

Agricultural Production Statistics: June 2015 (provisional)

Embargoed until 10:45am – 15 December 2015

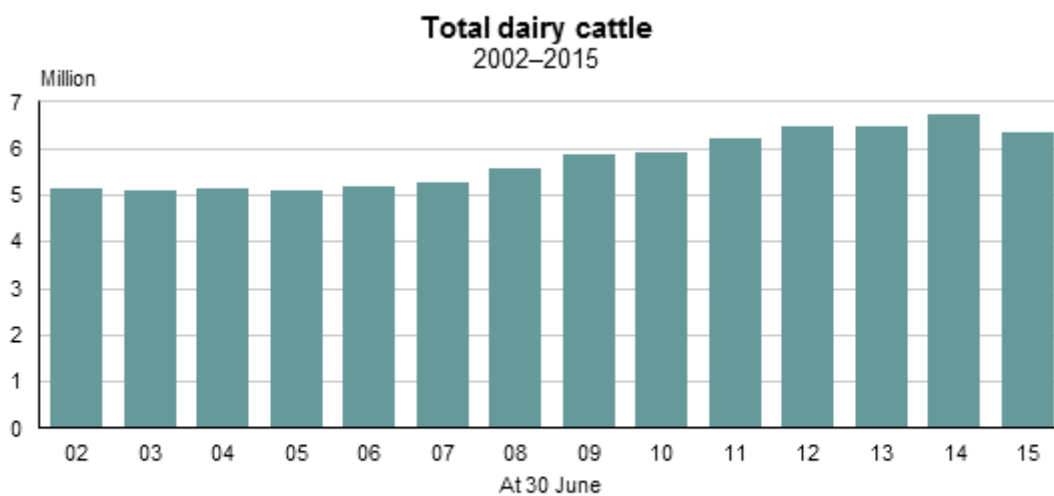
Key facts

At 30 June 2015, the number of:

- dairy cattle was nearly 6.4 million, down 300,000 from 2014
- sheep was 29.5 million, down 300,000 from 2014
- deer and beef both decreased.

During the year ended 31 March 2015:

- 25.5 million cubic metres of exotic timber were harvested, down 3 percent from 2014.



Source: Statistics New Zealand

Liz MacPherson, Government Statistician
ISSN 1178-0398
15 December 2015

Commentary

This release contains provisional results for key livestock, forestry, and arable crops from the 2015 Agricultural Production Survey. These provisional results can change after further processing and analysis of data. Final results for all data will be released on 11 May 2016.

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 2013–14, with censuses in 2002, 2007, and 2012.

The 2015 survey covers land use, animal farming (livestock), arable crops, forestry, and farming practices in New Zealand (including fertiliser and cultivation). This release contains provisional results from the 2015 Agricultural Production Survey.

More definitions

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

Bull: an entire (ie not castrated) male cattle.

Calf: a 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: a 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.

Exotic timber: timber harvested from trees which are not native to New Zealand.

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

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

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

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

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

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

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

Wether: a castrated male sheep.

Related links

Next release

Agricultural Production Statistics: June 2015 (final) will be released on 11 May 2016.

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

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

Past releases

[Agricultural Production Statistics – information releases](#) has links to past releases.

Related information

[More information on agriculture, horticulture, and forestry](#) is available on our website.

Data quality

Period-specific information

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

- [Survey information](#)
- [2015 questionnaire changes](#)
- [Sample design](#)
- [2015 sampling error and imputation levels](#)
- [Response rates](#)

General information

This section has information that does not change between releases.

- [About the estimates](#)
- [Population frame](#)
- [Survey population](#)
- [Population changes](#)
- [Survey content changes](#)
- [Past questionnaire changes](#)
- [Reliability of sample survey estimates](#)
- [Imputation](#)
- [Revisions](#)
- [Confidentiality](#)
- [Quality suppression](#)
- [More information](#)

Period-specific information

Survey information

This release contains provisional results from the 2015 Agricultural Production Survey. Provisional results can change after further processing and analysis of data. We will release final results for all data items on 11 May 2016. These final figures will be available at a regional level.

The 2015 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 2013–14.

Responses from farmers and foresters in the 2015 Agricultural Production Survey resulted in an estimated eligible population of 55,200 enterprises.

2015 questionnaire changes (from 2014)

Horticulture – we did not include questions on the area of fruit trees and vines planted, or the area of vegetables and other horticulture crops harvested.

Farm practices – we did not include questions on the irrigated area of the farm.

Beef breeds – in 2015, we included questions on the breed of beef. This information will be available in May 2016.

Sample design

For the 2015 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 2014 agricultural collections, a random sample was taken.

The 2015 survey had a sample size of 31,000 businesses.

We optimised the 2015 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 2015 may sometimes be smaller or larger than planned, particularly for sectors that change rapidly.

2015 sampling error and imputation levels

Sampling error and imputation levels for the 2015 Agricultural Production Survey		
	Relative sampling errors at 95% confidence interval (%)	% of total estimate imputed
Ewe hoggets put to ram	3	20
Breeding ewes (2-tooth and older) put to ram	4	20
Total sheep	3	20
Lambs born to ewe hoggets	2	19
Lambs born to ewes	4	20
Total lambs	4	20
Dairy cows and heifers, in milk or calf	4	28
Total dairy cattle	3	28
Calves born alive to dairy heifers/cows	4	29
Beef cows and heifers in calf (age 1–2 years)	4	21
Beef cows and heifers in calf (aged 2 years and over)	5	20
Total beef cattle	3	20
Calves born alive to beef heifers/cows	3	20
Female deer mated	6	12
Total deer	8	12

Fawns born on the farm	6	11
Breeding sows (aged 1 year and over)	12	12
Mated gilts	4	10
Total pigs	2	11
Piglets weaned on the farm	1	10
Area of new forestry plantings (hectares)	13	14
Area of forestry replantings (hectares)	5	1
Exotic timber harvested (hectares)	3	4
Exotic timber harvested (cubic metres)	1	4
Wheat tonnage harvested	8	21
Wheat area harvested (hectares)	7	21
Barley tonnage harvested	10	21
Barley area harvested (hectares)	9	21
Oat grain tonnage harvested	19	20
Oat grain area harvested (hectares)	17	19
Maize grain tonnage harvested	10	17
Maize grain area harvested (hectares)	15	16
Other cereal grains tonnage harvested	7	15
Other cereal grains area harvested (hectares)	6	12

Response rates

The estimated proportion of eligible businesses that responded to the 2015 Agricultural Production Survey for this provisional release was 78 percent. These businesses represent 83 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 2013–15 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 2002–15 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 2013–15 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 2015 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 supplementary release. Any revisions will be included in the final data release in May 2016.

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.

Liability

While all care and diligence has been used in processing, analysing, and extracting data and information in this publication, Statistics NZ gives no warranty it is error-free and will not be liable for any loss or damage suffered by the use directly, or indirectly, of the information in this publication.

Timing

Our information releases are delivered electronically by third parties. Delivery may be delayed by circumstances outside our control. Statistics NZ does not accept responsibility for any such delay.

Crown copyright©



This work is licensed under the [Creative Commons Attribution 4.0 International licence](https://creativecommons.org/licenses/by/4.0/). You are free to copy, distribute, and adapt the work, as long as you attribute the work to Statistics NZ and abide by the other licence terms. Please note you may not use any departmental or governmental emblem, logo, or coat of arms in any way that infringes any provision of the [Flags, Emblems, and Names Protection Act 1981](#). Use the wording 'Statistics New Zealand' in your attribution, not the Statistics NZ logo.

Contacts

For media enquiries contact:

Neil Kelly

Christchurch 03 964 8700

Email: info@stats.govt.nz

For technical information contact:

Shannon McLeigh

Auckland 09 920 9100

Email: info@stats.govt.nz

For general enquiries contact our Information Centre:

Phone: 0508 525 525 (toll-free in New Zealand)

+64 4 931 4600 (outside New Zealand)

Email: info@stats.govt.nz

Subscription service:

Subscribe to information releases, including this one, by completing the online subscription form.

Correction notifications:

Subscribe to receive an email if a correction notice is published for Agricultural Production Statistics (provisional).

Unsubscribe to correction notifications for Agricultural Production Statistics (provisional).

Subscribe to all to receive an email if a correction notice is published for any of our information releases.

Unsubscribe to all if you change your mind.

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](#).

Agricultural production statistics

1. Sheep numbers, 2002–15
2. Number of lambs marked or tailed, 2002–15
3. Dairy cattle numbers, 2002–15
4. Beef cattle numbers, 2002–15
5. Deer numbers, 2002–15
6. Pig numbers, 2002–15
7. Forestry, 2002–15
8. Grain crops, 2003–15

Access more data on Infoshare and NZ.Stat

Infoshare and NZ.Stat allow you to organise data in the way that best meets your needs. You can view the resulting tables onscreen or download them.

Use Infoshare

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

Subject category: **Industry sectors**

Group: **Agriculture**

Use NZ.Stat

For this release, select **Agriculture** from the themes on the NZ.Stat homepage.

Next release

Agricultural Production Statistics: June 2015 (final) will be released on 11 May 2016.