm income received by town milk producers in New Zealand. Information produced by the survey is used for a variety of purposes. It assists decisions concerning applications for price increases from specific producer groups. The national average cost and return results are also used as standards with which cost and return figures derived from smaller regional surveys can be compared. The survey data obtained each year also provide a continuing set of statistics on the economic position of town supply dairy farms. The availabilty of such information is of value to the individual farmer, regional advisers, and government policy makers.

No attempt has been made in the Report to draw any conclusions on whether or not an increase in town milk prices is justified. The analyses have been carried out primarily to meet the basic objective of the survey, namely the determination of national net farm income.

## 1.2 Climatic Conditions

In the North Island most districts experienced excellent growing conditions during the autumn of 1981. On the east coast above average rainfall with warm temperatures in the summer and autumn months led to a large pasture surplus. In the South Island dry conditions were widespread during the summer months in Nelson, Canterbury, Otago and Southland. The autumn weather was cool and variable in most districts.

Following the 1981 winter most North Island districts had a cold and showery spring which resulted in slow pasture growth. Some farmers used nitrogen to encourage late spring pasture production. Slow grass growth also occurred during the spring months in most South Island districts. A mild spring was recorded in mid-Canterbury although the ground temperatures remained low.

The 1981-82 summer conditions in the North Island were generally dry with hot temperatures. This led to dry soils and parched pastures. The North Island east coast regions experienced hot dry weather and strong winds. In December 1981 Gisborne had less than 10 per cent of normal rainfall. Autumn showers during March and April in many regions led to some recovery. In the South Island the prevailing westerly winds resulted in warm dry conditions in the east coast regions in the summer. Nelson, Marlborough and Canterbury all experienced drought conditions during the summer. Southland, however, experienced the wettest January

on record with variable but generally low temperatures. This frustrated hay making but did result in good grass growth.

The South Island autumn conditions were generally mild with reasonable temperatures and some rain.

## 1.3 Producer Prices

There was no change in the basic method of fixing the town milk producer price. It continued to be linked to the average manufacturing price for whole milk for all major uses. An increase in price of one cent per kilogram of milkfat resulted in an increase of 0.06 cents per litre in the town milk producer price.

The initial national average advance prices based on a manufacturing price of 268 cents per kilogram of milk fat in whole milk at farm gate, were approved for town milk for the year commencing 1 September 1981. Subsequently, however, the Dairy Products Prices Authority established a new value of 285 cents per kilogram of milk fat in whole milk for the 1981-82 season. These revised prices of 19.9305 cents per litre for finest grade milk, 19.5635 cents per litre for first grade milk, and 18.8315 cents per litre for second grade milk were approved as from 1 September 1981.[a]

Further increases of 15 cents and 30 cents per kilogram of milk fat occurred in April and June 1982. These increases were an advance interim end of season payment and a final interim end of season payment. When translated into town milk prices, the interim final national prices per litre for the 1981-82 milk year for the three grades of town milk were 22.6305 cents for finest, 22.2635 cents for first, and 21.5315 for second grade.

Table 1 gives a summary of the national average town milk producer prices for finest grade milk over the past four N.Z. Milk Board financial years.

Most producer companies are actually paid at standard seasonal prices which average back to the national average prices referred to in Table 1. Some producer companies elect to vary their milk prices throughout the year to compensate for climatic conditions, or as a means of encouraging higher production in the more difficult production months. Where within-year variations of prices are utilised, the entire payout must average back to the national average prices.

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a N.Z. Milk Board 29th Annual Report 1982, p. 6.

TABLE 1

National Average Town Milk Producer Prices

| Year Commencing 1st September | Finest Grade Advance Price (cents per litre) | Finest Grade Final Price (cents per litre) |
|---|---|---|
| 1978 | 12.5517 | 13.3873 |
| 1979 | 13.8993 | 15.1271 |
| 1980 | 16.5045 | 18.7347 |
| 1981 | 18.7845 | 22.6305 (Interim) |

SOURCE: N.Z. Milk Board 29th Annual Report, p.7.

Additional funds for special production allowances were made available for certain regions over and above the basic price payable to town milk suppliers. The purpose of the extra allowances was to help offset the higher costs of production in those regions. The special production allowance fund for the 1979-80 year was approximately $815,000 with $493,000 being paid to all South Island producers as a flat South Island allowance. The balance was paid to specific areas in both Islands.

In recent years various submissions have been made to Government concerning the adequacy and distribution of this special production allowance. From 1 September 1980 the Government approved the merging of the South Island allowance with the general special production allowance fund and increased the annual fund to $1 million for a three year period. A review was undertaken by the New Zealand Milk Board of production costs and the needs of all areas which received special production allowances in the past.

Table 2 summarizes the national and seasonal town milk prices for the year ended 31 August, 1982. Part 2 of Table 2 lists the district special production allowances for 1981 and 1982.

## 1.4 Town Milk Production Data

Total town milk production in the year ending 31 August 1982 was 1.66 per cent[a] less than in the previous year. Table 3 shows the total production and sale of milk passing through the National Milk Scheme for the years ending 31 August 1980, 1981 and 1982.

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[a] Ibid. p.4.

TABLE 2

Town Milk Producer Prices for Year Ended 31 August 1982

Part 1: National and Seasonal Prices

| Grade of Milk | Year ended 31 Aug. | National Town Milk Price c/l | Spring & Summer (Sept. to Jan. incl. c/l | Autumn (Feb. to April incl.) c/l | Winter (May to August incl.) c/l |
|---|---|---|---|---|---|
| Finest | 1982 | 22.6305 | 18.809 | 22.588 | 28.255 |
| First | 1982 | 22.2635 | 18.442 | 22.221 | 27.888 |
| Second | 1982 | 21.5315 | 17.710 | 21.489 | 27.156 |

Part 2: Additional District Allowances for 1981 and 1982

| District | Cents per litre over six autumn and winter months 1981 | 1982 |
|---|---|---|
| Rotorua | 0.700 | 0.50 |
| Tokoroa (excluding Putaruru and Hodderville) | 0.700 | 0.50 |
| Gisborne (excluding Wairoa) | 0.367 | 1.00 |
| Hawke's Bay (Heretaunga Plains) | 0.600 | 1.00 |
| Ruapehu | 2.000 | 2.00 |
| Wairarapa | 0.367 | 0.25 |
| Wellington (48 km) | 0.185 | 0 |
| Blenheim | 0.800 | 1.00 |
| Nelson | 0.900 | 1.00 |
| Buller | 0.500 | 0 |
| Grey District | 0.800 | 0.50 |
| Christchurch | 1.500 | 1.50 |
| Ashburton | 0.900 | 1.00 |
| South Canterbury | 0.900 | 1.00 |
| North Otago | 2.300 | 2.00 |
| Dunedin/Balclutha | 1.200 | 1.50 |
| Central Otago | 3.000 | 3.00 |
| Southland | 2.300 | 2.75 |

SOURCE: N.Z. Milk Board 29th Annual Report, 1982, p.48.

TABLE 3

Total Town Milk Production

| Year ending 31 August | Milk Production m. litres | Quantity Eligible for Town Milk Price m. litres | Total Town Sales m. litres |
|---|---|---|---|
| 1980 | 723.358 | 514.248 | 375.008 |
| 1981 | 674.189 | 471.675 | 365.887 |
| 1982 | 662.992 | 437.136 | 357.849 |

SOURCE: N.Z. Milk Board 29th Annual Report, 1982, p.36.

Total milk sales to consumers for the year ended 31 August 1982 were 357,848,917 litres.[a] This was 2.20 per cent below the 1981 figure. The decline in sales was influenced by an increase in the consumer price during the 1981-82 period. This increase was from 25 cents to 30 cents per 600 ml bottle as from 1 June 1982.

The decline in milk sales is reflected in the per capita consumption of milk. This showed a decline from an estimated 121.00 litres per head for the year ending 31 August 1981 to 117.51 litres per head in the following year.

## 1.5 Town Milk Suppliers and Quotas

There were 1,377 town milk quota holders[b] during the 1981-82 milk year compared with 1,467 for the previous year, and in addition, there were three dairy company quota holders. A summary of the number of quota holders over the past four years is given in Table 4, while Table 5 gives details of quota holding dairy companies in 1981-82.

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a Ibid. p.7.

b Ibid. p.4.

For the 1981-82 milk year the nominated quantities which producer associations contract to guarantee to meet the daily liquid milk requirements in their area throughout the year, were further reduced. This was the final stage in a Government policy decision to bring back nominated quantities from the frozen 1975-76 level to a sales level situation.

For the 1981-82 milk year, the fixing of nominated quantities for all associations was approved. They were reduced to a level which reflected estimated demand according to an agreed formula. The formula was as follows:[a]

1. Average daily sales calculated by taking the net sales by milk stations to vendors over a period of two consecutive winter months and dividing by the appropriate number of days in the period.

2. The resultant daily sales figures to be increased by a tolerance factor of 3.25 percent to cover returned milk, wastage and other factors.

3. The resultant figure to be adjusted to include an allowance for expected changes in the population.

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[a] Ibid., p.4.

TABLE 4

Total Milk Suppliers and Daily Quotas

| Year Ending 31 August | Type of Quota Holders | Total Nominated Quantity (l) | No. Town Milk Suppliers | Average Daily Quota per Supplier (l) |
|---|---|---|---|---|
| 1979 | Total NZ Suppliers | 1,298,748 | 1,604 | 809.69 |
| | Dairy Companies | 24,593 | 3 | 8,197.67 |
| | Direct Quota Holders | 1,274,155 | 1,601 | 795.85 |
| 1980 | Total NZ Suppliers | 1,246,586 | 1,543 | 807.90 |
| | Dairy Companies | 23,637 | 3 | 7,879.00 |
| | Direct Quota Holders | 1,222,949 | 1,540 | 794.12 |
| 1981 | Total NZ Suppliers | 1,145,118 | 1,470 | 778.99 |
| | Dairy Companies | 21,830 | 3 | 7,276.67 |
| | Direct Quota Holders | 1,123,288 | 1,467 | 765.70 |
| 1982 | Total NZ Suppliers | 1,060,910 | 1,374 | 772.13 |
| | Dairy Companies | 20,192 | 3 | 6,730.67 |
| | Direct Quota Holders | 1,081,102 | 1,377 | 785.11 |

SOURCE: N.Z. Milk Board, pers. comm.

TABLE 5

Quota Holding Companies 1981-82

| Name of Company | Quota held (1) | Supply District | No. of sub-quota holders |
|---|---|---|---|
| East Tamaki | 12,324 | Auckland | 42 |
| East Tamaki | 1,015 | Franklin | 5 |
| Bruntwood | 6,853 | Hamilton | 8 |
| Total | 20,192 | Total | 55 |
| Proportion of Total Nominated Quota: | 1.87% | Proportion of Total Nominated Suppliers: | 3.99% |

SOURCE: N.Z. Milk Board, pers. comm.

# CHAPTER 2

# DESCRIPTION OF THE SURVEY

## 2.1 The Sample

The sampling unit for the survey is the farm, and the main sources of information the farmer and the annual farm accounts.

A random 75 percent of the farms that participated in the 1980-81 survey were retained for the 1981-82 survey. The other 25 percent were excluded and replaced by a new random selection of farms. All town milk farms were eligible for selection provided the following criteria were satisfied:

(i) The farm supplied a producer association that had a nominated quantity (N.Q.) of more than 7,500 litres daily.

(ii) The farm itself had a daily quota of more than 200 litres.

(iii) The farm received at least 75 per cent of gross revenue from milk sales and related dairy activities.

(iv) The farm engaged no sharemilker.

(v) The farmer had been producing town milk on that particular farm over the twelve months of the survey period.

The decision on eligibility was carried out in two stages. Firstly, information available from the Milk Board prior to sample selection enabled farms not satisfying (i) and (ii) above to be eliminated from the total population. Also results from a questionnaire which had been sent to each producer company secretary seeking information on the sharemilkers in each company enabled farms to be further eliminated on the basis of (iv). The second stage at which a decision was made on eligibility was at the time of the farm visit when further farms were eliminated because of either (iii) or (v).

Of an initial list of 1377 farms provided by the Milk Board, the eligible population was reduced under (i), (ii) and (iv) to 936 prior to sample selection. Replacement farms were selected at random from the reduced list and the farmers initially contacted by mail. Provided that the farm was found to be eligible and the farmer agreed to participate in the survey, a farm visit was undertaken by Lincoln College staff and the required information obtained. Where farms were found to be ineligible or the farmer unwilling to participate, further replacement farmers were contacted until sufficient numbers were obtained.

## 2.2 Sample Stratification

The sample was stratified on the basis of two regional groups (North Island and South Island) and three quota sizes (201-600 litres, 601-1000 litres and 1001+ litres).

Table 6 shows the number of survey farms for each strata or group compared with the eligible population for each strata. Further details are given in Appendix C.

## 2.3 Weighting

Since the South Island strata were sampled relatively more heavily than the North Island, a simple average of all survey farms would have given a biased national figure. The estimated proportion of the total farms in each strata (Table 6) was therefore used to "weight" the average from each strata to give the overall New Zealand results (and also the North Island and South Island results). This procedure ensures that each strata assumes its correct degree of importance in the final results.

## 2.4 Data Collection and Assembly

Field work commenced in November 1982 and was completed by May 1983.

To maintain uniformity and continuity of the survey the manual of procedures as introduced by the New Zealand Milk Board and the Town Milk Producers' Federation of New Zealand (Inc.) was followed. Appendix B gives details of definitions, procedures and imputed values used.

A set of farm working accounts for the 1981-82 financial year was obtained from the farmer or his accountant. Milk production records for the farms surveyed were provided from the records of producer associations. Accounts of farms where managers were employed were adjusted to an owner-operated basis. Likewise, partnerships and companies were treated as owner-operated farms by assuming one of the partners (members) as owner, and the other(s) as employee(s), provided they were engaged in farm work.

Wherever possible, data were transferred directly from the farm accounts to the relevant income and expenditure categories on the survey assembly form. Trade discounts, subsidies and allowances for personal use were deducted from the appropriate expense item before entry. Other adjustments included the calculation of an imputed wage for any unpaid family labour and the assessment of a standard livestock value for each set of accounts.

TABLE 6

Population and Sample Distribution by Strata

| Strata | Estimated Total No. of Farms in Strata[a] | Estimated Proportion of Total Farms in Strata[a] | Number of Farms Surveyed | Proportion of Total Farms Surveyed[a] |
|---|---|---|---|---|
| North Island | | | | |
| 201-600 litres | 150 | 0.1842 | 25 | 0.1645 |
| 601-1000 " | 178 | 0.2358 | 32 | 0.2105 |
| 1001 + " | 139 | 0.1551 | 19 | 0.1250 |
| Total North Island | 467 | | 76 | 0.5000 |
| South Island | | | | |
| 201-600 litres | 134 | 0.1939 | 30 | 0.1974 |
| 601-1000 " | 105 | 0.1551 | 28 | 0.1842 |
| 1001 + " | 56 | 0.0759 | 18 | 0.1184 |
| Total South Island | 295 | | 76 | 0.5000 |
| New Zealand | 762 | 1.0000 | 152 | 1.000 |

All financial and production data collected referred to the farm's financial year. Table 7 shows the distribution of farm account balance dates of the 152 participating farmers in the 1981-82 survey. It can be seen that 65 per cent of all balance dates were March 31st.

Financial results for the survey farms were derived largely from the farm accounts. In cases where these showed insufficient detail, further information was sought from the farmer and/or accountant.

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[a] See Appendix C.

TABLE 7

Balance Dates of Annual Accounts 1981-82

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms | 76 | 76 | 152 |
| | % | % | % |
| Month Ending: | | | |
| February | 0 | 1 | 1 |
| March | 63 | 69 | 65 |
| April | 0 | 3 | 1 |
| May | 11 | 3 | 7 |
| June | 19 | 24 | 21 |
| July | 0 | 0 | 0 |
| August | 6 | 0 | 4 |
| September | 0 | 0 | 0 |
| October | 1 | 0 | 1 |
| Total | 100 | 100 | 100 |

# CHAPTER 3

# PHYSICAL AND PRODUCTION DATA

## 3.1 Physical Characteristics of Farms

### 3.1.1 Farm Area

Table 8 shows the average total farm area and average productive area of the North Island, South Island and average New Zealand survey farms. The same table is broken down by region and quota group in Appendix E.

The average total size of the farm including run-off area for North Island farms was 98.89 hectares, for South Island farms 96.13 hectares, and for the average New Zealand farm, 97.71 hectares. Total farm sizes ranged from 34.80 hectares to 234.00 hectares in the North Island, and from 22.39 hectares to 261.96 hectares in the South Island.

An estimate of the total dairy productive area used for milk production also appears in Table 8. This area showed an increase compared with the 1980-81 survey for both Islands and New Zealand. The largest increase was for the average South Island farm from 81.15 hectares in 1980-81 to 87.14 hectares in 1981-82. The dairy productive area on the average South Island farm was marginally bigger than the North Island average farm (at 86.13 hectares).

### 3.1.2 Land Use

Table 9 gives a brief summary of land use on the surveyed farms. The non-productive area on individual farms ranged up to 121.41 ha in the North Island and up to 76.00 ha in the South Island.

### 3.1.3 Irrigation

Fifty-nine per cent (45 farms) of the surveyed South Island farms used irrigation during the year compared with 11 per cent (eight farms) in the North Island (see Table 10). The average percentage of dairy productive land which was irrigated on these 53 farms was 55.5 per cent.

TABLE 8

Average Areas of Town Supply Farms

| Area per Farm | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms | 76 | 76 | 152 |
| | (ha) | (ha) | (ha) |
| Freehold Area | 80.68 | 86.14 | 83.00 |
| Crown & Maori Lease | 1.39 | 2.87 | 2.02 |
| Rented Area | 16.82 | 7.12 | 12.69 |
| Total Farm Area | 98.89 | 96.13 | 97.71 |
| Less Unproductive Area | 6.39 | 5.46 | 5.99 |
| Productive Area | 92.50 | 90.67 | 91.72 |
| Less Estimated non-dairying Area | 8.74 | 5.94 | 7.56 |
| Plus Estimated 'Grazing Out' Area | 2.37 | 2.41 | 2.39 |
| Estimated Dairy Productive Area Utilized for Milk Production[a] | 86.13 | 87.14 | 86.55 |

[a] Hereafter abbreviated to dairy productive hectares

TABLE 9

Utilization of Farm Area

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms | 76 | 76 | 152 |
| Proportion of Farm Area Under: | % | % | % |
| Dairy Pasture | 83.6 | 84.6 | 84.0 |
| Forage Crops | 1.4 | 3.1 | 2.1 |
| Sheep & Beef Cattle Pasture & Cash Crops | 8.3 | 6.1 | 7.4 |
| Unproductive Land | 6.7 | 6.2 | 6.5 |
| Total | 100 | 100 | 100 |

TABLE 10

Irrigation Use

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms Surveyed | 76 | 76 | 152 |
| Number of Farms Using Irrigation | 8 | 45 | 53 |
| Percentage of Dairy Productive Area Irrigated[a] | 24.3% | 61.0% | 55.5% |

[a] These results do not include weighted means. The average is calculated according to the number of practicing farmers.

## 3.2 Labour

The average survey farm employed a total of 2.33 labour units (see Table 11) which was marginally higher than the 1980-81 figure of 2.27 labour units. A slight increase in labour units per farm for the North Island from 2.34 in 1980-81 to 2.35 units occurred. There was an increase in the proportion of permanent labour per New Zealand farm (from 88 per cent to 94 per cent) and a slight fall in the proportion of family labour (from 72 per cent to 71 per cent).

TABLE 11

Types of Labour Units

| Type of Labour | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms | 76 | 76 | 152 |
| Farmer | 0.97 | 0.97 | 0.97 |
| Permanent Family | 0.62 | 0.67 | 0.64 |
| Casual Family | 0.03 | 0.08 | 0.05 |
| Total Family Labour Units | 1.62 | 1.72 | 1.66 |
| Permanent Non-family | 0.64 | 0.52 | 0.59 |
| Casual Non-family | 0.09 | 0.06 | 0.08 |
| Total Non-family Labour Units | 0.73 | 0.58 | 0.67 |
| Total Labour Units | 2.35 | 2.30 | 2.33 |
| Proportion of Permanent Labour | 95% | 94% | 94% |
| Proportion of Family Labour | 69% | 75% | 71% |

## 3.3 Milk Production

The daily quota per surveyed farm was 786 litres (Table 12), compared with the previous New Zealand survey estimate of 803 litres. The average North Island quota was 14.3 per cent higher than the average South Island quota (830 and 726 litres). Total annual milk production per farm fell slightly from 499,722 to 498,797 litres. The proportion of milk sold at quota prices showed an increase of two per cent.

When the total litres produced per farm is converted to milkfat at a 4.18 per cent test[a], the average North Island townmilk farm produced 265 kg per dairy productive hectare compared with the average South Island farm at 208 kg.

While the average North Island supplier had over 20 per cent more cows in his herd he still produced more milk on a litres-per-cow basis compared with his South Island counterpart. The North Island farmer also produced more milk per hectare and per farm per day. In production per productive hectare the North Island supplier was ahead by over 27 per cent.

## 3.4 Other Physical and Production Data

In Appendix D further physical and production information is listed. It includes information such as supplementary dairy feed, run-off area, dairy management and stock balances.

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[a] Milk Board 29th Annual Report 1982, p.59.

TABLE 12

Milk Production

| Milk Production Per Farm | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms | 76 | 76 | 152 |
| Daily Quota (l) | 830 | 726 | 786 |
| Milk Production Sold at Quota Prices (l) | 365,274 | 296,754 | 336,143 |
| Milk Production Sold at Surplus Prices (l) | 181,101 | 137,698 | 162,654 |
| Total Litres Produced (l) | 546,375 | 434,452 | 498,797 |
| Proportion of Total Sold at Quota Prices | 66.1% | 67.3% | 66.6% |
| Total Litres Produced in June 1981 (l) | 39,571 | 27,850 | 34,590 |
| Total Litres Produced in Dec. 1981 (l) | 56,298 | 44,662 | 51,352 |
| Average Herd Size (No. cows including dry cows) | 125.86 | 104.35 | 116.71 |
| Average No. Milking Cows in June 1981 | 89.09 | 71.11 | 81.45 |
| Average No. Milking Cows in Dec. 1981 | 108.44 | 90.61 | 100.86 |
| Total Litres Converted to 4.18% Milkfat (kg) | 22,838 | 18,160 | 20,850 |
| Kg Milkfat per Dairy Prod. ha (kg) | 265 | 208 | 241 |
| Total Stock Units[a]/Farm (No.) | 1,219 | 1,263 | 1,238 |
| Stock Units/Dairy Prod. ha (No.) | 14.2 | 14.5 | 14.3 |
| Total Litres/Average Herd Size (l) | 4,341 | 4,163 | 4,274 |
| Litres/Dec. Milking Cows (l) | 5,039 | 4,795 | 4,945 |
| Litres/Total ha (l) | 5,525 | 4,519 | 5,105 |
| Litres/Dairy Prod. ha (l) | 6,344 | 4,986 | 5,763 |
| Litres/Farm/Day (l) | 1,497 | 1,190 | 1,367 |

[a] For a definition of stock units, see Appendix B.

# CHAPTER 4

# FINANCIAL DATA

## 4.1 Introduction

Many of the tables in this chapter have results presented on a per farm, per average cow and a per dairy productive hectare basis. For both Islands the per farm results are divided by the average number of cows (including dry cows) and dairy productive area for each Island to give the per cow and per dairy productive hectare results. The New Zealand calculations use the New Zealand average number of cows and the New Zealand average dairy productive area.

The reliability of the survey estimates are presented in Appendix C. Comparisons with the results from previous years are presented in Appendix F.

## 4.2 Capital Structure

Details of the procedures adopted in assessing the capital value of assets and liabilities are listed in Appendix B. They are similar to those followed in previous surveys.

### 4.2.1 Value of all Assets

The total value of all assets on the average New Zealand survey farm was $579,388 (see Table 13). This was 29.32 per cent higher than the 1980-81 value. Some of this increase is due to the slight rise in the average survey farm freehold area from 81.99 ha in 1980-81 to 83.00 ha.

The average North Island farm had an all assets total of $623,434 compared with the South Island figure of $519,822. In 1979-80 the difference in asset value per farm between the two Islands was $104,430; in 1980-81 it was $143,703 and in 1981-82 it was $103,612.

### 4.2.2 Value of All Liabilities

The average North Island farm had a current and fixed liabilities total of $111,652 (see Table 13). The South Island figure was $109,211. The New Zealand value of all liabilities and equity both increased compared with the previous year, the former by 6.0 per cent and the latter by 36.4 per cent.

TABLE 13

Capital Structure - Value of all Assets and Liabilities

| | North Island | | | South Island | | | New Zealand | | |
|---|---|---|---|---|---|---|---|---|---|
| | Per Farm | Per Cow | Per Dairy Prod. Ha | Per Farm | Per Cow | Per Dairy Prod. Ha | Per Farm | Per Cow | Per Dairy Prod. Ha |
| Assets | $ | $ | $ | $ | $ | $ | $ | $ | $ |
| Freehold Land (valued at 31.12.81) | 509,913 | 4,051 | 5,920 | 405,408 | 3,885 | 4,652 | 465,492 | 3,988 | 5,378 |
| Farmer's House (1/2) | 16,745 | 133 | 195 | 19,602 | 188 | 225 | 17,959 | 154 | 207 |
| Other Farm Houses | 6,838 | 54 | 79 | 5,731 | 55 | 66 | 6,367 | 54 | 74 |
| Farm Buildings | 14,667 | 117 | 170 | 16,623 | 159 | 191 | 15,498 | 133 | 179 |
| Plant & Equipment | 9,594 | 76 | 111 | 12,210 | 117 | 140 | 10,705 | 92 | 124 |
| Farm Vehicles | 17,661 | 140 | 205 | 20,035 | 192 | 230 | 18,669 | 160 | 216 |
| Dairy Stock | 20,589 | 164 | 239 | 17,656 | 169 | 202 | 19,342 | 166 | 223 |
| Other Stock | 1,956 | 16 | 23 | 946 | 9 | 11 | 1,527 | 13 | 18 |
| Company Shares | 2,720 | 22 | 32 | 2,061 | 20 | 24 | 2,440 | 21 | 28 |
| Total Farm Assets | 600,683 | 4,773 | 6,974 | 500,272 | 4,794 | 5,741 | 557,999 | 4,781 | 6,447 |
| Cash at Bank | 5,822 | 46 | 67 | 6,068 | 58 | 70 | 5,926 | 51 | 68 |
| Sundry Debtors | 7,307 | 58 | 85 | 6,824 | 66 | 78 | 7,101 | 61 | 82 |
| Other Current Assets | 9,622 | 76 | 112 | 6,658 | 64 | 76 | 8,362 | 71 | 97 |
| Total All Assets | 623,434 | 4,953 | 7,238 | 519,822 | 4,982 | 5,965 | 579,388 | 4,964 | 6,694 |

(Table 13 cont...)

TABLE 13 (cont...)

Capital Structure - Value of all Assets and Liabilities

| | North Island | | | South Island | | | New Zealand | | |
|---|---|---|---|---|---|---|---|---|---|
| | Per Farm | Per Cow | Per Dairy Prod. Ha | Per Farm | Per Cow | Per Dairy Prod. Ha | Per Farm | Per Cow | Per Dairy Prod. Ha |
| Current Liablities | $ | $ | $ | $ | $ | $ | $ | $ | $ |
| Bank Overdraft | 5,090 | 40 | 59 | 3,939 | 38 | 45 | 4,601 | 39 | 53 |
| Sundry Creditors | 7,108 | 57 | 83 | 6,333 | 61 | 73 | 6,778 | 58 | 78 |
| Other Current Liabilities | 7,448 | 59 | 86 | 7,729 | 74 | 89 | 7,567 | 65 | 88 |
| Total Current Liabilities | 19,646 | 156 | 228 | 18,001 | 173 | 207 | 18,946 | 162 | 219 |
| Fixed Liabilities | | | | | | | | | |
| Rural Bank Mortgages | 26,105 | 208 | 303 | 36,224 | 347 | 416 | 30,404 | 261 | 351 |
| Trading Bank Mortgages | 9,341 | 74 | 108 | 4,821 | 46 | 55 | 7,420 | 64 | 86 |
| Building Society Mortgages | 2,894 | 23 | 34 | 2,439 | 23 | 28 | 2,701 | 23 | 31 |
| Insurance Co. Loans | 10,882 | 87 | 126 | 5,863 | 56 | 67 | 8,748 | 75 | 101 |
| Stock Firm Loans | 176 | 1 | 2 | 1,224 | 12 | 14 | 621 | 5 | 7 |
| Finance Co. Loans | 694 | 6 | 8 | 1,271 | 12 | 14 | 939 | 8 | 11 |
| Solicitors Loans | 301 | 2 | 4 | 9,429 | 91 | 108 | 4,180 | 36 | 48 |
| Family Mortgages | 25,466 | 202 | 296 | 19,841 | 190 | 228 | 23,076 | 198 | 267 |
| Other Fixed Liabilities | 16,147 | 128 | 187 | 10,098 | 97 | 116 | 13,576 | 116 | 157 |
| Total Fixed Liabilities | 92,006 | 731 | 1,068 | 91,210 | 874 | 1,046 | 91,665 | 786 | 1,059 |
| Total All Liabilities | 111,652 | 887 | 1,296 | 109,211 | 1,047 | 1,253 | 110,611 | 948 | 1,278 |
| Equity | 511,782 | 4,066 | 5,942 | 410,610 | 3,935 | 4,712 | 468,777 | 4,016 | 5,416 |
| Total | 623,434 | 4,953 | 7,238 | 519,821 | 4,982 | 5,965 | 579,388 | 4,964 | 6,694 |

## 4.3 Gross Revenue

### 4.3.1 Gross Revenue per farm

Total gross revenue in Table 14 for the average New Zealand farm increased by 19.74 per cent to $103,044 compared with the year before.

Milk sales represented 85.5 per cent of the total gross revenue for the average farm. The New Zealand figure of $88,099 for milk sales was above the 1980-81 figure by 20.9 per cent. The profit from all livestock sales of $10,094 per farm was 18.4 per cent above the previous year's figure. Livestock standard values were maintained at the same level as the previous survey.

The total North Island gross revenue per farm of $107,368 was 10.5 per cent higher than the South Island total per farm ($97,203). The North Island was also higher in revenue per dairy productive hectare but trailed the South Island in revenue per cow.

### 4.3.2 Types of Milk Payments Received

The average North Island farmer received $64,178 for milk paid for at quota prices (see Table 15). This was 30.64 per cent greater than the amount received for quota milk by South Island producers ($49,127). North Island producers also received 21.75 per cent more payment per farm for their surplus milk ($15,223 compared with $12,503). However the South Island producers received more in special allowances and other payments per farm.

TABLE 14

Gross Revenue Components

| | North Island | | | South Island | | | New Zealand | | |
|---|---|---|---|---|---|---|---|---|---|
| | Per Farm | Per Cow | Per Dairy Prod. Ha | Per Farm | Per Cow | Per Dairy Prod. Ha | Per Farm | Per Cow | Per Dairy Prod. Ha |
| | $ | $ | $ | $ | $ | $ | $ | $ | $ |
| Milk Sales | 91,790 | 729 | 1,066 | 83,115 | 797 | 954 | 88,099 | 755 | 1,018 |
| Produce Sold | 867 | 7 | 10 | 2,012 | 19 | 23 | 1,353 | 12 | 16 |
| Wool & Skins Sold | 307 | 2 | 4 | 463 | 4 | 5 | 374 | 3 | 4 |
| Contracting Fees | 487 | 4 | 6 | 562 | 5 | 7 | 519 | 4 | 6 |
| Rent & Lease Fees | 467 | 4 | 5 | 554 | 5 | 6 | 504 | 4 | 6 |
| Employee's House | 610 | 5 | 7 | 683 | 7 | 8 | 641 | 5 | 7 |
| Livestock Profit | | | | | | | | | |
| - Dairy | 8,882 | 71 | 103 | 6,628 | 64 | 76 | 7,924 | 68 | 92 |
| - Other Stock | 2,530 | 20 | 29 | 1,684 | 16 | 19 | 2,170 | 19 | 25 |
| Other Revenue | 1,428 | 11 | 17 | 1,502 | 14 | 17 | 1,460 | 13 | 17 |
| Gross Revenue | 107,368 | 853 | 1,247 | 97,203 | 931 | 1,115 | 103,044 | 883 | 1,191 |

TABLE 15

Types of Milk Payments Received

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms | 76 | 76 | 152 |
| | $ | $ | $ |
| Payment Received for Milk Paid at Quota Prices | 64,178 | 49,127 | 57,779 |
| Payment Received for Milk Paid at Surplus Prices | 15,223 | 12,503 | 14,067 |
| Special Production Allowances | 757 | 2,407 | 1,458 |
| Premiums Received or Penalties Paid | -134 | 476 | 125 |
| Farm Chilling Allowances | 344 | 443 | 386 |
| End of Season, Retrospective and Other Payments | 11,422 | 18,159 | 14,284 |
| Total Milk Payments Received | 91,790 | 83,115 | 88,099 |

## 4.4 Expenditure

### 4.4.1 Farm Expenditure

For the average New Zealand farm, total expenditure increased by 18.8 per cent to $78,853 in 1981-82 (Table 16). The largest increase was depreciation which rose 29.7 per cent followed by administration, overheads, and operating and labour expenses which rose 26.0 per cent, 19.4 per cent, 18.4 per cent and 12.7 per cent respectively.

The two highest individual operating expenses for the average town milk farm were repairs and maintenance which rose by 20.91 per cent (to $9,239) and vehicle expenses (up 14.9 per cent to $6,857). Then followed feed costs which increased by 24.6 per cent (to $6,249). Fertiliser and seed expenses were the next highest operating expense (up 23.4 per cent to $6,189). Nearly 50 per cent more was spent on fertiliser and seed per farm in the North Island compared with the South ($7,206 and $4,813).

A rise of 13.9 per cent (to $10,215) in the interest paid on the average New Zealand farm was recorded. The average amount paid in the North Island increased by 14.9 per cent to $10,658 per farm while in the South Island the average interest paid was up by 12.4 per cent to $9,615.

### 4.4.2 Depreciation of Farm Assets

Net depreciation (Table 17) increased by 29.7 per cent from $5,942 to $ 7,706 for the average New Zealand farm. The increase was greater in the South Island (up by 38.1 per cent) compared with the North Island (up 23.7 per cent).

Total gross depreciation for New Zealand increased by 24.3 per cent to $7,944. The average North Island farm had an increase of 18.2 per cent with the South Island average farm showing a larger rise of 32.5 per cent.

For both Islands and New Zealand increases occurred in all groups of ordinary and first year and special depreciation (plant and equipment, vehicles and buildings).

## 4.5 Farm Income

### 4.5.1 Net Farm Income

New Zealand net farm income (before taxation) averaged $24,191 in 1981-82 (Table 18). This was an increase of 26.1 per cent over the previous survey result of $19,668. In 1980-81 net farm income had increased by 17.7 per cent compared with the previous year.

North Island average net farm income increased by 17.1 per cent to $25,226. The North Island farmer had a similar percentage increase in his total expenditure (up 18.2 per cent) as his increase in gross revenue (up 18.0 per cent). In the South Island the average farmer had an increase in his total expenditure of 19.5 per cent to $74,409. The increase in the South Island gross revenue showed a similar percentage rise (up 17.8 per cent to $97,203). The net farm income result for the average South Island farmer surveyed was a rise from $17,175 to $22,794 (up 32.7 per cent).

The difference between the average net farm income of the North Island and the South Island was $2,432. In 1980-81 the difference was $4,365.

Results by quota group are given in Appendix D.

TABLE 16

Farm Expenditure Components

| Expenses | North Island Per Farm | North Island Per Cow | North Island Per Dairy Prod. Ha | South Island Per Farm | South Island Per Cow | South Island Per Dairy Prod. Ha | New Zealand Per Farm | New Zealand Per Cow | New Zealand Per Dairy Prod. Ha |
|---|---|---|---|---|---|---|---|---|---|
| Labour | $ | $ | $ | $ | $ | $ | $ | $ | $ |
| Family Labour | 3,389 | 27 | 39 | 3,085 | 30 | 35 | 3,260 | 28 | 38 |
| Family Casual Labour | 318 | 3 | 4 | 367 | 3 | 4 | 339 | 3 | 4 |
| Non-Family Permanent & Casual Labour | 6,514 | 52 | 76 | 5,137 | 49 | 59 | 5,929 | 51 | 68 |
| Unpaid Family Labour | 2,952 | 23 | 34 | 3,750 | 36 | 43 | 3,290 | 28 | 38 |
| Labour Accommodation | 913 | 7 | 11 | 935 | 9 | 11 | 922 | 8 | 11 |
| Sub-total Labour | 14,086 | 112 | 164 | 13,274 | 127 | 152 | 13,740 | 118 | 159 |
| Operating | | | | | | | | | |
| Animal Health | 2,043 | 16 | 24 | 1,727 | 17 | 20 | 1,909 | 16 | 22 |
| Breeding & Herd Testing | 1,609 | 13 | 18 | 967 | 9 | 11 | 1,336 | 11 | 15 |
| Contractors | 1,136 | 9 | 13 | 1,506 | 14 | 17 | 1,293 | 11 | 15 |
| Dairy Shed Expenses | 1,531 | 12 | 18 | 1,552 | 15 | 18 | 1,540 | 13 | 18 |
| Electricity | 1,946 | 15 | 22 | 1,774 | 17 | 20 | 1,873 | 16 | 22 |
| Fertilizer & Seed | 7,206 | 57 | 84 | 4,813 | 46 | 55 | 6,189 | 53 | 72 |
| Feed | 6,103 | 48 | 71 | 6,447 | 62 | 74 | 6,249 | 54 | 72 |
| Grazing Expenses | 1,190 | 9 | 14 | 254 | 3 | 3 | 792 | 7 | 9 |
| Freight | 697 | 6 | 8 | 664 | 6 | 8 | 683 | 6 | 8 |
| Weed & Pest Expenses | 581 | 5 | 7 | 665 | 6 | 8 | 617 | 5 | 7 |
| Vehicle Expenses | 6,622 | 53 | 77 | 7,176 | 69 | 82 | 6,857 | 59 | 79 |
| Repairs and Maintenance | 9,822 | 78 | 114 | 8,452 | 81 | 97 | 9,239 | 79 | 107 |
| Irrigation Expenses | 72 | 1 | 1 | 1,217 | 12 | 14 | 558 | 5 | 6 |
| Sub-Total Operating | 40,558 | 322 | 471 | 37,214 | 357 | 427 | 39,135 | 335 | 452 |

(Table 16 cont...)

TABLE 16 (cont...)

Farm Expenditure Components

| Expenses | North Island Per Farm | North Island Per Cow | North Island Per Dairy Prod. Ha | South Island Per Farm | South Island Per Cow | South Island Per Dairy Prod. Ha | New Zealand Per Farm | New Zealand Per Cow | New Zealand Per Dairy Prod. Ha |
|---|---|---|---|---|---|---|---|---|---|
| Administration | $ | $ | $ | $ | $ | $ | $ | $ | $ |
| Accountancy | 797 | 6 | 9 | 669 | 7 | 8 | 743 | 6 | 9 |
| Telephone | 473 | 4 | 6 | 437 | 4 | 5 | 457 | 4 | 5 |
| General Administration | 1,047 | 8 | 12 | 1,183 | 11 | 13 | 1,105 | 10 | 13 |
| Sub-total Administration | 2,317 | 18 | 27 | 2,289 | 22 | 26 | 2,305 | 20 | 27 |
| Overheads | | | | | | | | | |
| Insurance | 1,287 | 10 | 15 | 1,244 | 12 | 14 | 1,269 | 11 | 14 |
| Interest Paid | 10,658 | 85 | 124 | 9,615 | 92 | 111 | 10,215 | 88 | 118 |
| Rates | 2,463 | 19 | 28 | 1,927 | 19 | 22 | 2,235 | 19 | 26 |
| Rent | 3,266 | 26 | 38 | 871 | 8 | 10 | 2,248 | 19 | 26 |
| Sub-total Overheads | 17,674 | 140 | 205 | 13,657 | 131 | 157 | 15,967 | 137 | 184 |
| Total Cash Expenses | 74,635 | 592 | 867 | 66,434 | 637 | 762 | 71,147 | 610 | 822 |
| Net Depreciation | 7,507 | 60 | 87 | 7,975 | 76 | 92 | 7,706 | 66 | 89 |
| Total Expenditure | 82,142 | 652 | 954 | 74,409 | 713 | 854 | 78,853 | 676 | 911 |

TABLE 17

Depreciation of Farm Assets

| Type of Asset | North Island Ordinary | North Island First Year & Special | North Island Gross Depreciation | South Island Ordinary | South Island First Year & Special | South Island Gross Depreciation | New Zealand Ordinary | New Zealand First Year & Special | New Zealand Gross Depreciation |
|---|---|---|---|---|---|---|---|---|---|
| | $ | $ | $ | $ | $ | $ | $ | $ | $ |
| Plant and Equipment | 1,298 | 369 | 1,667 | 1,291 | 929 | 2,220 | 1,295 | 607 | 1,902 |
| Vehicles | 2,700 | 1,426 | 4,126 | 3,101 | 1,612 | 4,713 | 2,871 | 1,505 | 4,376 |
| Buildings | 1,380 | 373 | 1,753 | 1,287 | 262 | 1,549 | 1,340 | 326 | 1,666 |
| Gross Depreciation | | | 7,546 | | | 8,482 | | | 7,944 |
| Less Personal Depn. on cars | | | 251 | | | 263 | | | 256 |
| Less Depn. recovered on Plant & vehicles by Sales | | | -212 | | | 244 | | | -18 |
| Net Depreciation | | | 7,507 | | | 7,975 | | | 7,706 |

TABLE 18

Net Farm Income Components

| | North Island | | | South Island | | | New Zealand | | |
|---|---|---|---|---|---|---|---|---|---|
| | Per Farm | Per Cow | Per Dairy Prod. Ha | Per Farm | Per Cow | Per Dairy Prod. Ha | Per Farm | Per Cow | Per Dairy Prod. Ha |
| | $ | $ | $ | $ | $ | $ | $ | $ | $ |
| Gross Revenue | 107,368 | 853 | 1,247 | 97,203 | 931 | 1,115 | 103,044 | 883 | 1,191 |
| Total Expenditure | 82,142 | 652 | 954 | 74,409 | 713 | 854 | 78,853 | 676 | 911 |
| Net Farm Income | 25,226 | 201 | 293 | 22,794 | 218 | 261 | 24,191 | 207 | 280 |

### 4.5.2 Cash Surplus

Details of the cash surplus available to farmers after the years farming are listed in Table 19. Imputed revenue and cost components such as allowances for the employee's house and family labour are excluded. Taxation has not been deducted.

Cash surplus from farming increased to $34,758. This was 26.8 per cent higher than the previous survey. Both Island results showed an increase; the average North Island farm had a 23.4 per cent rise and the South Island had a 31.9 per cent increase.

Cash receipts for the average New Zealand farm were up by 19.2 per cent with cash expenses increasing by a lower percentage (up 15.7 per cent). In both Islands the percentage increase in cash receipts was higher than the percentage rise in cash expenses.

Sheep and beef sale receipts showed a substantial increase over the previous year. For the average New Zealand farm, sheep and beef sales were up 234.6 per cent to $2,550.

### 4.5.3 Farm Incomes Less Imputed Interest Rates

In Table 20 an imputed interest rate (e.g. 3.5 per cent) was applied first to the equity of the farmer. The resulting figure was then deducted from the net farm income. The actual interest paid was left in as an expense.

Similarly an imputed interest was applied to the total value of farm assets. The resulting figure was then deducted from the sum of net farm income plus actual interest paid. This second approach eliminates any differences that occurred in net farm incomes due to actual interest payments and assumes that the farms were debt free.

TABLE 19

Cash Surplus from Farming
($ per farm)

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms | 76 | 76 | 152 |
| Cash Received: | $ | $ | $ |
| Milk Sales | 91,790 | 83,115 | 88,099 |
| Dairy Cattle Sales | 9,767 | 8,411 | 9,191 |
| Sheep & Beef Sales | 2,908 | 2,065 | 2,550 |
| Bobby Calf Sales | 1,295 | 1,041 | 1,187 |
| Other Farm Income | 3,558 | 5,092 | 4,210 |
| Total Received | 109,318 | 99,724 | 105,237 |
| Cash Spent: | | | |
| Labour and Operating | 50,779 | 45,804 | 48,663 |
| Overhead & Administration | 19,990 | 15,946 | 18,271 |
| Cattle Purchases | 2,456 | 3,266 | 2,800 |
| Sheep & Beef Cattle Purchases | 335 | 1,299 | 745 |
| Total Spent | 73,560 | 66,315 | 70,479 |
| Cash Surplus from Farming | 35,758 | 33,409 | 34,758 |

TABLE 20

Net Farm Income less Imputed Interest
on Equity and Total Assets

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms | 76 | 76 | 152 |
| | $ | $ | $ |
| Equity | 511,782 | 410,610 | 468,777 |
| Net Farm Income | 25,226 | 22,794 | 24,191 |
| A. Net Farm Income less Imputed Interest on Equity at Rate of: | | | |
| 3.5% p.a. | 7,314 | 8,423 | 7,784 |
| 5% p.a. | -363 | 2,263 | 752 |
| 7% p.a. | -10,599 | -5,949 | -8,623 |
| Total Farm Assets | 600,683 | 500,272 | 557,999 |
| Net Farm Income | 25,226 | 22,794 | 24,191 |
| Interest Paid | 10,658 | 9,615 | 10,215 |
| B. Net Farm Income plus Interest Paid less Imputed Interest on Total Farm Assets at Rate of: | | | |
| 3.5% p.a. | 14,860 | 14,899 | 14,876 |
| 5% p.a. | 5,850 | 7,395 | 6,506 |
| 7% p.a. | -10,599 | -5,949 | -8,623 |

### 4.5.4 Measures of Economic Profitability

An attempt has been made in Table 21 to allow a comparison of results from this town milk survey with those found in the N.Z. Meat & Wool Board's Economic Service survey of sheep and beef farms[a]. Most of the terms used here are particular to this table and are not found elsewhere in this report. They are defined in Appendix B.

The calculated rate of return on farm capital invested for the average New Zealand town milk farm was 3.98 per cent (Table 21). The figure for the previous year was 4.23 per cent.

The capital turnover percentage is the ratio of gross revenue to total farm capital, expressed as a percentage. In 1981-82 the average New Zealand farm had a capital turnover percentage of 19.08 per cent.

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a New Zealand Meat and Wool Boards' Economic Service, Sheep and Beef Farm Survey, 1980-81, p.44.

The labour and management residual is an assessment of what the farmer earns as a reward for his own labour and management, given that he pays interest at 11.0 per cent on his own equity capital, in addition to the interest he already pays on borrowed capital. The New Zealand average townmilk residual was -$23,345 compared with -$15,277 for the previous survey.

## 4.6 Principal Revenue and Expenditure Components

Milk sales represented 85.5 per cent of total revenue in the current survey (Table 22). This was 0.8 per cent more than in 1980-81.

The major expenditure subgroup was operating expenses. Operating expenses make up nearly half the total expenses on the average town milk farm. The next major expenditure subgroup was overheads, followed closely by labour expenses.

As a percentage of total expenses all expenditure subgroups for the two Islands were similar in 1981-82.

TABLE 21

Measures of Economic Profitability[a]

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms | 76 | 76 | 152 |
| A. Return on Capital | $ | $ | $ |
| 1. Working Expenses (Labour, operating & administration less imputed costs) | 50,399 | 48,094 | 49,417 |
| 2. Plus assessed Managerial Reward ($9,980) plus 1% of Farm Capital - see 5) | 15,731 | 14,704 | 15,294 |
| 3. Total adjusted Working Expenses (1+2) | 66,130 | 62,798 | 64,711 |
| 4. Working Capital (8.33% of 3) | 5,509 | 5,231 | 5,390 |
| 5. Farm Capital (excluding dwelling, car, and shares) | 575,058 | 472,449 | 531,440 |
| 6. Total Farm Capital (4+5) | 580,567 | 477,680 | 536,830 |
| 7. Net Farm Income | 25,226 | 22,794 | 24,191 |
| 8. Plus Interest Paid | 10,658 | 9,615 | 10,215 |
| 9. Plus Rent Paid | 3,265 | 871 | 2,248 |
| 10. Sub-total (7+8+9) | 39,149 | 33,280 | 36,654 |
| 11. Less assessed Managerial Reward (2) | 15,731 | 14,704 | 15,294 |
| 12. Economic Farm Surplus (10-11) | 23,418 | 18,576 | 21,360 |
| 13. Rate of Return % (12/6) | 4.03% | 3.89% | 3.98% |
| B. Capital Turnover Percentage | | | |
| 14. Gross Revenue (less worker's house) | 106,759 | 96,521 | 102,404 |
| 15. Total Farm Capital (6) | 580,567 | 477,680 | 536,830 |
| 16. Capital Turnover Percentage (14/15) | 18.39% | 20.21% | 19.08% |
| C. Labour & Management Residual | | | |
| 17. Total Farm Capital (6) | 580,567 | 477,680 | 536,830 |
| 18. Plus Cash at Bank | 5,822 | 6,068 | 5,926 |
| 19. Sub-Total (17+18) | 586,389 | 483,748 | 542,756 |
| 20. Less Fixed Liabilities | 92,006 | 91,210 | 91,664 |
| 21. Less Current Liabilities | 19,645 | 18,001 | 18,947 |
| 22. Total Equity Capital (19-20-21) | 474,738 | 374,537 | 432,145 |
| 23. Net Farm Income (7) | 25,226 | 22,794 | 24,191 |
| 24. Less 11.0% of Equity Capital (22) | 52,221 | 41,199 | 47,536 |
| 25. Labour & Management Residual (23-24) | -26,995 | -18,405 | -23,345 |

[a] Most of the terms used here are particular to this table alone. They are defined in Appendix B. They are similiar to those used by the N.Z. Meat and Wool Boards' Economic Service in their "Sheep and Beef Farm Survey".

TABLE 22

Revenue and Expenditure Proportions

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms | 76 | 76 | 152 |
| | % | % | % |
| Gross Revenue | | | |
| Milk Sales | 85.5 | 85.5 | 85.5 |
| Livestock Profit | 10.6 | 8.6 | 9.8 |
| Other Revenue | 3.9 | 5.9 | 4.7 |
| Total | 100.0 | 100.0 | 100.0 |
| Expenditure | | | |
| Labour | 17.1 | 17.8 | 17.4 |
| Operating | 49.4 | 50.0 | 49.6 |
| Administration | 2.8 | 3.1 | 2.9 |
| Overheads | 21.5 | 18.4 | 20.3 |
| Depreciation | 9.2 | 10.7 | 9.8 |
| Total | 100.0 | 100.0 | 100.0 |
| Expenditure/Revenue Ratio | 76.51% | 76.55% | 76.52% |

## APPENDIX A

## PRODUCER ASSOCIATIONS INCLUDED IN SURVEY

### NORTH ISLAND

Whangarei Milk Marketing Co. Ltd
North Shore Co-op Milk Producers Ltd
Auckland Co-op Milk Producers Ltd
The New Zealand Co-op Dairy Co. Ltd (Ambury's), Auckland
Franklin Co-op Milk Producers Ltd
Thames Valley Milk Producers Ltd
Hamilton Milk Producers Ltd
Western Bay of Plenty (Co-op) Milk Producers Ltd, Tauranga
Eastern Bay of Plenty (Co-op) Milk Producers Ltd, Whakatane
Rotorua Co-op Milk Producers Co. Ltd
Tokoroa Co-op Milk Producers Co. Ltd
Gisborne Co-op Milk Producers Assn Ltd
Hawke's Bay Milk Producers Co-op Ltd
New Plymouth Town Milk Co-op Ltd
Egmont Town Milk Co-op Ltd
Wanganui Co-op Milk Supply Co. Ltd
Manawatu Milk Producers Co. Ltd
Wairarapa Town Milk Ltd
Wellington Dairy Farmers Co-op Assn Ltd

### SOUTH ISLAND

Nelson Co-op Milk Producers Assn Ltd
Blenheim Co-op Milk Suppply Ltd
Grey District Co-op Milk Producers Assn. Ltd
Canterbury Dairy Farmers Ltd
Metropolitan Milk Ltd
Ashburton Town Milk Producers Co-op Ld
South Canterbury Co-op Milk Supply Co. Ltd (Timaru)
North Otago Co-op Milk Supply Co. Ltd
Dunedin Dairy Farmers Co-op Milk Supply Co. Ltd
Southland Co-op Milk Producers Assn Ltd (Invercargill)

## APPENDIX B

## SURVEY DEFINITIONS AND TREATMENT OF DATA

The same basic survey principles and procedures have been adopted as in surveys of previous years. The following definitions and principles were adopted in extracting and assembling data from each farm.

### FARM AREA:

#### Total Farm Area:

This was the total area farmed by the producer during his 1981-82 financial year. It included rented land and run-off units, but did not include any 'grazing out' land.

#### Productive Farm Area:

The productive area of the farm included the land to which stock had regular access. It was the area grazed by stock less the area in roads, yards, races and farm buildings. The productive area of run-off units was also included. Areas under swamp, steep gullies, riverbeds and dense bush were excluded.

#### Productive Farm Area Used For Dairy Stock:

This was the estimated total productive area of land used for pasture and fodder production for dairy stock grazing during the income year. Estimated areas used for beef cattle and sheep grazing have been deducted. All grazing out areas used by farmers during the year have been converted to an annual grazing area and are included in the estimated area.

#### Run-Off Units:

Run-off units were land areas separated from the main farm and were mainly used to rear young dairy stock or carry other stock from time to time. Run-off units were included in the total farm area.

## LABOUR:

### Labour Unit:

A labour unit was defined as a worker, whether owner or employee, who worked on the farm full time over the survey period. Fractional units of labour were used when including work carried out on a part year or part time basis. Any work carried out by children under 12 years was ignored. The farmer's wife, cadet and student workers were assessed according to the amount of useful work carried out.

## QUOTA:

This was the average daily quota per farm for the farmer's 1981-82 financial year.

## MILK GRADES:

Milk grades are defined by the N.Z. Milk Board as follows:

Finest Grade: For milk which passes a five-hour reductase test and which, while generally complying with the accepted national standard of 4.3 cent fat for town milk, does not fall below 3.5 per cent fat.

First Grade: For milk which passes a three-hour reductase test but fails to pass the five-hour test and/or which contains 3.25 per cent fat but not 3.5 per cent fat.

Second Grade: For milk which fails to pass a three-hour reductase test and/or contains less than 3.25 per cent fat.

## STOCK UNITS:

These figures are based on the stock unit (s.u.) or ewe equivalent conversion ratios recommended by Coop in "N.Z. Agricultural Science", Vol. 1, No. 3, 1965.

| Dairy Town Supply | per head |
|---|---|
| Freisian cow | 8.5 s.u. |
| Heifer | |
| - 2 year old | 6.0 |
| - 1 year old | 4.5 |
| Calf | 2.5 |
| Bull | 5.5 |

| Sheep and Beef Cattle | per head |
|---|---|
| Ewe | 1.0 s.u. |
| Hoggets | 0.6 |
| Rams | 0.9 |
| Cattle beef | 6.0 |
| Heifer-weaner | 3.5 |
| Yearling beef | 4.0 |
| 2 year old beef | 4.5 |

## REVENUE

### Total Milk Sales:

The value of all milk sales was extracted from each set of accounts and checked against the monthly milk payments as provided by each Producer Company. Milk receipts include all relevant special payments made by the Producer Company during the farm's financial year.

### Produce Sold:

Proceeds from the sale of other farm produce, e.g. cereals, hay etc.

### Contracting Fees:

Gross proceeds from contracting work undertaken by the farmer or his employees; e.g. fencing, haybaling, bulldozing etc.

### Rent and Lease Fees:

Grazing fees or rent received from farm cottages or land.

### Employee's House and Produce:

This value is the sum of the annual imputed rental of $1,300 for the farm employee's house and $190 per annum allowance for each married non-family permanent worker for produce used. The figure of $190 per annum for produce used per full-time married labour unit was adopted to cover milk, meat, vegetables and firewood used. This allowance was not extended to the owner or members of the farm family. The value of produce used was also included in labour accommodation expenses.

### Livestock Profit:

Stock profit from the livestock trading accounts. The survey standard values were applied to all livestock. Stock balances were derived with the aid of the farmer and farm accounts.

### Other Revenue:

Sales of timber, posts, and sundry items, and interest from Dairy Company shares and investments. Government livestock subsidies and drought relief payments are also included.

Gross Revenue:

Sum of all the above income items. Non-farm income has not been assessed in the survey.

EXPENDITURE:

Family Permanent Labour:

Actual wages paid to permanent family members. It does not include any salary or management fee paid to owner.

Value of Labour Unit:

A standard wage of $9,980 per annum, with the provision of a house, was assumed for the imputed wage of adult workers over 20 years. This figure was calculated from the adult award wage for dairy farm workers from September 1, 1981 of $7,773 per annum. A further $2,207 was added to compensate for the 12 months milking requirement on a town-milk farm and the proximity of alternative employment opportunities. The imputed wage based on a 54 hour week for youths between 12 and 20 years of age was the award rate for 18 year olds of $6,382per annum. Of the 152 farmers surveyed for the 1980-81 survey, 46 paid an average annual adult wage of $9,191 to permanent non-family workers. From this is subtracted the 1980-81 award rate of $6,984 to leave $2,207. This has been added to the September 1981 award to total $9,980.

Non-Family Permanent and Casual Labour:

Wages paid to permanent and casual non-family members. Casual wages include wages paid for relief milking, casual feeding, haymaking etc. during the year. Contractors' work is excluded.

Unpaid Family Labour:

The value of unpaid family labour was assessed as follows:

| | |
|---|---|
| Adults over 20 years of age: | $3.55 per hour |
| 12-20 year old youths and girls: | $2.27 per hour |
| Children under 12 years: | Nil. |

The time worked by family member up to a maximum of 54 hours per week was assessed and an imputed total wage calculated. If a wage was paid and listed in the accounts, this was noted under family labour and deducted from the assessed total. Any balance was listed as unpaid family labour. If two brothers worked full-time as a partnership, the farm was adjusted to a sole ownership enterprise and one brother was allocated an imputed wage of $9,980 per annum.

Labour Accommodation:

This was calculated as the sum of the imputed rental value of the farm cottage of $1,300 per annum and $190 per annum for produce used by non-family permanent workers. Full board was assessed at $1,000 per year per person.

Contracting:

Payment to contractors for work done, such as bulldozing, fencing, cultivation, hay or silage making and harvesting.

Animal Health:

This amount includes all veterinary fees and drugs, bloat control and facial eczema control.

Breeding and Herd Testing:

Artificial breeding, herd testing and pedigree expenses.

Shed Expenses:

Rubberware, ropes, buckets, cleansers and miscellaneous items for sheds. Rebates have been deducted where applicable.

Electricity:

Electricity used on the farm and up to one-quarter of the domestic account.

Fertiliser and Seed:

Includes cost of fertilizer, seeds, and spreading charges. Subsidies and rebates have been deducted.

Feed:

Purchases of hay, straw, dairy meal, grains, minerals, calf food and miscellaneous items such as baler twine. Rebates were deducted where applicable.

Grazing Expenses:

Grazing fees incurred during the year.

Weed and Pest Control:

This amount includes cost of materials and spraying work. In some cases where it is not itemized the cost of spraying work is included in contracting expenses.

Vehicle Expenses:

Includes fuel, repairs, licences, registration, insurance and so on for all vehicles including farm bikes. Personal allowances for vehicle running have been deducted where they were shown in accounts.

Repairs and Maintenance:

Repairs to buildings, plant, fences, water supply, races, etc. This item also includes 25% of repairs to the farmer's house.

Development Expenses:

If this amount is detailed in the farmer's accounts, it has been combined with Repairs and Maintenance in the results.

Irrigation Expenses:

Repairs to irrigation equipment and running costs for fuel or electricity.

Accountancy:

Accountancy fees paid on all farm accounts.

Telephone:

Telephone rentals and tolls.

General Administration:

Administration items not allocated elsewhere, e.g. farm advisory services, legal fees, subscriptions, travelling expenses and sundry other administration items.

Insurance:

General insurance of farm assets.

Interest:

The interest paid is that listed in the accounts. It does not include any calculated interest on the farmer's equity capital.

Rates:

The amounts paid to County Council, Harbour Board, Catchment Board, Rabbit Board or Drainage Board.

Rent:

Fees paid for Crown lease or other renting. Excludes all internal rents paid to family trusts and companies etc.

Depreciation of Farm Buildings:

The original cost values of all farm buildings were used to determine depreciation. Ordinary building depreciation rates as claimed for tax purposes were applied. The normal taxation depreciation rate was applied to the cost values of all houses on the farm.

Depreciation of Other Assets:

Depreciation on all other assets except farm buildings was also based on rates used for taxation purposes. All personal allowances for depreciation (e.g. motor car) were deducted from the gross depreciation.

Net Depreciation:

Includes all special and ordinary depreciation as claimed for tax purposes plus any loss on sale of an asset and less any profit on sale of an asset.

Total Farm Expenditure:

Sum of all the above expenditure items.

Net Farm Income:

Gross farm revenue less total farm expenditure.

Cash Surplus from Farming:

This is the difference between the cash received and the cash spent. Imputed revenue and cost components such as allowances for the

employee's house and family labour are excluded. Taxation has not been deducted.

## CAPITAL STRUCTURE - ASSETS:

### Freehold Land:

The most recent Government capital valuation for each farm was obtained from the farmer. This was then updated to December 1981 using the NZ All Farmland Price Index published by the Valuation Department. Next the opening book value of each farmer's buildings was subtracted to arrive at the updated land value.

Land Value Indices

| Year ended 31 Dec. | NZ Farmland Price Index[a] (June 1980 = 1,000) | |
|---|---|---|
| 1977 | 689 | 2.221 |
| 1978 | 754 | 2.0305 |
| 1979 | 867 | 1.7659 |
| 1980 | 1,091 | 1.4033 |
| 1981 | 1,531 | 1.0 |

a Report of the Valuation Department for the year ended 31 March 1982, p.8.

### Farmer's House:

Half the average book value of the farmer's house is included.

### Dairy and Other Stock:

Numbers of dairy and other stock in the various classes were determined partly from the farm accounts and partly from discussions with the farmer. The following standard values per head were applied to the various classes of stock:

Dairy Stock:

| | | | |
|---|---|---|---|
| All Cows | $125 | Young Bulls | $50 |
| Heifers-in-calf | $100 | Bulls | $200 |
| Heifers | $80 | | |
| Yearlings | $50 | | |
| Calves | $20 | | |

Sheep:

| | | | |
|---|---|---|---|
| Ewes | $10 | Wethers | $8 |
| Hoggets - Ewe | $10 | Rams | $30 |
| - Ram | $8 | | |
| - Wether | $8 | | |

Beef Cattle:

| | | | |
|---|---|---|---|
| Cows | $125 | Steers - calves | $50 |
| Heifer - calves | $50 | - 1 yr | $50 |
| - 1 yr | $50 | - 2 yr | $125 |
| - 2 yr | $125 | Bulls - calves | $50 |
| | | - other | $200 |

In order to allow comparisons of results with previous surveys the standard values applied to all stock were the same as for the previous two surveys.

Cash at Bank:

Average value of all current accounts held at Banks for the farm's financial year.

Sundry Debtors:

Average value of general sundry debts to the farm account. Most of this amount is monthly milk payments due from the Producer Companies.

Other Current Assets:

Average value of all other current assets.

Total All Assets:

The sum of all current and long term farm assets.

## CAPITAL STRUCTURE - LIABILITIES:

### Current Liabilities:

The average balance taken from the farmer's balance sheets for the various current liabilities.

### Fixed Liabilities:

The average balance for all the fixed liabilities such as mortgages and long term loans.

### Equity:

This value is obtained by subtracting the value of total current and fixed liabilities from the total value of all assets.

## TERMS USED IN MEASURES OF ECONOMIC PROFITABILITY[a]:

### Working Expenses:

Cash payments for labour (excluding imputed labour and accommodation values), operating and administrative expenses.

### Assessed Managerial Reward:

This is an assessment of the payment that should be imputed to an owner-operator for his own labour and management skill. Calculated by adding $9,980 (imputed value of farm worker's wage) and one per cent of Farm Capital.

### Working Capital:

This is estimated to be one twelfth of the total adjusted working expenses. Since town supply farms have monthly milk cheques being paid into their current accounts, one twelfth of these expenses is considered a large enough proportion. The Sheep and Beef Survey allows 50 per cent of these expenses, as income may be received infrequently.

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[a] SOURCE: N.Z. Meat and Wool Boards' Economic Service, Sheep and Beef Farm Survey, 1980-81, p.44.

Farm Capital:

This is the sum of the capital value of land and buildings (excluding homestead), plant and machinery, farm vehicles (excluding private car valued at $6,160 and all livestock.

Total Farm Capital:

This is the sum of Working and Farm Capital.

Interest Paid:

This is the interest paid from the annual accounts.

Rent Paid:

This is the actual rent paid.

Economic Farm Surplus:

This is the difference between the sum of net farm income, salaries paid, interest and rent, and the assessed managerial reward.

Rate of Return:

This is the ratio of the Economic Farm Surplus to the Total Farm Capital expressed as a percentage.

Capital Turnover Percentage:

This is the ratio of Gross Revenue to Total Farm Capital expressed as a percentage. It gives an indication of the rate at which a capital investment reproduces itself in the form of gross income.

Labour and Management Residual:

This is an assessment of what the farmer earns as a reward for his own labour and management. The sum of 11.0 per cent interest (similar to the Economic Service Survey) is applied to Equity Capital, in addition to the interest already paid on borrowed capital. The sum of 11.0 per cent of the calculated Equity Capital is subtracted from the sum of Net Farm Income and Managerial Salaries paid.

## APPENDIX C

## RELIABILITY OF SURVEY ESTIMATES

Estimates of farm characteristics based on a sample of farms are likely to differ from the figures which would have been obtained had information been collected from all farms in the population. The magnitudes of these differences or sampling errors of survey estimates in this report are presented in this Appendix in the form of relative standard errors (RSE) of the estimates in percentage terms. The relative standard error is defined as the standard error divided by the mean. The smaller the relative standard error, the more reliable the estimate.

Table 23 sets out the mean and relative standard error for key survey variables. For example, Table 23 shows that for New Zealand the survey estimate of average net farm income was $24,191 with a relative standard error (RSE) of 5.31 per cent. In other words, it is 95 per cent certain that the true value of average net farm income lies within the range of 1.96 x 5.31 per cent x $24,191 either side of the estimated value. That is within $24,191 $\pm$ $2,518. Relative standard errors of estimates of the means for the various strata tend to be larger than for the New Zealand estimates because the sample size is smaller. Hence, more caution should be exercised in making inferences from the individual strata.

TABLE 23

Reliability of Survey Estimates

| | North Island Quota Size (litres) | | | | South Island Quota Size (litres) | | | | New Zealand |
|---|---|---|---|---|---|---|---|---|---|
| | 201-6001 | 601-10001 | 1001 +1 | All | 201-6001 | 601-10001 | 1001 +1 | All | |
| Number of Farms | 25 | 32 | 19 | 76 | 30 | 28 | 18 | 76 | 152 |
| Average Herd Size | | | | | | | | | |
| - mean (cows) | 80.58 | 130.69 | 172.26 | 125.86 | 77.22 | 109.45 | 163.22 | 104.35 | 116.71 |
| - RSE (%) | 6.47 | 5.79 | 9.07 | 4.57 | 7.30 | 3.58 | 7.74 | 3.65 | 3.17 |
| Daily Quota | | | | | | | | | |
| - mean (litres) | 455 | 791 | 1,334 | 830 | 474 | 788 | 1,241 | 726 | 786 |
| - RSE (%) | 3.47 | 2.49 | 4.12 | 2.87 | 3.29 | 2.94 | 3.65 | 2.16 | 1.95 |
| Dairy Productive Hectares | | | | | | | | | |
| - mean (hectares) | 54.41 | 90.74 | 116.77 | 86.13 | 60.77 | 91.07 | 146.46 | 87.14 | 86.55 |
| - RSE (%) | 7.03 | 6.25 | 7.64 | 4.35 | 8.46 | 8.35 | 5.87 | 4.63 | 3.18 |
| Total Litres Produced | | | | | | | | | |
| - mean (litres) | 326,826 | 507,130 | 866,707 | 546,375 | 306,311 | 464,294 | 700,697 | 434,452 | 498,797 |
| - RSE (%) | 6.82 | 5.34 | 10.87 | 5.56 | 6.03 | 4.54 | 4.75 | 3.10 | 3.70 |
| Gross Revenue | | | | | | | | | |
| - Mean ($) | 59,669 | 103,087 | 170,509 | 107,368 | 62,021 | 110,345 | 160,197 | 97,203 | 103,044 |
| - RSE (%) | 3.62 | 4.39 | 5.00 | 3.39 | 5.55 | 4.54 | 4.33 | 2.98 | 2.37 |
| Total Expenditure | | | | | | | | | |
| - mean ($) | 46,396 | 80,577 | 126,961 | 82,142 | 50,862 | 85,775 | 111,322 | 74,409 | 78,853 |
| - RSE (%) | 5.99 | 4.80 | 5.47 | 3.65 | 6.58 | 6.96 | 5.87 | 4.01 | 2.72 |
| Net Farm Income | | | | | | | | | |
| - mean ($) | 13,273 | 22,510 | 43,548 | 25,226 | 11,159 | 24,570 | 48,875 | 22,794 | 24,191 |
| - RSE (%) | 18.29 | 13.25 | 8.26 | 7.28 | 19.26 | 13.34 | 7.39 | 7.53 | 5.31 |

## Estimation Mathematics[a]

In addition to forming the usual survey estimates it was necessary to define the population of farms eligible for the survey since (as noted in Chapter 2) not all ineligible farms could be eliminated from the total population prior to selecting the sample.

### Definitions

$N_h$ - the apparent stratum size (known).

$N_h^*$ - the number of farms in stratum h which satisfy the eligibility criteria (unknown).

$W_h$ - $N_h^*/N_h$, $N = \Sigma N_h$, $\hat{N}^* = \Sigma \hat{N}_h^*$

$n_h$ - the number of eligible farms (farmers) which provided data in stratum h (known).

$m_h$ - the number of ineligible farms drawn in the course of obtaining $n_h$ (known).

$c_h$ - the number of eligible farms (farmers) who declined to provide data (known).

$\hat{\Pi}_h^*$ - $\hat{N}_h^*/\hat{N}^*$, the fraction of eligible farms in the total population coming from stratum h.

$\mu h, \sigma h^2$ - the unknown mean and variance of the eligible farms in stratum h.

$\bar{X}_h, S_h^2$ - the mean and variance of the sampled eligible units in stratum h.

$\bar{\bar{\mu}}$ = $\Sigma \hat{\Pi}_h \bar{\mu}_h$, the unknown mean of the characteristic under study over all eligible units.

$\bar{\bar{X}}$ = $\Sigma \hat{\Pi}_h \bar{X}_h$, the sample estimate of $\bar{\bar{\mu}}$.

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[a] The A.E.R.U. acknowledges the useful discussions held with Mr J. Jowett of the M.A.F. in formulating the statistical procedures used in this survey.

Sampling Properties of Estimated Stratum Sizes:

$$\hat{W}_h = \frac{n_h + c_h - 1}{n_h + c_h + m_h - 1}; \quad \text{unbiased estimator of } W_h.$$

$$\text{est. var. } \hat{W}_h = \frac{\hat{W}_h (1 - \hat{W}_h)}{n_h + c_h + m_h - 2} \left(1 - \frac{n_h + c_h + m_h - 1}{N_h}\right);$$

unbiased estimator of the variance of $\hat{W}_h$.

The estimated stratum size is:

$\hat{N}^*_h = N_h \hat{W}_h$ with estimated variance equal to $N_h^2$ multiplied by est. var. $\hat{W}_h$.

$$\text{est. var. } \hat{N}^*_h = N_h^2 \text{ est. var. } \hat{W}^*_h.$$

Mean and Standard Error (s.e.) of the Survey Estimates:

$$\bar{\bar{X}} = \Sigma \hat{\Pi}^*_h \bar{X}_h \quad \text{where} \quad \hat{\Pi}^*_h = \hat{N}^*_h / \Sigma \hat{N}^*_h$$

$$\text{s.e. } \bar{\bar{X}} = \left[ \Sigma(\hat{\Pi}^*_h \text{ s.e. } \bar{X}_h)^2 + \Sigma \left[ \frac{(\text{est. var. } \hat{N}^*_h)^{\frac{1}{2}} \text{ s.e. } \bar{X}_h}{N^*} \right]^2 + \Sigma \left[ \frac{(\text{est. var. } \hat{N}^*_h)^{\frac{1}{2}}}{N^*} (\bar{X}_h - \bar{\bar{X}}) \right]^2 \right]^{\frac{1}{2}}$$

The first term in the equation for estimating the standard error (s.e.) of the survey means is the normal estimate from a stratified sample. The other two terms relate to the uncertainty in relative stratum sizes. The recorded statistics relating to the estimated stratum sizes are presented in Table 24.

TABLE 24

Estimation of Stratum Sizes

| Stratum | | | | | |
|---|---|---|---|---|---|
| North Island | | | | | |
| 201-600 litres | 150 | 25 | 4 | 9 | 114 | 0.1842 |
| 601-1000 " | 178 | 32 | 6 | 8 | 146 | 0.2358 |
| 1001 + " | 139 | 19 | 9 | 12 | 96 | 0.1551 |
| South Island | | | | | |
| 201-600 litres | 134 | 30 | 5 | 4 | 120 | 0.1939 |
| 601-1000 " | 105 | 28 | 5 | 3 | 96 | 0.1551 |
| 1001 + " | 56 | 18 | 8 | 5 | 47 | 0.0759 |
| Total New Zealand | 762 | 152 | | | 625 | 1.0000 |

## APPENDIX D

## OTHER PHYSICAL AND PRODUCTION DATA



### TABLE 25

### Farmers Age, Years of Management Control and Number of Dependants

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms | 76 | 76 | 152 |
| Age of Farmer (principal decision-maker) | 45.5 | 45.1 | 45.3 |
| No. of Years of Management Control | 18.0 | 17.4 | 17.8 |
| Number of Dependants (including wife) | 2.87 | 2.42 | 2.68 |

TABLE 26

Supplementary Feed Use[a]

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms Surveyed | 76 | 76 | 152 |
| Number of Farms with Home Grown Hay | 61 | 73 | 134 |
| - Average No. of Home Grown Bales | 3,182 | 5,905 | 4,666 |
| Number of Farms with Purchased Hay | 31 | 43 | 74 |
| - Average No. of Purchased Bales | 1,354 | 2,007 | 1,733 |
| Number of Farms Making Silage | 67 | 50 | 117 |
| - Average No. of Tonnes of Silage Made | 382 | 482 | 425 |
| Number of Farms with Home Grown Grain | 2 | 27 | 29 |
| - Average No. of Tonnes of Home Grown Grain | 42.5 | 34.2 | 34.8 |
| Number of Farms with Purchased Grain | 5 | 24 | 29 |
| - Average No. of Tonnes of Purchased Grain | 71.8 | 48.0 | 52.1 |
| Number of Farms with Purchased Dairy Meal | 37 | 34 | 71 |
| - Average No. of Tonnes of Dairy Meal Purchased | 20.6 | 8.8 | 14.9 |

[a] These results do not include weighted means. The average is calculated according to the number of practicing farms.

TABLE 27

Run-Off Area[a]

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms Surveyed | 76 | 76 | 152 |
| Number of Farms with a Run-off Area | 61 | 43 | 104 |
| - Run-off Area (ha) | 31.40 | 30.51 | 31.03 |
| - Distance from Home Farm to Run-off (km) | 6.5 | 6.7 | 6.6 |

a These results do not include weighted means. The average is calculated according to the number of practicing farms.

TABLE 28

Non-Family Adult Workers' Annual Wage Paid and Years of Experience

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms Surveyed | 76 | 76 | 152 |
| Number of Farms with a Non-Family Adult Worker Employed All Year | 22 | 24 | 46 |
| - Annual Average Wage Paid[a] | $10,552 | $10,103 | $10,318 |
| - Previous Years of Dairy Experience | 8.4 | 8.3 | 8.3 |

a These results do not include weighted means, the average is calculated according to the number of practicing farms.

TABLE 29

Use of Herd Testing

| | North Island | South Island | New Zealand |
|---|---|---|---|
| Number of Farms | 76 | 76 | 152 |
| Proportion of Farms Using: | % | % | % |
| No Herd Testing | 35 | 32 | 34 |
| Owner Sampling | 48 | 63 | 54 |
| Alternate Monthly | 17 | 5 | 12 |
| Total | 100 | 100 | 100 |

TABLE 30

Dairy Stock Balances

| Opening Stock | New Zealand Average no. per farm | New Zealand Value $ | Closing Stock | New Zealand Average no. per farm | New Zealand Value $ |
|---|---|---|---|---|---|
| All Cows | 115.7 | 14,463 | All Cows | 117.7 | 14,713 |
| Heifers-in-calf | 22.6 | 2,260 | Heifers-in-calf | 22.2 | 2,220 |
| Other Dairy Stock | 52.1 | 2,496 | Other Dairy Stock | 53.9 | 2,409 |
| Sub-total | 190.4 | 19,219 | Sub-total | 193.8 | 19,342 |
| Purchases: | | | Sales: | | |
| Cows & in-calf Heifers | 7.5 | 2,369 | Cull cows sold | 23.0 | 6,400 |
| Others Purchased | 0.5 | 208 | Others Sold | 7.9 | 2,791 |
| Natural Increase or Calves Bred (no.) | 76.2 | | Bobby Calves Sold | 44.9 | 1.187 |
| Dairy Stock Profit | | 7,924 | Deaths, Missing, etc. | 5.0 | |
| Opening Balance | 274.6 | 29,720 | Closing Balance | 274.6 | 29,720 |

TABLE 31

Beef and Sheep Stock Balances

| Opening Stock | New Zealand Average no. per farm | New Zealand Value $ | Closing Stock | New Zealand Average no. per farm | New Zealand Value $ |
|---|---|---|---|---|---|
| Sheep: | | | Sheep: | | |
| Ewes | 22.4 | 224 | Ewes | 28.6 | 286 |
| Other Sheep | 15.7 | 141 | Other Sheep | 19.9 | 179 |
| Beef: | | | Beef: | | |
| Beef Cattle | 14.0 | 1,115 | Beef Cattle | 13.6 | 1,062 |
| Sub-total | 52.1 | 1,480 | Sub-total | 62.1 | 1,527 |
| Purchases: | | | Sales: | | |
| Sheep purchased | 27.5 | 579 | Sheep sold | 42.1 | 1,098 |
| Beef Cattle purchased | 19.6 | 166 | Beef Cattle sold | 8.2 | 1,770 |
| Natural Increase no. | 14.9 | | Deaths, Missing, etc. | 2.1 | |
| Other Stock Profit | | 2,170 | | | |
| Opening Balance | 114.1 | 4,395 | Closing Balance | 114.5 | 4,395 |

## APPENDIX E

## SURVEY RESULTS BY REGION AND QUOTA GROUP

TABLE 32

Average Areas of Town Supply Farms
by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1001 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| | (ha) | (ha) | (ha) | (ha) | (ha) | (ha) |
| Freehold Area | 52.95 | 87.81 | 102.76 | 61.60 | 88.53 | 143.91 |
| Crown & Maori Lease | 0 | 2.68 | 1.07 | 2.99 | 2.58 | 3.13 |
| Rented Area | 8.03 | 21.37 | 20.33 | 4.04 | 7.56 | 14.11 |
| Total Farm Area | 60.98 | 111.86 | 124.16 | 68.63 | 98.67 | 161.15 |
| Less Unproductive Area | 4.80 | 9.19 | 3.99 | 5.41 | 5.53 | 5.43 |
| Productive Area | 56.18 | 102.67 | 120.17 | 63.22 | 93.14 | 155.72 |
| Less Estimated Non-dairying Area | 2.95 | 13.11 | 9.00 | 3.27 | 7.65 | 9.26 |
| Plus Estimated 'Grazing Out' Area | 1.18 | 1.18 | 5.60 | 0.82 | 5.58 | 0 |
| Estimated Dairy Productive Area Utilised for Milk Production | 54.41 | 90.74 | 116.77 | 60.77 | 91.07 | 146.46 |

TABLE 33

Utilization of Farm Area
By Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| Prop'n of Farm Area Under: | % | % | % | % | % | % |
| Dairy Pasture | 85.8 | 79.4 | 87.2 | 83.7 | 84.5 | 87.2 |
| Forage Crops | 1.5 | 0.7 | 2.4 | 3.6 | 2.1 | 3.7 |
| Sheep & Beef Cattle Pasture & Cash Crops | 4.8 | 11.7 | 7.2 | 4.8 | 7.8 | 5.7 |
| Unproductive Land | 7.9 | 8.2 | 3.2 | 7.9 | 5.6 | 3.4 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |

TABLE 34

Irrigation Use
by Region and Quota Group[a]

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms Surveyed | 25 | 32 | 19 | 30 | 28 | 18 |
| Number of Farms Using Irrigation | 0 | 3 | 5 | 11 | 20 | 14 |
| Percentage of Dairy Productive Area Irrigated | 0% | 19.7% | 27.0% | 55.9% | 66.3% | 57.4% |

[a] These results do not included weighted means. The average is calculated according to the number of practicing farmers.

TABLE 35

Types of Labour Units by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| Farmer | 0.93 | 1.00 | 0.97 | 0.94 | 1.00 | 0.99 |
| Permanent Family | 0.43 | 0.63 | 0.83 | 0.62 | 0.68 | 0.79 |
| Casual Family | 0.03 | 0.03 | 0.04 | 0.05 | 0.09 | 0.14 |
| Total Family Labour Units | 1.39 | 1.66 | 1.84 | 1.61 | 1.77 | 1.92 |
| Permanent Non-Family | 0.23 | 0.58 | 1.21 | 0.19 | 0.62 | 1.14 |
| Casual Non-Family | 0.05 | 0.13 | 0.08 | 0.03 | 0.09 | 0.09 |
| Total Non-Family Labour Units | 0.28 | 0.71 | 1.29 | 0.22 | 0.71 | 1.23 |
| Total Labour Units | 1.67 | 2.37 | 3.13 | 1.83 | 2.48 | 3.15 |
| Proportion of Permanent Labour | 95% | 93% | 96% | 96% | 93% | 93% |
| Proportion of Family Labour | 83% | 70% | 59% | 88% | 71% | 61% |

TABLE 36
Milk Production by Region and Quota Group

| Milk Production | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| Daily Quota (l) | 455 | 791 | 1,334 | 474 | 788 | 1,241 |
| Milk Production Sold At Quota Prices (l) | 202.770 | 343.331 | 591,571 | 195,213 | 321,934 | 504,602 |
| Milk Production Sold at Surplus Prices (l) | 124,056 | 163,799 | 275,136 | 111,098 | 142,360 | 196,095 |
| Total Litres Produced (l) | 326,826 | 507,130 | 866,707 | 306,311 | 464,294 | 700,697 |
| Proportion of Total Sold at Quota Prices (l) | 62 | 68 | 68 | 64 | 69 | 72 |
| Average Litres Produced in June 1981 (l) | 25,555 | 35,371 | 62,599 | 18,698 | 29,796 | 47,244 |
| Average Litres Produced in December 1981 (l) | 38,354 | 52,086 | 84,005 | 32,457 | 47,335 | 70,369 |
| Average Herd Size (No. Cows - includes dry cows) | 80.58 | 130.69 | 172.26 | 77.22 | 109.45 | 163.22 |
| Average No. Milking Cows in June 1981 | 58.16 | 89.63 | 125.00 | 49.27 | 77.68 | 113.44 |
| Average No. Milking Cows in December 1981 | 73.48 | 111.06 | 145.95 | 69.23 | 95.25 | 135.72 |
| Total Litres Converted to 4.18% Milk Fat (kg) | 13,661 | 21,198 | 36,228 | 12,804 | 19,407 | 29,289 |
| Kg Milk Fat/Dairy Productive ha (kg) | 251 | 234 | 310 | 211 | 213 | 200 |
| Total Stock Units[a]/ Farm (No.) | 725 | 1,317 | 1,656 | 1,139 | 1,119 | 1,873 |
| Stock Units/Dairy Productive ha (No.) | 13.3 | 14.5 | 14.2 | 18.7 | 12.3 | 12.8 |
| Total Litres/Average Herd Size (l) | 4,056 | 3,880 | 5,031 | 3,967 | 4,242 | 4,293 |
| Litres/December Milking Cows (l) | 4,448 | 4,566 | 5,938 | 4,425 | 4,874 | 5,163 |
| Litres/Total ha (l) | 5,360 | 4,534 | 6,981 | 4,463 | 4,706 | 4,348 |
| Litres/Dairy Productive ha (l) | 6,007 | 5,589 | 7,422 | 5,041 | 5,098 | 4,784 |
| Litres/Farm/Day (l) | 895 | 1,389 | 2,375 | 839 | 1,272 | 1,920 |

[a] For a definition of stock units see Appendix B.

TABLE 37

Capital Structure - Value of all Assets and Liabilities
by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| | $ | $ | $ | $ | $ | $ |
| ASSETS | | | | | | |
| Freehold Land[a] (Valued at 31.12.81) | 396,410 | 437,088 | 755,403 | 244,829 | 439,030 | 746,764 |
| Farmer's House (1/2) | 14,437 | 17,206 | 18,784 | 18,485 | 16,362 | 29,073 |
| Other Farm Houses | 2,250 | 5,509 | 14,306 | 1,657 | 7,377 | 12,772 |
| Farm Buildings | 11,836 | 15,024 | 17,486 | 12,484 | 16,953 | 26,515 |
| Plant & Equipment | 6,618 | 10,862 | 11,199 | 9,336 | 12,736 | 18,474 |
| Farm Vehicles | 11,188 | 15,281 | 28,966 | 16,050 | 22,145 | 25,898 |
| Dairy Stock | 13,358 | 21,312 | 28,074 | 12,853 | 18,711 | 27,767 |
| Other Stock | 274 | 2,394 | 3,288 | 873 | 827 | 1,376 |
| Company Shares | 1,403 | 3,463 | 3,153 | 999 | 2,739 | 3,390 |
| Total Farm Assets | 457,774 | 528,139 | 880,659 | 317,566 | 536,880 | 892,029 |
| Cash at Bank | 3,688 | 9,163 | 3,277 | 3,534 | 6,916 | 10,804 |
| Sundry Debtors | 3,855 | 5,894 | 13,554 | 3,820 | 8,529 | 11,010 |
| Other Current Assets | 7,161 | 10,139 | 11,756 | 5,788 | 7,441 | 7,281 |
| Total All Assets | 472,478 | 553,335 | 909,246 | 330,708 | 559,766 | 921,124 |

[a] Details of the updating of land values are listed in Appendix B

(Table 37 cont...)

TABLE 37 (cont...)

Capital Structure - Value of all Assets and Liabilities
by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| | $ | $ | $ | $ | $ | $ |
| CURRENT LIABILITIES | | | | | | |
| Bank Overdraft | 5,354 | 4,921 | 5,035 | 2,922 | 5,695 | 2,952 |
| Sundry Creditors | 4,500 | 5,508 | 12,636 | 3,105 | 8,569 | 10,006 |
| Other Current Liabilities | 5,757 | 8,536 | 7,799 | 6,646 | 9,466 | 6,947 |
| Total Current Liabilities | 15,611 | 18,965 | 25,470 | 12,673 | 23,730 | 19,905 |
| FIXED LIABILITIES | | | | | | |
| Rural Bank Mortgages | 20,491 | 33,190 | 21,995 | 36,439 | 36,483 | 35,145 |
| Trading Bank Mortgages | 2,847 | 11,710 | 13,447 | 4,047 | 3,199 | 10,112 |
| Building Society Mortgages | 777 | 5,585 | 1,317 | 2,124 | 3,209 | 1,671 |
| Insurance Co. Loans | 301 | 8,240 | 27,461 | 3,250 | 3,982 | 16,375 |
| Stock Firm Loans | 7 | 185 | 363 | 1,874 | 155 | 1,750 |
| Finance Co.Loans | 258 | 577 | 1,391 | 623 | 1,782 | 1,879 |
| Solicitors Loans | 700 | 188 | 0 | 3,712 | 15,282 | 12,074 |
| Family Mortgages | 19,976 | 20,458 | 39,599 | 12,171 | 26,585 | 25,652 |
| Other Liabilities | 11,154 | 18,359 | 18,713 | 5,705 | 5,199 | 31,321 |
| Total Fixed Liabilities | 56,511 | 98,492 | 124,286 | 69,945 | 95,876 | 135,979 |
| Total all Liabilities | 72,122 | 117,457 | 149,756 | 82,618 | 119,606 | 155,884 |
| Equity | 400,356 | 435,878 | 759,489 | 248,090 | 440,160 | 765,239 |
| Total | 472,478 | 553,335 | 909,245 | 330,708 | 559,766 | 921,123 |

TABLE 38

Gross Revenue Components by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| | $ | $ | $ | $ | $ | $ |
| Milk Sales | 51,947 | 88,860 | 143,547 | 56,897 | 89,223 | 137,584 |
| Produce Sold | 238 | 826 | 1,677 | 406 | 4,011 | 2,027 |
| Wool & Skins Sold | 32 | 661 | 96 | 538 | 230 | 748 |
| Contracting Fees | 403 | 645 | 348 | 25 | 1,487 | 42 |
| Rent & Lease Fees | 547 | 450 | 399 | 129 | 926 | 882 |
| Employee's House | 125 | 601 | 1,198 | 175 | 938 | 1,458 |
| Livestock Profit | | | | | | |
| - Dairy | 5,084 | 7,413 | 15,626 | 2,407 | 8,590 | 13,401 |
| - Other Stock | 371 | 2,718 | 4,806 | 678 | 2,761 | 2,055 |
| Other Revenue | 922 | 913 | 2,812 | 766 | 2,179 | 2,000 |
| Gross Revenue | 59,669 | 103,087 | 170,509 | 62,021 | 110,345 | 160,197 |

TABLE 39

Types of Milk Payments Received
by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| | $ | $ | $ | $ | $ | $ |
| Payment Received for Milk Paid at Quota Prices | 34,828 | 61,508 | 103,082 | 31,530 | 49,781 | 92,725 |
| Payment Received for Milk Paid at Surplus Prices | 10,927 | 15,038 | 20,606 | 9,621 | 12,637 | 19,589 |
| Special Production Allowances | 786 | 1,078 | 235 | 1,338 | 2,830 | 4,273 |
| Premiums Recieved or Penalties Paid | - 102 | - 56 | - 292 | 247 | 448 | 1,114 |
| Farm Chilling Allowances | 206 | 358 | 487 | 285 | 483 | 765 |
| End of Season, Retrospective and Other Payments | 5,302 | 10,934 | 19,429 | 13,876 | 23,044 | 19,118 |
| Total Milk Payments Received | 51,947 | 88,860 | 143,547 | 56,897 | 89,223 | 137,584 |

TABLE 40

Farm Expenditure Components by Region and Quota Group[a]

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| | $ | $ | $ | $ | $ | $ |
| LABOUR | | | | | | |
| Family Labour | 1,501 | 2,658 | 6,742 | 3,186 | 3,526 | 1,928 |
| Family Casual Labour | 86 | 568 | 213 | 164 | 208 | 1,212 |
| Non-Family Permanent & Casual Labour | 2,282 | 6,263 | 11,922 | 1,826 | 6,861 | 10,070 |
| Unpaid Family Labour | 2,860 | 3,445 | 2,311 | 2,873 | 3,261 | 6,986 |
| Labour Accommodation | 275 | 840 | 1,782 | 308 | 1,352 | 1,681 |
| Sub-total Labour | 7,004 | 13,774 | 22,970 | 8,357 | 15,208 | 21,877 |
| OPERATING | | | | | | |
| Animal Health | 951 | 1,930 | 3,513 | 1,285 | 2,015 | 2,265 |
| Breeding & Herd Testing | 659 | 1,527 | 2,861 | 535 | 1,125 | 1,747 |
| Contractors | 636 | 1,138 | 1,725 | 1,128 | 1,791 | 1,890 |
| Dairy Shed Expenses | 955 | 1,401 | 2,413 | 1,065 | 1,593 | 2,712 |
| Electricity | 1,365 | 1,820 | 2,827 | 1,226 | 1,901 | 2,912 |
| Fertiliser & Seed | 3,443 | 7,037 | 11,931 | 2,609 | 5,948 | 8,123 |
| Feed | 4,231 | 4,210 | 11,205 | 4,362 | 8,485 | 7,611 |
| Grazing Expenses | 682 | 644 | 2,625 | 232 | 383 | 45 |
| Freight | 511 | 610 | 1,049 | 497 | 782 | 848 |
| Weed & Pest Expenses | 312 | 865 | 469 | 393 | 908 | 865 |
| Vehicle Expenses | 4,476 | 6,369 | 9,553 | 4,263 | 8,710 | 11,482 |
| Repairs & Maintenance[a] | 4,884 | 12,270 | 11,961 | 7,182 | 9,175 | 10,221 |
| Irrigation Expenses | 0 | 60 | 175 | 586 | 1,508 | 2,233 |
| Sub-Total Operating | 23,105 | 39,881 | 62,307 | 25,363 | 44,324 | 52,954 |

(Table 40 cont...)

a Repairs and maintenance also include development expenses.

TABLE 40 (cont...)

Farm Expenditure Components by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| | $ | $ | $ | $ | $ | $ |
| ADMINISTRATION | | | | | | |
| Accountancy | 635 | 756 | 1,052 | 454 | 835 | 882 |
| Telephone | 253 | 524 | 656 | 244 | 473 | 859 |
| General Administration | 570 | 1,001 | 1,684 | 685 | 1,375 | 2,062 |
| Sub-Total Administration | 1,458 | 2,281 | 3,392 | 1,383 | 2,683 | 3,803 |
| OVERHEADS | | | | | | |
| Insurance | 783 | 1,229 | 1,974 | 844 | 1,469 | 1,808 |
| Interest | 6,255 | 11,243 | 14,997 | 6,961 | 10,591 | 14,399 |
| Rates | 2,154 | 2,108 | 3,369 | 1,428 | 1,969 | 3,114 |
| Rent | 1,087 | 3,367 | 5,697 | 586 | 1,153 | 1,021 |
| Sub-total Overheads | 10,279 | 17,947 | 26,037 | 9,819 | 15,182 | 20,342 |
| Total Cash Expenses | 41,846 | 73,883 | 114,706 | 44,922 | 77,397 | 98,976 |
| Net Depreciation | 4,550 | 6,694 | 12,255 | 5,940 | 8,378 | 12,346 |
| Total Expenditure | 46,396 | 80,577 | 126,961 | 50,862 | 85,775 | 111,322 |

TABLE 41

Depreciation of Farm Assets by Region and Quota Group

| | 201-600 | | | 601-1000 | | | 1001+ | | |
|---|---|---|---|---|---|---|---|---|---|
| | Ordinary | First Yr & Special | Gross Depreciation | Ordinary | First Yr & Special | Gross Depreciation | Ordinary | First Yr & Special | Gross Depreciation |
| | $ | $ | $ | $ | $ | $ | $ | $ | $ |
| (i) North Island | | | | | | | | | |
| Plant & Equipment | 654 | 288 | 942 | 1,407 | 430 | 1,837 | 1,898 | 372 | 2,270 |
| Vehicles | 1,777 | 1,028 | 2,805 | 1,969 | 1,257 | 3,226 | 4,909 | 2,155 | 7,064 |
| Buildings | 882 | 62 | 944 | 1,556 | 144 | 1,700 | 1,703 | 1,091 | 2,794 |
| Gross Depreciation | | | 4,691 | | | 6,763 | | | 12,128 |
| Less Personal Depreciation on Cars | | | 223 | | | 280 | | | 239 |
| Less Depreciation Recovered on Plant and Vehicles by Sales | | | - 82 | | | - 211 | | | - 366 |
| Net Depreciation | | | 4,550 | | | 6,694 | | | 12,255 |
| (ii) South Island | | | | | | | | | |
| Plant & Equipment | 967 | 777 | 1,744 | 1,427 | 597 | 2,024 | 1,844 | 1,994 | 3,838 |
| Vehicles | 2,611 | 634 | 3,245 | 3,409 | 1,936 | 5,345 | 3,725 | 3,446 | 7,171 |
| Buildings | 1,037 | 161 | 1,198 | 1,283 | 279 | 1,562 | 1,933 | 485 | 2,418 |
| Gross Depreciation | | | 6,187 | | | 8,931 | | | 13,427 |
| Less Personal Depreciation on Cars | | | 213 | | | 272 | | | 372 |
| Less Depreciation Recovered on Plant and Vehicles by Sales | | | 34 | | | 281 | | | 709 |
| Net Depreciation | | | 5,940 | | | 8,378 | | | 12,346 |

TABLE 42

Net Farm Income Components by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| | $ | $ | $ | $ | $ | $ |
| Gross Revenue | 59,669 | 103,087 | 170,509 | 62,021 | 110,345 | 160,197 |
| Total Expenditure | 46,396 | 80,577 | 126,961 | 50,862 | 85,775 | 111,322 |
| Net Farm Income | 13,273 | 22,510 | 43,548 | 11,159 | 24,570 | 48,875 |

TABLE 43

Cash Surplus from Farming by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| | $ | $ | $ | $ | $ | $ |
| 1. Cash Received: | | | | | | |
| Milk Sales | 51,947 | 88,860 | 143,547 | 56,897 | 89,223 | 137,584 |
| Dairy Cattle Sales | 5,946 | 7,728 | 17,404 | 4,758 | 10,272 | 13,938 |
| Sheep and Beef Sales | 274 | 3,135 | 5,691 | 2,057 | 1,703 | 2,824 |
| Bobby Calf Sales | 928 | 1,346 | 1,654 | 678 | 1,427 | 1,178 |
| Other Farm Income | 2,143 | 3,495 | 5,333 | 1,864 | 8,833 | 5,698 |
| Total Received | 61,238 | 104,564 | 173,629 | 66,254 | 111,458 | 161,222 |
| 2. Cash Spent: | | | | | | |
| Labour and Operating | 26,974 | 49,370 | 81,184 | 30,540 | 54,919 | 66,164 |
| Overhead and Administration | 11,736 | 20,228 | 29,429 | 11,201 | 17,865 | 24,145 |
| Cattle Purchases | 1,768 | 1,938 | 4,059 | 3,742 | 3,173 | 2,238 |
| Sheep and Beef Cattle Purchases | 9 | 461 | 531 | 1,655 | 992 | 1,016 |
| Total Spent | 40,487 | 71,997 | 115,203 | 47,138 | 76,949 | 93,563 |
| Cash Surplus from Farming | 20,751 | 32,567 | 58,426 | 19,116 | 34,509 | 67,659 |

TABLE 44

Net Farm Income Less Imputed Interest on Equity and Total Assets
by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| | $ | $ | $ | $ | $ | $ |
| Equity | 400,356 | 435,878 | 759,489 | 248,090 | 440,160 | 765,239 |
| Net Farm Income | 13,273 | 22,510 | 43,548 | 11,159 | 24,570 | 48,875 |
| A. Net Farm Income Less Imputed Interest on Equity at rate of: 3.5% | - 739 | 7,254 | 16,966 | 2,476 | 9,164 | 22,092 |
| 5% | -6,745 | 716 | 5,574 | -1,246 | 2,562 | 10,613 |
| 7% | -14,752 | -8,001 | -9,616 | -6,207 | -6,241 | -4,692 |
| Total Farm Assets | 457,774 | 528,139 | 880,659 | 317,566 | 536,880 | 892,029 |
| Net Farm Income | 13,273 | 22,510 | 43,548 | 11,159 | 24,570 | 48,875 |
| Interest Paid | 6,255 | 11,243 | 14,997 | 6,961 | 10,591 | 14,399 |
| B. Net Farm Income Plus Interest Paid Less Imputed Interest on Total Farm Assets at rate of: 3.5% | 3,506 | 15,268 | 27,722 | 7,005 | 16,370 | 32,053 |
| 5% | -3,361 | 7,346 | 14,512 | 2,242 | 8,317 | 18,673 |
| 7% | -12,516 | -3,217 | -3,101 | -4,110 | -2,421 | 832 |

TABLE 45

Measures of Economic Profitability[a] by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| | $ | $ | $ | $ | $ | $ |
| A. RETURN ON CAPITAL | | | | | | |
| 1. Working Expenses (less imputed costs) | 28,432 | 51,651 | 74,576 | 31,922 | 57,602 | 69,967 |
| 2. Plus Assessed Managerial Reward | 14,338 | 14,993 | 18,516 | 12,899 | 15,096 | 18,514 |
| 3. Total Adjusted Working Expenses (1+2) | 42,770 | 66,644 | 93,092 | 44,821 | 72,698 | 88,481 |
| 4. Working Capital | 3,564 | 5,554 | 7,758 | 3,735 | 6,058 | 7,373 |
| 5. Farm Capital | 435,774 | 501,310 | 852,562 | 291,922 | 511,619 | 853,406 |
| 6. Total Farm Capital (4+5) | 439,338 | 506,864 | 860,320 | 295,657 | 517,677 | 860,779 |
| 7. Net Farm Income | 13,273 | 22,510 | 43,548 | 11,159 | 24,570 | 48,875 |
| 8. Plus Interest Paid | 6,255 | 11,243 | 14,997 | 6,961 | 10,591 | 14,399 |
| 9. Plus Rent Paid | 1,087 | 3,367 | 5,697 | 586 | 1,153 | 1,021 |
| 10. Sub-total (7+8+9) | 20,615 | 37,120 | 64,242 | 18,706 | 36,314 | 64,295 |
| 11. Less Managerial Reward (2) | 14,338 | 14,993 | 18,516 | 12,899 | 15,096 | 18,514 |
| 12. Economic Farm Surplus (10-11) | 6,277 | 22,127 | 45,726 | 5,807 | 21,218 | 45,781 |
| 13. Rate of Return % (12/6) | 1.43% | 4.37% | 5.31% | 1.96% | 4.10% | 5.32% |

(Table 45 cont...)

a Most of the terms used in this table are particular to this table alone; they are defined in Appendix B.

TABLE 45 (cont...)

Measures of Economic Profitability[a] by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| | $ | $ | $ | $ | $ | $ |
| B. CAPITAL TURNOVER PERCENTAGE | | | | | | |
| 14. Gross Revenue (less worker's house) | 59,544 | 102,486 | 169,311 | 61,846 | 109,407 | 158,749 |
| 15. Total Farm Capital (6) | 439,338 | 506,864 | 860,320 | 295,657 | 517,677 | 860,779 |
| 16. Capital Turnover % (14/15) | 13.55% | 20.22% | 19.68% | 20.92% | 21.13% | 18.44% |
| C. LABOUR & MANAGEMENT RESIDUAL | | | | | | |
| 17. Total Farm Capital (6) | 439,338 | 506,864 | 860,320 | 295,657 | 517,677 | 860,779 |
| 18. Plus Cash at Bank | 3,688 | 9,163 | 3,277 | 3,534 | 6,916 | 10,804 |
| 19. Sub-total (17+18) | 443,026 | 516,027 | 863,597 | 299,191 | 524,593 | 871,583 |
| 20. Less Fixed Liabilities | 56,511 | 98,492 | 124,286 | 69,945 | 95,876 | 135,979 |
| 21. Less Current Liabilities | 15,611 | 18,965 | 25,470 | 12,673 | 23,730 | 19,905 |
| 22. Total Equity Capital (19-20-21) | 370,904 | 398,570 | 713,841 | 216,573 | 404,987 | 715,699 |
| 23. Net Farm Income (7) | 13,273 | 22,510 | 43,548 | 11,159 | 24,570 | 48,875 |
| 24. Less 11.0% of Equity Capital (22) | 40,799 | 43,843 | 78,523 | 23,823 | 44,549 | 78,727 |
| 25. Labour & Management Residual (23-24) | -27,526 | -21,333 | -34,975 | -12,664 | -19,979 | -29,852 |

[a] Most of the terms used in this table are particular to this table alone; they are defined in Appendix B.

TABLE 46

Farmers Age, Years of Management Control and Number of Dependants by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| Age of Farmer (principal decision-maker) | 47 | 46 | 43 | 44 | 46 | 46 |
| No. of Years of Management Control | 16 | 19 | 19 | 17 | 20 | 13 |
| Number of Dependants (including wife) | 2.48 | 3.05 | 3.05 | 2.20 | 2.57 | 2.67 |

TABLE 47

Supplementary Feed Use by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms Surveyed | 25 | 32 | 19 | 30 | 28 | 18 |
| Number of Farms With Home Grown Hay | 11 | 31 | 19 | 28 | 27 | 18 |
| -Average No. of Home Grown Bales per Farm | 1,661 | 3,306 | 3,860 | 3,819 | 6,143 | 8,794 |
| Number of Farms With Purchased Hay | 12 | 11 | 8 | 16 | 19 | 8 |
| -Average No. of Purchased Bales | 1,188 | 625 | 2,606 | 1,541 | 2,255 | 2,348 |
| Number of Farms Making Silage | 22 | 29 | 16 | 16 | 22 | 12 |
| -Average No. of Tonnes of Silage Made | 200 | 398 | 576 | 315 | 502 | 669 |
| Number of Farms with Home Grown Grain | 0 | 0 | 2 | 6 | 12 | 9 |
| -Average No. of Tonnes of Home Grown Grain | 0 | 0 | 42.5 | 22.5 | 28.7 | 49.4 |
| Number of Farms with Purchased Grain | 2 | 2 | 1 | 9 | 8 | 7 |
| -Average Tonnes of Purchased Grain | 52.5 | 27 | 200 | 66.9 | 68.5 | 78.6 |
| Number of Farms With Purchased Dairy Meal | 8<br>8 | 16<br>16 | 13<br>13 | 17<br>17 | 15<br>15 | 2<br>2 |
| -Average Tonnes of Dairy Meal Purchased | 14.1 | 12.8 | 34.1 | 8.1 | 7.8 | 22.0 |

TABLE 48

Run-off Area by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| Number of Farms With a Run-off | 21 | 25 | 15 | 14 | 16 | 13 |
| -Run-off Area (ha) | 17.81 | 36.41 | 42.08 | 23.45 | 28.45 | 40.65 |
| -Distance From Home Farm to Run-off (km) | 5.1 | 6.5 | 8.5 | 6.8 | 5.3 | 8.4 |

TABLE 49

Non-Family Adult Workers' Annual Wage Paid and Years of Experience by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1000 | 1001+ |
| Number of Farms Surveyed | 25 | 32 | 19 | 30 | 28 | 18 |
| Non-Family Adult Worker: | | | | | | |
| - Number of Farms with a Worker for full year | 0 | 11 | 11 | 2 | 11 | 11 |
| - Annual average wage paid | 0 | $10,633 | $10,470 | $10,007 | $11,102 | $9,122 |
| - Previous years of dairy experience | 0 | 8.7 | 8.1 | 3.0 | 9.5 | 8.0 |

TABLE 50

Use of Herd Testing by Region and Quota Group

| | North Island | | | South Island | | |
|---|---|---|---|---|---|---|
| | 201-600 | 601-1000 | 1001+ | 201-600 | 601-1001 | 1001+ |
| Number of Farms | 25 | 32 | 19 | 30 | 28 | 18 |
| Proportion of Farms Using: | % | % | % | % | % | % |
| No Herd Testing | 56 | 31 | 16 | 37 | 36 | 11 |
| Owner Sampling | 28 | 50 | 68 | 60 | 57 | 83 |
| Alternate Monthly | 16 | 19 | 16 | 3 | 7 | 6 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 |

APPENDIX F

SURVEY RESULTS OF PREVIOUS YEARS

TABLE 51

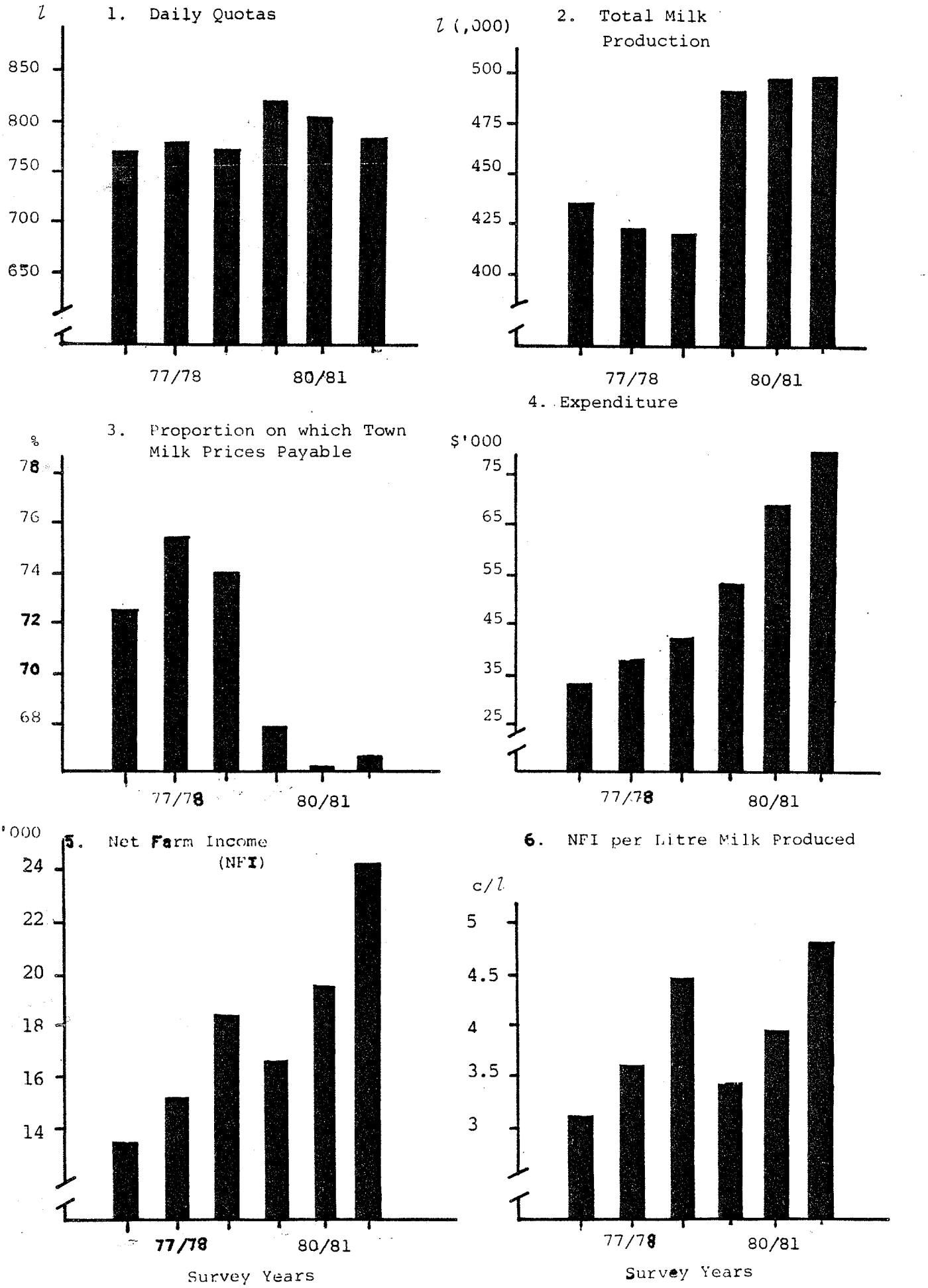
Comparison with Survey Results of Previous Years[a]

| | 1976-77 | 1977-78 | 1978-79 | 1979-80 | 1980-81 | 1981-82 |
|---|---|---|---|---|---|---|
| N.Z. Suppliers (no.) | 1,732 | 1,664 | 1,601 | 1,540 | 1,467 | 1,377 |
| Survey Sample (no.) | 152 | 152 | 152 | 152 | 152 | 152 |
| (a) Physical Characteristics: | | | | | | |
| Dairy Productive Area (ha) | 79.37 | 80.85 | 76.19 | 82.68 | 83.72 | 86.55 |
| Daily Quota (l) | 766 | 774 | 768 | 807 | 803 | 786 |
| Herd Size (no cows) | 111.70 | 110.44 | 112.68 | 112.89 | 119.28 | 116.71 |
| Milk Production (l/farm) | 433,752 | 421,864 | 413,522 | 484,611 | 499,772 | 498,797 |
| Milk Production (l/labour unit) | 203,639 | 197,133 | 189,689 | 215,383 | 220,164 | 214,076 |
| Milk Production (l/dairy prod. ha) | 5,465 | 5,218 | 5,428 | 5,861 | 5,970 | 5,763 |
| Total Labour Units Engaged (L.U.) | 2.13 | 2.14 | 2.18 | 2.25 | 2.27 | 2.33 |
| (b) Financial Characteristics | | | | | | |
| Total Farm Assets ($/farm) | 240,247 | 265,483 | 280,966 | 345,140 | 434,788 | 557,999 |
| Gross Revenue ($/farm) | 46,955 | 51,640 | 59,745 | 70,121 | 86,056 | 103,044 |
| Gross Revenue (c/l) | 10.83 | 12.24 | 14.45 | 14.47 | 17.22 | 20.66 |
| Total Expenditure ($/farm) | 33,462 | 36,445 | 41,245 | 53,412 | 66,388 | 78,853 |
| Total Expenditure (c/l) | 7.71 | 8.64 | 9.97 | 11.02 | 13.28 | 15.81 |
| Net Farm Income ($/farm) | 13,493 | 15,195 | 18,500 | 16,709 | 19,668 | 24,191 |
| Net Farm Income (c/l) | 3.11 | 3.60 | 4.47 | 3.45 | 3.94 | 4.85 |

a Survey comparisons are also given in the form of histograms in Figure 1. The data have been taken from the last six economic surveys of New Zealand town milk producers.

b Some of the figures in this table which were rounded in previous reports are presented here in two decimal places.

FIGURE 1: SURVEY COMPARISONS WITH PREVIOUS YEARS



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