

Embargoed until 10:45am – 11 February 2008

Agricultural Production Statistics (Provisional): June 2007

Highlights

At 30 June 2007:

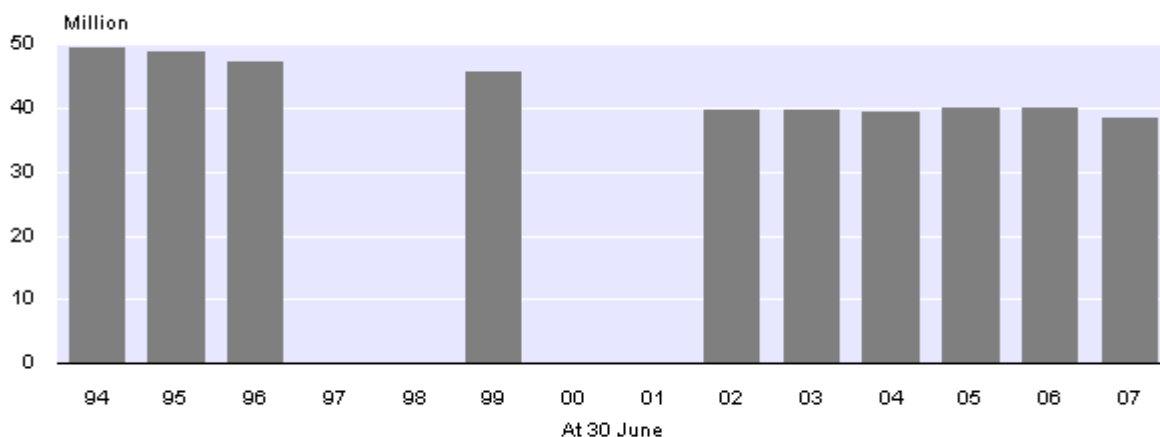
- Sheep numbers fell to 38.6 million, down 4 percent from 2006.
- Dairy cattle numbers reached 5.3 million, up 2 percent from 2006.
- Deer numbers fell to 1.4 million, down 12 percent from 2006.
- The total area planted in apples fell to 9,340 hectares, down 15 percent from 2005.
- The total area planted in wine grapes rose to 29,680 hectares, up 23 percent from 2005.

During the year to 30 June 2007:

- 33.5 million lambs were tailed, a similar number to the 33.8 million tailed during 2006.

Total Sheep Numbers

1994–2007



Note: No Agricultural Production Survey was conducted for 1997, 1998 or 2001. In 2000, the survey related only to horticulture.

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Government Statistician

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There is a companion Media Release published – [Agricultural Production Statistics \(Provisional\): June 2007](#)

Commentary

This release contains provisional results from the 2007 Agricultural Production Census. The census covered livestock and arable farming, horticulture and forestry and included questions on farming practices.

The 2007 Census is part of the current programme of censuses and surveys of agricultural production. This programme began with a census in 2002 and was followed by annual sample surveys during the 2003 to 2006 period. Before the current programme, the last census was held in 1994.

Estimates from sample surveys are subject to sampling errors. Refer to the Technical notes of this release for further information.

These results are provisional and can change after further processing and analysis of data. Final results, including regional figures, are scheduled for release on 14 May 2008.

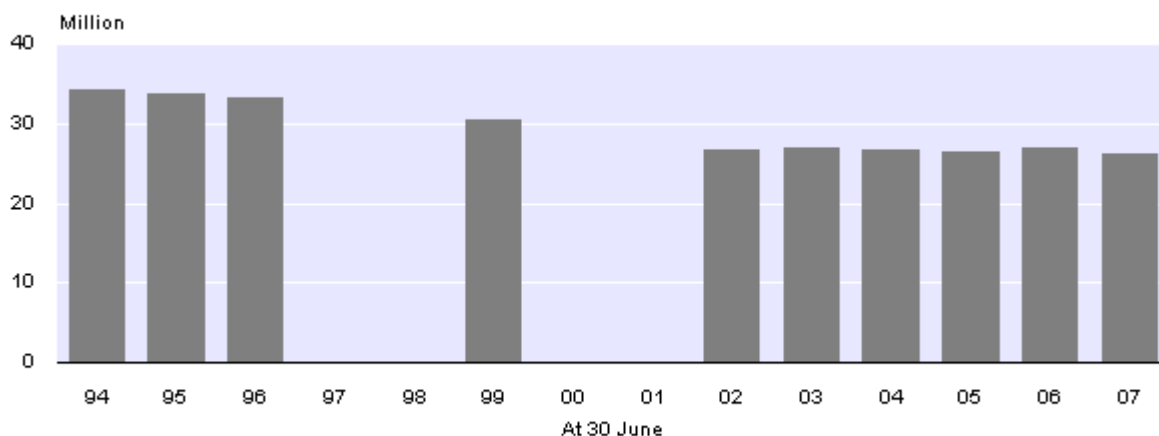
Figures in this release have been rounded. All percentages in this release have been calculated using unrounded figures.

Sheep

Total sheep numbers at 30 June 2007 were provisionally estimated at 38.6 million. This is 4 percent fewer than the 40.1 million sheep that were estimated in 2006. There were 11 million (22 percent) fewer sheep in 2007 than in 1994.

In 2007 there were 26.2 million ewes (two-tooth and older) put to ram. This is a decrease of 749,000 on the 2006 figure. In 1994 there were 34.4 million ewes (two-tooth and older) put to ram.

Breeding Ewes Two-tooth and Older Put to Ram
1994–2007



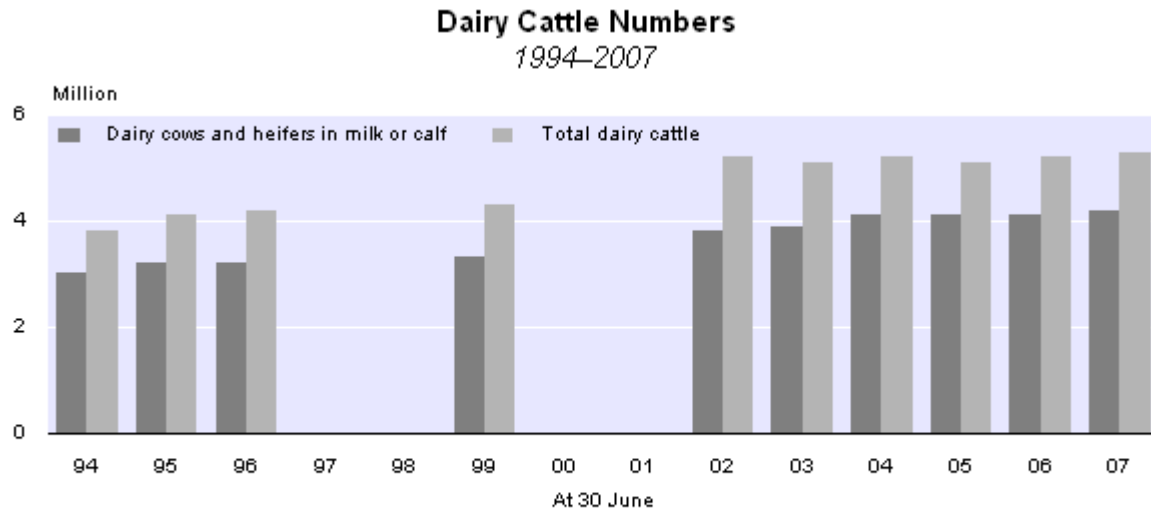
Note: No Agricultural Production Survey was conducted for 1997, 1998 or 2001. In 2000, the survey related only to horticulture.

The number of lambs tailed in the year to 30 June 2007 was 33.5 million. This is a similar number compared to the previous year when 33.8 million was estimated. In the year to 30 June 1994 there were 36.2 million lambs tailed.

Dairy

Provisional results show the national dairy herd reached 5.3 million, 2 percent higher than in 2006. There were 1.4 million (38 percent) more dairy cattle in 2007 than in 1994 when there were 3.8 million.

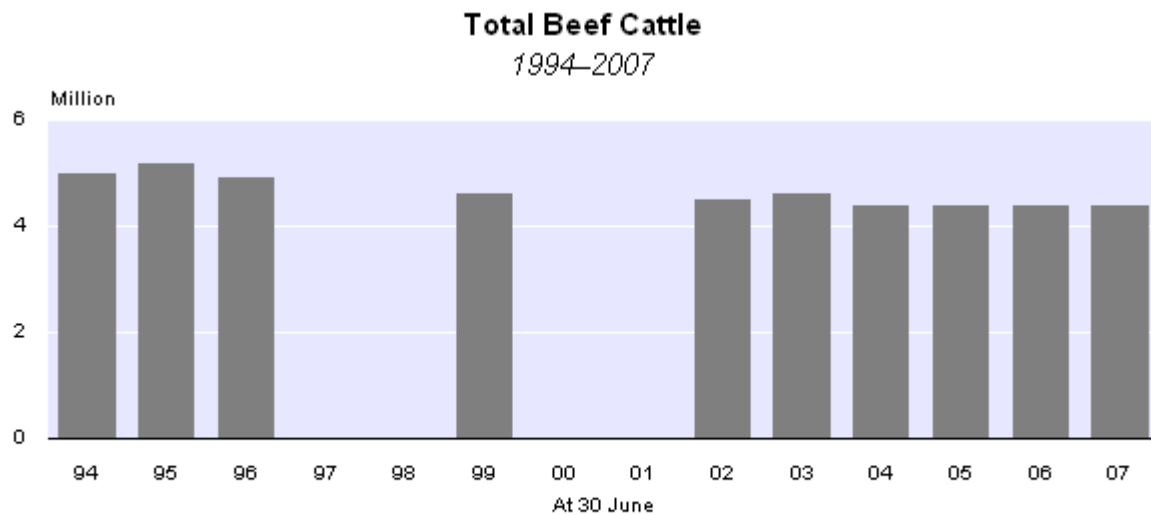
The number of dairy cows and heifers in milk or calf increased to 4.2 million.



Note: No Agricultural Production Survey was conducted for 1997, 1998 or 2001. In 2000, the survey related only to horticulture.

Beef

Total beef cattle numbered 4.4 million at 30 June 2007. There were 12 percent fewer beef cattle in 2007 than in 1994.



Note: No Agricultural Production Survey was conducted for 1997, 1998 or 2001. In 2000, the survey related only to horticulture.

The 2007 beef breeding herd numbered 1.2 million, down by 68,200 from 2006.

The number of beef calves born during the year to June 2007 was 1 million. Numbers have remained stable since 2004.

Deer

Deer numbers decreased to an estimated 1.4 million at 30 June 2007. This is down 12 percent on the 2006 figure of 1.6 million. Breeding stock numbers continued to decline. In 2007 there were 681,000 female deer mated, 8 percent fewer than in 2006.

There were 538,100 fawns born during the year to 30 June 2007, 10 percent fewer than the previous year.

Deer numbers for 2004, 2005, 2006 and 2007 are not directly comparable with 2002 and 2003 figures. Changes made to the questions about deer from 2004 onwards have resulted in improved estimates of deer numbers.

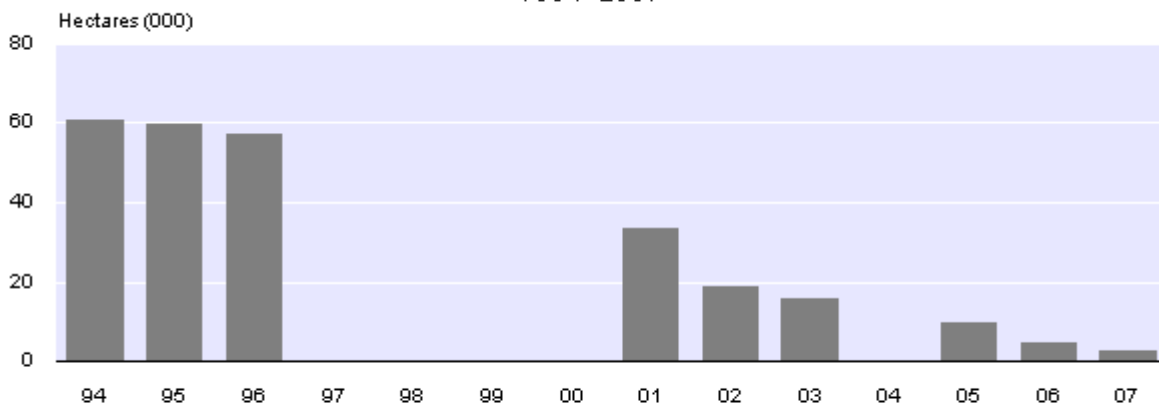
Forestry

There were 43,000 hectares of exotic forest harvested during the year to 31 March 2007. This is similar to levels recorded in recent years. There were 34,100 hectares of exotic forest replanted, down 7 percent on the previous year.

Provisional results show there were 2,600 hectares of new area planted during the year to 31 March 2007. This is down from the 4,700 hectares planted in the previous year. The estimated 2007 figure is 8 percent of the area of new plantings during the year to 31 December 2001, which was 33,700 hectares.

New Area Planted in Production Forest

1994–2007



Note: No Agricultural Production Survey was conducted for 1997, 1998 or 2001. The 1999 survey related only to livestock and arable farming. In 2000 the survey related only to horticulture. Figures before 2001 are for the year to 30 June. Figures for 2001, 2002 and 2003 are for the year to 31 December. Figures from 2005 onwards are for the year to 31 March.

Horticulture

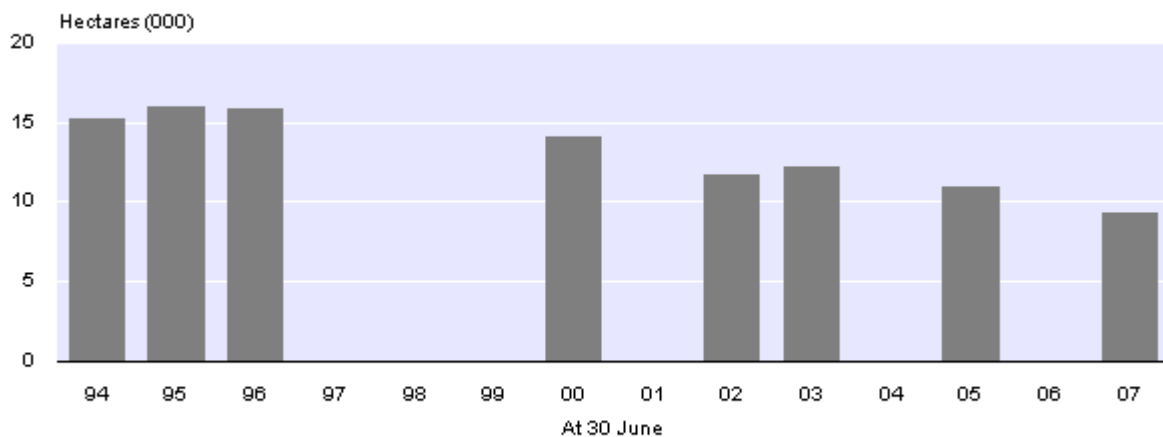
Before 2007, horticultural production information was last collected in the 2005 Agricultural Production Survey.

Fruit

Apples

The area planted in apples has continued to fall. There were 9,340 hectares in 2007 which is 15 percent fewer than the 2005 area (10,980 hectares) and 39 percent fewer than the 1994 area (15,260 hectares).

Net Area Planted in Apples
1994–2007

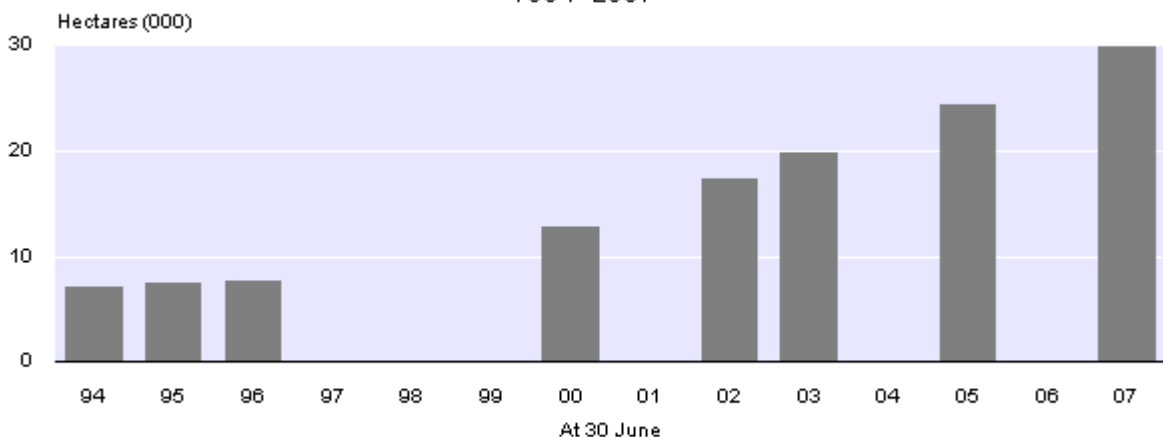


Note: No Agricultural Production Survey was conducted for 1997, 1998 or 2001. In 1999, the survey related only to livestock and arable farming. In 2004 and 2006, the surveys related only to livestock, arable farming and forestry.

Wine Grapes

The total area planted in wine grapes has continued to increase. The provisional estimated area at 30 June 2007 was 29,680 hectares, which is 23 percent more than the 2005 area (24,190 hectares), and over four times the 1994 planted area (7,160 hectares).

Net Area Planted in Wine Grapes
1994–2007



Note: No Agricultural Production Survey was conducted for 1997, 1998 or 2001. In 1999, the survey related only to livestock and arable farming. In 2004 and 2006, the surveys related only to livestock, arable farming and forestry.

Kiwifruit

In 2007 the total area planted in kiwifruit was 13,170 hectares, which is 10 percent more than the 2005 planted area (12,030 Hectares). In 1994 there were 12,170 hectares planted.

Avocados

In 2007 the total area planted in avocados was 3,990 hectares. This was 17 percent more than the area planted in 2005 (3,400 hectares) and almost three times the area planted in 1994 (1,370 hectares).

Vegetables

There were 7,690 hectares of squash harvested during the year to 30 June 2007. This is 7 percent higher than the 7,150 hectares harvested in the 2005 year.

There were 4,660 hectares of onions harvested during the year to 30 June 2007. This is down 6 percent on the 4,930 hectares harvested in the 2005 year.

There were 10,010 hectares of potatoes harvested during the year to 30 June 2007, down 8 percent on the 10,850 hectares harvested in the 2005 year.

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Technical Notes

Background

This release contains the provisional results from the 2007 Agricultural Production Census. This census is part of an ongoing programme of agricultural production statistics conducted in partnership with the Ministry of Agriculture and Forestry. It is the second census in the current Agricultural Production Statistics programme. This programme began with an agricultural production census in 2002 and was followed by yearly sample surveys from 2003 to 2006.

Target population

The target population for the 2007 Agricultural Production Census was all businesses engaged in 'agricultural production activity' (including livestock, cropping, horticulture and forestry) or owned land that was intended for agricultural activity. The target population included businesses that were engaged in agriculture or forestry production as a secondary activity.

The target population was defined in terms of the Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC06) classification. It specifically included businesses classified as:

- A01 Agriculture
- A0301 Forestry (excluding native forestry)

and parts of:

- L671200 Non-residential property operators
- M691000 Scientific research services (agriculture-related research that involves land holding (excluding universities))
- P802300 Combined primary and secondary education (agricultural high school operation)
- P802400 Special school education (special needs education involving agricultural production activity)
- P810200 Higher education (agriculture-related research undertaken by universities that involves land holding)
- R912100 Horse and dog racing administration and track operation
- R912900 Other horse and dog racing activities (racehorse training and racing stables operations)
- R892200 Nature reserves and conservation parks operation.

The target population specifically excluded:

- A019300 beekeeping
- part of A019900 Other livestock farming nec (worm farming, pet breeding, dog breeding, cat breeding, bird breeding (except poultry, game birds, ostriches and emus))
- A017100 Poultry meat (except growers who also produce eggs for human consumption).

Population frame

The 2007 Agricultural Production Census includes all units identified on Statistics New Zealand's Business Frame as having agricultural activity. The Business Frame is a list of businesses in New Zealand, based on their registration for goods and services tax (GST) with Inland Revenue. In the case of agriculture, the Business Frame includes:

- those units registered for GST (and filing a non-zero GST return) that have indicated involvement in agricultural activity (as defined above)
- those businesses with more than \$200,000 of GST sales or purchases, or that are an employer, whose main activity is not agriculture but that have indicated some secondary agricultural activity.

The compulsory registration level for GST is \$40,000, so there is a partial and unquantifiable coverage of units below this level.

Responses from farmers and foresters in the 2007 Agricultural Production Census have resulted in an estimated eligible population of 65,000 enterprises.

Time series consistency

Population changes

Users should note that there have been changes to the frame from which the population has been drawn for agricultural production surveys.

From 1981 to 1991, the population was sourced from an agricultural directory. This was maintained by Statistics NZ by tracing transfers of farming, horticulture and forestry land. In 1992, this agriculture directory was merged with Statistics NZ's Business Frame. For the 1992 and 1993 surveys, population units were drawn from the Business Frame by industrial classification. In the 1994 Agricultural Production Census, for the first time the population was extracted using both the industrial classification and GST registration information.

Between 1994 and 1996, the population was all businesses, sourced from the Business Frame, that were registered for GST and classified to agriculture. The 1999 Agricultural Production Survey population was sourced solely from AgriBase (a geospatial database owned and managed by AgriQuality New Zealand Ltd). The population for the 2000 Horticulture Production Survey was sourced from the Business Frame, supplemented by AgriBase and growers' lists. For the 2002 Census, the population was sourced from the Business Frame and the Inland Revenue Client Register. These sources were checked against industry lists and AgriBase to ensure all large units were included in the population. The Business Frame was used for the 2003, 2004, 2005 and 2006 surveys, and the 2007 census.

Survey content changes

Users should note that there have been changes to the core information collected in agricultural production collections.

Since 1994, agricultural production collections have collected information on livestock and arable farming, horticulture and forestry with the following exceptions:

- In 1999 the survey collected information on livestock and arable farming only.
- In 2000 the survey collected horticulture production information only.
- In 2004 and 2006 the surveys collected information on livestock and arable farming, and forestry (horticulture production information was not collected).

2007 questionnaire changes

Sale or lease of entire farm

Questions in the following categories were modified to make it easier for survey participants to provide the information required.

Kiwifruit

The kiwifruit question was expanded to include the type of kiwifruit grown (green, gold, other).

Irrigation

The irrigation question was expanded to ask about the type of irrigation system.

Nitrification inhibitor

A question on the use of nitrification inhibitors was included.

Nutrient budgets

A question on the preparation of nutrient budgets was included.

Past questionnaire changes relevant for 2007

Grazing

The questions relating to 'grazing of livestock owned by someone else' and 'grazing of your livestock elsewhere' were expanded in 2006 and 2007 to improve the reconciliation between the grazing and main livestock questions.

Forestry

The reference date for forestry production estimates changed to 31 March in the 2005 Agricultural Production Survey. This change was made to allow the forestry section of the Agricultural Production Survey to align more closely with the National Exotic Forest Description survey (NEFD) run by the Ministry of Agriculture and Forestry.

For the 2002 Census, and the 2003 and 2004 surveys, the year ended date was 31 December. For Agricultural Production collections prior to the 2002 Agricultural Production Census the year ended date was 30 June.

Fawns

Since the 2005 survey, the data relates to fawns born on the farm that were alive at four months. This change takes into account industry recommendations. In 1994, 1995, 1996, 1999, 2003, and 2004, data related to fawns weaned on the farm. In 2002, data related to fawns born on the farm.

Deer

Users should note that deer figures since the 2004 survey are not directly comparable with 2002 and 2003 figures. Improvements made to the questions about deer in the 2004, 2005 and 2006 surveys have resulted in improved deer number estimates. While it is not possible to quantify the exact extent of the previous undercoverage, Statistics NZ estimates an undercount of about 70,000 deer at 30 June 2002 and 50,000 at 30 June 2003.

Imputation

Values have been imputed for farmers and foresters who did not return a completed questionnaire. Imputation involves replacing missing items with values based on other information available.

The method of imputation used is random 'hot deck' imputation. A proportion of non-respondents were estimated as ineligible. The remaining non-respondents were grouped into imputation cells based on regional council area, ANZSIC06 (Australian and New Zealand Standard Industrial Classification 2006) group, and previous years' production data. Each non-respondent was then randomly assigned to a respondent in the same imputation cell, and the farm production data of the respondent was copied across to the non-respondent.

In order to improve the imputation process, respondents with uncharacteristically high levels of agricultural activity were removed from their respective imputation cells, as it was considered unlikely that any of the non-respondents would have similar characteristics to them.

Imputation levels

The following table shows imputation levels for the 2007 Agricultural Production Census:

	Percentage of total estimate imputed
Breeding ewes two-tooth and older put to ram	13
Ewe hoggets put to ram	13
Total sheep	13
Lambs born to ewe hoggets	13
Lambs born to ewes	13
Total lambs	13
Beef cows and heifers in calf (aged 2 years and older)	12
Beef cows and heifers in calf (aged 1–2 years)	13
Total beef cattle	13
Calves born alive to beef heifers/cows	12
Dairy cows and heifers, in milk or calf	17
Total dairy cattle	17
Female deer	12
Total deer	12
Fawns born on the farm	12
Net area planted in apples (hectares)	9
Net area planted in kiwifruit (hectares)	11
Net area planted in peaches (hectares)	12
Net area planted in wine grapes (hectares)	10
Net area planted in avocados (hectares)	12
Harvested area of potatoes (hectares)	9
Harvested area of onions (hectares)	5
Harvested area of squash (hectares)	8
Area of new forestry plantings (hectares)	9
Area of forestry replantings (hectares)	2
Exotic timber harvested (hectares)	4
Exotic timber harvested (cubic metres)	3

Response rates

The estimated proportion of eligible businesses that responded to the 2007 Agricultural Production Census was 86 percent. These businesses represent 87 percent of the total estimated value of agricultural operations.

Reliability of sample survey estimates

This release contains statistics from the 1995, 1996, 1999, 2003, 2004, 2005 and 2006 Agricultural Production Surveys which are sample surveys.

Users should note that estimates from sample surveys are subject to sampling and non-sampling errors.

Sampling error arises from selecting a sample of businesses and weighting the results, rather than taking a complete enumeration, and is not applicable when there is a census. Estimates from the 1995, 1996, 1999, 2003, 2004, 2005 and 2006 surveys, are subject to sampling error. The 1994, 2002 and 2007 Agricultural Production Censuses and the 2000 Horticultural Production Survey are not subject to sampling error.

Non-sampling error arises from biases in the patterns of response and non-response, inaccuracies in reporting by respondents, and errors in the recording and classification of data. Statistics NZ adopts procedures to detect and minimise these types of errors, but they may still occur and are not easy to quantify.

Confidentiality

Data collected and information contained in this release must conform to the provisions of the Statistics Act 1975. This requires that published information maintains the confidentiality of individual respondents.

More information

For more information, follow the [link](#) from the Technical notes of this release on the Statistics New Zealand website.

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Timing

Timed statistical releases are delivered using postal and electronic services provided by third parties. Delivery of these releases may be delayed by circumstances outside the control of Statistics NZ. Statistics NZ accepts no responsibility for any such delays.

Next release...

Agricultural Production Statistics (Final): June 2007 will be released on 14 May 2008.

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Tables

The following tables can be downloaded from the Statistics New Zealand website in Excel format. If you do not have access to Excel or higher, you may use the [Excel file viewer](#) to view, print and export the contents of the file.

List of tables

1. Sheep numbers
2. Lambs marked or tailed
3. Dairy cattle numbers
4. Beef cattle numbers
5. Deer numbers
6. Forestry
7. Net area planted in outdoor fruit, at 30 June
8. Harvested area of outdoor vegetables, year to 30 June