

## Part 1:

# Introduction

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This report contains statistics both for the 1996 and 1997 reference year that have been prepared from a range of surveys, most of which have been conducted by Statistics New Zealand. However other important sources of data are the New Zealand Meat and Wool Boards' Economic Service, which conducts a survey of sheep and beef farms, and the New Zealand Dairy Board, which through its subsidiary the Livestock Improvement Corporation, conducts an economic survey of factory supply dairy farms. There are also some tables that have been provided by the New Zealand Wool Board and the Overseas Investment Commission.

Each of the surveys are briefly described in this part of the report. However further details are contained in appendices at the back of the volume.

Part 2 provides more detailed analysis and commentary on the statistics. Most of the analysis relates to the 1996 Agriculture Production Survey results, as these are generally the most up-to-date statistics available on the agriculture industry.

Parts 3 to 8 contain statistical tables from each of the surveys, mainly for the 1996 reference year.

The main statistics contained in this report have been presented, where possible, as a time series in order to reflect any changes in patterns and levels of activity occurring in the farming industry.

## Agriculture Production Survey

The most comprehensive coverage of agriculture is provided by statistics derived from the annual Agriculture Production Survey. The population frame for this survey is all those people or businesses registered for Goods and Services Tax (GST) and classified by Statistics New Zealand's Business Directory as being engaged in horticulture, cropping, livestock farming or exotic forestry operations.

The data collected in this survey is sought in volume terms only. The only exception is data on capital expenditure.

A comprehensive range of variables has been collected in the 1996 Agriculture Production Survey. Key variables in this survey include those on:

- Land use
- Legal status of occupier
- Employment
- Livestock populations
- Livestock production
- Areas in crops and horticulture
- Crop production.

For the year ended 30 June 1996 there were estimated to be 66,045 farms within the population coverage of the Agriculture Production Survey. In 1996 a sample survey was conducted, with questionnaires being sent to 46,500 farming enterprises. A stratified sample design was used, based on three major farm type groupings, location (territorial local authority) and size expressed in terms of estimated value of agricultural output (EVAO). Large farms were in full coverage strata.

The last full census of farming units was conducted for the year ended June 1994.

Each farm is classified to a farm type based on the New Zealand Standard Industrial Classification (NZSIC). The farm type for each farm is derived from an estimated value of gross income that could be achieved from its total production. This is referred to as the Estimated Value of Agriculture Output (EVAO). A farm is assigned to a farm type when at least 51 percent of gross income is

estimated to be derived from farm produce associated with that farm type. For example any unit which derives 51 percent or more of its gross income from sheep is classified to the sheep farm type. The farm types and the associated NZSIC codes are set out in Appendix 2.

Statistics from the Agriculture Production Survey are also available on a regional basis. The tables in this volume have been analysed on the basis of territorial local government areas. These relate to the reorganised local government boundaries that became effective in November 1989. A map of the districts, cities and regions is contained in Appendix 1.

Local government in New Zealand is organised on a two-tier system of districts or cities, and regional authorities. This replaced the previous pattern of counties and local government regions. The majority of the 75 districts and cities (also known as territorial local authorities or tla's) are located within one of the 16 regional councils. However, 11 districts and cities cut across more than one regional council. In the tables containing the results from the 1992 survey analysed by region, the affected district or city was included within the region in which it was predominantly located. In this report however, this practice has not been applied. Statistics from the 1993 survey onwards, which are analysed by regional council now include those districts or cities or parts thereof that fall within their respective boundaries.

Statistics derived from the Agriculture Production Survey are an important source of data on farming, and are used widely by those involved with the agriculture sector. This includes people providing farm inputs, support services, primary product processing and by producer boards. Data from this survey is also used by the Ministry of Agriculture and Forestry in policy advice and in the situation and outlook reports that it prepares for government. Livestock numbers, areas planted and crop production are used as the basis from which to forecast future production.

Quality measures were released with the 1996 Agriculture Production Survey. Sample errors can now be produced for every estimate. The sample error is a measure of the uncertainty in an estimate which is obtained from a sample survey rather than a census. This enables the user to determine how much confidence should be placed on any one statistic. (For more detail refer to Appendix 3).

Data from the Agriculture Production Survey is also used by Statistics New Zealand in the

compilation of the Agriculture Production Account component of New Zealand's National Accounts. In this respect, the volume data is used as the basis to estimate the value of economic production from agriculture, in the absence of comprehensive, integrated economic surveys covering all agricultural activities. The *Review of Agriculture Statistics Report 1998* recommends the expansion of the Annual Enterprise Survey and use of IR10 data to collect financial data on the agriculture industry.

Data from the survey is also in considerable demand from a range of other users, including territorial local authorities and regional councils.

## Sheep and Beef Survey

The New Zealand Meat and Wool Boards' Economic Service conducts an annual sample survey of sheep and beef farms. The sample frame consists of those privately owned farms with at least 750 sheep or their equivalent sheep plus cattle stock units.

To qualify for inclusion in its survey the Economic Service of the Meat and Wool Boards also requires:

- 1 The farm not to be run in conjunction with another property
- 2 At least 70 percent of the farm revenue must be derived from sheep plus beef cattle (except in the case of mixed finishing farms in Canterbury)
- 3 At least 80 percent of the stock units on the property must be sheep and/or beef cattle units
- 4 The farm must be run as an ordinary commercial sheep and beef farm (ie not as a stud or dealer-type farm).

The Sheep and Beef Farm Survey collects details of financial results derived from respondents' farm accounts as well as physical and unit record data obtained from other records held by those farmers.

It is considered likely that there is some overlap and omissions in the coverage between the economic surveys conducted by Statistics New Zealand and the producer boards due to differences in defining farm types. For example, some farms classified to mixed livestock in the Statistics New Zealand survey could also satisfy the Economic Service's criteria for a sheep and beef farm.

## Dairy Board survey

The Livestock Improvement Corporation conducts the annual Economic Survey of Factory Supply Dairy Farmers on behalf of the New Zealand Dairy Board. The purpose of this survey is to estimate dairy farmers' financial performance. The statistics are based on the financial accounts and records of a sample of approximately 300 farmers.

To be eligible for inclusion in the survey the farmer must:

- 1 Supply milk to a dairy company
- 2 Own a herd of more than 30 cows
- 3 Milk a herd for the complete season
- 4 Derive more than 50 percent of income from dairy farming as represented by farm accounts.

## Farm price indexes

Statistics New Zealand has been preparing farming sector price indexes since 1971. However, over time the titles and coverage of these series have been revised. The current series consist of indexes which

measure the changes in prices of farm inputs, outputs and capital assets. GST is excluded from the calculations.

The Farm Inputs Price Index (FIPI) was released six-monthly for the June and December half-years, with an expression base of the December half-year 1992 = 1000. This was, however, discontinued from the December 1993 half year and has been incorporated into the Farm Expenses Price Index.

The Farm Expenses Price Index is released quarterly and has an expression base of December quarter 1992 = 1000. This is a comprehensive series representing the full range of all non-capital inputs which make up the operating expenditure of the farming enterprise.

Price series are available for four farm types, sheep and beef farms, dairy farms, horticulture farms, and cropping, mixed and other livestock farms. These correspond to the farm type groups in the New Zealand System of the National Accounts.

The full range of indexes is shown in tables 5.1 to 5.7.

The output price indexes are published at an aggregated level in the quarterly Producers Price Index. These are published at a disaggregated level in this report in table 5.6.

**Regional Distribution of Sheep, Deer and Cattle**  
As at 30 June 1996

