

Agricultural Production Statistics: June 2014 (provisional)

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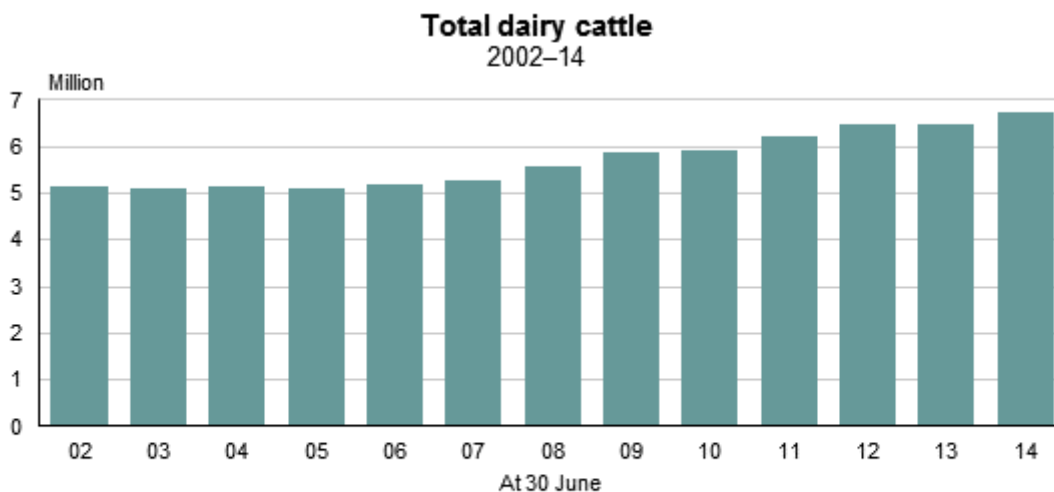
Key facts

At 30 June 2014, the number of:

- dairy cattle was 6.7 million, up 4 percent from 2013
- sheep was 29.6 million, down 4 percent from 2013
- beef cattle decreased slightly
- deer and pigs continued to fall.

During the year ended 31 March 2014:

- 50,000 hectares of exotic timber were harvested, similar to 2013.



Source: Statistics New Zealand

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Commentary

This release contains provisional results for key livestock, forestry, and horticultural crops from the 2014 Agricultural Production Survey. These provisional results can change after further processing and analysis of data. Final results for all data will be released on 13 May 2015.

Statistics New Zealand will work closely with the Ministry for Primary Industries to develop a more in-depth commentary using final numbers.

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

For more detailed agricultural production data see the Excel tables in the 'Downloads' box.

Definitions

About the Agricultural Production Survey

The Agricultural Production Survey is part of an ongoing programme of agricultural production statistics conducted in partnership with the Ministry for Primary Industries. Previous sample surveys were held in 2003–06, 2008–11, and 2013, with censuses in 2002, 2007, and 2012.

The 2014 survey covers land use, animal farming (livestock), horticultural and arable crops, forestry, and farming practices in New Zealand (including fertiliser and cultivation). This release contains provisional results.

More definitions

Arable: capable of being ploughed, fit for tillage (not pasture or wood-land).

Bull: entire (ie not castrated) male cattle.

Calf: young cattle of either sex between birth and weaning, with eight temporary teeth. Also sometimes refers to animals up to one year old.

Calving percentage: calculated either by calves weaned to number of cows mated, or calves sold to cows mated in the previous year.

Cow: mature female cattle beast of any age, but usually over 30 months.

Dairy milking herd: milk-producing cows and heifers, which includes all cows and heifers either in milk or in calf.

Dairy replacement herd: dairy cows and heifers not currently producing milk and all calves and heifers reared for future dairy breeding and milking.

Dry cow/ewe: a female animal not carrying offspring.

Ewe: a female sheep.

Flock: group of sheep, angora or feral goats, or poultry.

Heifer: female cattle having no more than six permanent incisors.

Herd: group of cattle, horses, or milking goats (or pigs and deer).

Hogget: a young male or female sheep having no more than two permanent incisors in wear.

Lamb: sheep under 12 months of age, or without any permanent teeth in wear.

Lambing percentage: number of lambs marked or tailed per ewe mated in the previous year.

Ram: adult uncastrated male sheep having more than two permanent incisors in wear.

Schedule: basic minimum price paid to a farmer by a meat processing company. Based on categories of stock. Usually announced weekly. Variable premiums can apply for particular groups at certain times.

Steer: male cattle castrated when young. Does not develop secondary sexual characteristics (eg large shoulders) or masculine temperament.

Two-tooth: sheep with two teeth (one-year-old).

Wether: a castrated male sheep.

Related links

Upcoming releases

Agricultural Production Statistics: June 2014 (final) will be released on 13 May 2015.

[Subscribe to information releases](#), including this one, by completing the online subscription form.

The [release calendar](#) lists all our upcoming information releases by date of release.

Past releases

See [Agricultural Production Statistics](#) for links to past releases.

Related information

See [agriculture, horticulture, and forestry](#) for more information.

Data quality

Period-specific information

This section contains information about data that has changed since the last release.

- [Survey information](#)
- [2014 questionnaire changes](#)
- [Sample design](#)
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General information

This section has information that does not change between releases.

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Period-specific information

Survey information

This release contains provisional results for key livestock, forestry, and horticultural crops from the 2014 Agricultural Production Survey. The provisional results can change after further processing and analysis of data. We will release final results for all data items on 13 May 2015. These final figures will be available at a regional level.

The 2014 survey was part of the current programme of agricultural production statistics that started in 2002. Previous censuses were held in 2002, 2007, and 2012, with annual sample surveys in 2003–06, 2008–11, and 2013.

Responses from farmers and foresters in the 2014 Agricultural Production Survey resulted in an estimated eligible population of 57,000 enterprises.

2014 questionnaire changes (from 2013)

Horticulture – in 2014, we included questions on the area of fruit trees and vines planted, and the area of vegetables and other horticulture crops harvested.

Farm practices – in 2014, we included questions on the irrigated area of the farm. This information will be available in May 2015.

Sheep breeds – in 2014, we did not include questions on the breed of sheep.

Sample design

For the 2014 Agricultural Production Survey, we used a stratified sample design to select a sample from the population. In selecting this sample, the population was stratified by regional council area, ANZSIC06 group, and size group.

We determined the size groups as follows.

- For businesses that had previously responded to one or more of the agricultural production censuses or surveys since 2002, we used the most-recent production data to form size groups. The variables used covered a range of livestock and cropping variables. Typically, three size groups were formed: small, medium, and large.
- For new businesses or businesses that had not responded to any of the 2002 to 2013 agricultural collections, a random sample was taken.

The 2014 survey had a sample size of 30,000 businesses.

We optimised the 2014 sample design to produce a specified sampling error for certain combinations of key variables and regions, but not all. Given the dynamic nature of the agricultural sector, the sample errors for 2014 may sometimes be smaller or larger than planned, particularly for sectors that change rapidly.

2014 sampling error and imputation levels

Sampling error and imputation levels for the 2014 Agricultural Production Survey		
	Relative sampling errors at 95% confidence interval (%)	% of total estimate imputed
Ewe hoggets put to ram	6	23
Breeding ewes (2-tooth and older) put to ram	3	23
Total sheep	3	23
Lambs born to ewe hoggets	7	22
Lambs born to ewes	3	23
Total lambs	3	23
Dairy cows and heifers, in milk or calf	3	33
Total dairy cattle	3	32
Calves born alive to dairy heifers/cows	3	33
Beef cows and heifers in calf (age 1–2 years)	8	24
Beef cows and heifers in calf (aged 2 years and over)	5	22
Total beef cattle	3	24
Calves born alive to beef heifers/cows	6	24
Female deer mated	9	19
Total deer	8	19
Fawns born on the farm	10	18

Breeding sows (aged 1 year and over)	3	14
Mated gilts	3	13
Total pigs	3	14
Piglets weaned on the farm	3	13
Area of new forestry plantings (hectares)	28	4
Area of forestry replantings (hectares)	7	3
Exotic timber harvested (hectares)	3	5
Exotic timber harvested (cubic metres)	4	4
Apples	1	16
Cherries	5	11
Blackcurrants	28	12
Avocados	3	19
Kiwifruit	2	20
Onions	7	10
Sweetcorn	20	16
Squash	7	22

Response rates

The estimated proportion of eligible businesses that responded to the 2014 Agricultural Production Survey for this provisional release was 73 percent. These businesses represent 78 percent of the total estimated value of agricultural operations.

General information

About the estimates

Figures in this release are rounded. All percentages in this release are calculated using unrounded figures. The figures from the agricultural production surveys may differ from those produced from other sources, such as the National Exotic Forest Description Survey produced by the Ministry for Primary Industries, the Stock Number Survey from Beef and Lamb New Zealand Limited, and Dairy Statistics from Livestock Improvement Corporation Limited. These surveys use different survey frames and designs.

Population frame

The agricultural production surveys include all units identified on Statistics New Zealand's Business Frame as having agricultural activity. The Business Frame holds a list of businesses in New Zealand, based on their registration for goods and services tax (GST) with Inland Revenue.

Note: the compulsory registration level for GST is \$60,000, so there is a partial and unquantifiable coverage of units below this level.

Survey population

The survey population for the agricultural production surveys is all businesses engaged in 'agricultural production activity' (including livestock, cropping, horticulture, and forestry), or which own land that is intended for agricultural activity. The survey population includes businesses engaged in agriculture or forestry production as a primary or secondary activity.

Industries in scope

The survey population specifically **includes** businesses classified to the following ANZSIC06 codes:

- A01 – Agriculture
- A0301 – Forestry (excluding native forestry).

It also includes 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 survey population specifically **excludes**:

- 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 changes

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.

After the 2002 Census, the Business Frame was used for the 2003–06 surveys, the 2007 and 2012 censuses, and the 2008–11 and 2013–14 surveys.

Survey content changes

Over the years we have made changes to the core information gathered in agricultural production collections.

Since 2002, these collections have gathered information on livestock and arable farming, horticulture, and forestry with the following exception.

- In 2004, 2006, 2008, 2010, and 2013, the surveys collected information on livestock and arable farming, and forestry (we did not collect horticulture production information).

Past questionnaire changes

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 survey to align more closely with the National Exotic Forest Description survey run by the Ministry for Primary Industries. For the 2002 Census, and the 2003 and 2004 surveys, the year-ended date was 31 December.

Fawns

Since the 2005 survey, the data relates to fawns born on the farm that were alive at four months. In 2002, data related to fawns born on the farm. The change took industry recommendations into account.

Deer

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 and 2005 surveys have resulted in improved deer number estimates. While it is not possible to quantify the exact extent of the previous undercoverage, we estimate an undercount of about 70,000 deer at 30 June 2002, and 50,000 at 30 June 2003.

Reliability of sample survey estimates

This release contains statistics from the 2002–14 agricultural production collections. All results from these collections are subject to non-sampling error, and sampling error.

Non-sampling error arises from biases in the patterns of response and non-response, inaccuracies in reporting by respondents, and errors in recording and classifying data. We have procedures to detect and minimise these types of errors, but they may still occur and are difficult to quantify. In addition, we used a new platform with updated software for the first time in 2013. While every effort was taken to ensure methods are consistent with those used previously, revisions in the final numbers may show more variation than in previous years, due to the new systems and processing methods we adopted.

Sampling error arises from selecting a random sample of businesses and weighting the results, rather than holding a complete enumeration. As 2003–06, 2008–11, and 2013–14 collections are sample surveys, the results from these collections are also subject to sampling error.

Imputation

We impute values for farmers and foresters who do not return a completed questionnaire. Imputation involves replacing missing items with values based on other information available.

The method of imputation we use is random 'hot deck' imputation.

A proportion of non-respondents are estimated as ineligible for imputation. We group the remaining non-respondents into imputation cells based on regional council area, ANZSIC06 group, and previous years' production data. Each non-respondent is then randomly assigned to a respondent in the same imputation cell, and the farm production data of the respondent is copied across to the non-respondent.

To improve the imputation process, we remove respondents with uncharacteristically high levels of agricultural activity from their respective imputation cells. It is unlikely that any of the non-respondents would have similar characteristics to them.

Revisions

In some cases, data collected before the 2014 Agricultural Production Survey may be revised. This revision usually results from correcting information provided by survey respondents. Revised figures are indicated in the tables by 'R'.

We do not include revisions to previous data in this provisional release. Any revisions will be included in the final data release in May 2015.

Confidentiality

Data collected and information contained in this release must conform to the provisions of the Statistics Act 1975. Published information must maintain the confidentiality of individual respondents. Figures in the tables affected by these provisions are denoted by 'C'.

Quality suppression

Data with high sample errors or imputation levels are suppressed and are indicated by 'S' in the tables.

More information

See [Agriculture, horticulture, and forestry](#).

Statistics in this release have been produced in accordance with the [Official Statistics System principles and protocols for producers of Tier 1 statistics for quality](#). They conform to the Statistics NZ Methodological Standard for Reporting of Data Quality.

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Tables

The following tables are available in Excel format from the 'Downloads' box. If you have problems viewing the files, see [opening files and PDFs](#).

1. Sheep numbers, 2002–14
2. Number of lambs marked or tailed, 2002–14
3. Dairy cattle numbers, 2002–14
4. Beef cattle numbers, 2002–14
5. Deer numbers, 2002–14
6. Pig numbers, 2002–14
7. Forestry, 2002–14
8. Net area planted in outdoor fruit, 2002–14
9. Harvested area of outdoor vegetables, 2002–14

Access more data on Infoshare and NZ.Stat

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Use Infoshare

For this release, select the following categories from the Infoshare homepage:

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