



NEW ZEALAND – Agricultural Production Census 2017 – Metadata review

1. Historical outline

New Zealand has participated in the World Census of Agriculture Programme since the 1950 round. From 1955–1956 until 1987, a full postal agricultural census was conducted annually. Thereafter, quinquennial censuses were conducted in 2002, 2007, 2012 and 2017. The metadata review and data presented here refer to the Agricultural Production Census (APC) 2017.

2. Legal basis and organization

Legal framework

Statistics in New Zealand (NZ) are regulated by the Statistics Act of 24 April 1975. Article 3 of the Act (Part 1) authorizes the Statistics Office to coordinate all official statistics. Conduct of the census was approved by the Minister of Statistics.

Institutional framework and international collaboration

The APC 2017 was undertaken by Statistics NZ (Stats NZ) in consultation with the Ministry for Primary Industries (MPI). The APC 2017 was funded by the national budget.

Census staff

The APC 2017 involved 24 office staff (ten processors, eight data collectors, four analysts, one IT and one supervisor) for the census.

3. Reference date and period

Reference day: 30 June 2017 for total area of the farm by land use categories, for livestock, etc.

Reference period:

- From 1 July 2016 to 30 June 2017 for changes in land ownership and new land acquisitions, cropped area, and number of offspring born alive, such as calves, lambs and fawns;
- From 1 April 2016 to 31 March 2017, for forestry items.

4. Enumeration period

The enumeration was conducted from 1 July 2017 to 7 May 2018

5. Scope of the census and definition of the statistical unit

The **census scope** covered all businesses engaged in “livestock, cropping, horticulture and forestry” production activities, or that owned land intended for those activities during the year ending 30 June 2017.

The following **statistical units** were defined for the APC 2017:

- The kind of activity unit (KAU);
- Enterprise unit; and
- The unit regarding which data were collected (the “unit of interest”). It comprises “one or more blocks of land, managed as a single operation, which is engaged in agricultural or forestry production as a primary or secondary activity”. For approximately 99 percent of the population, the unit of interest equates to the statistical unit (the KAU). The remainder –enterprises owning and/or managing more than one “unit of interest” – were identified prior to posting the questionnaires. The former enterprises were contacted to determine the best way for them to provide Statistics NZ with the survey information required that could both minimize respondent burden and avoid duplication.

Community-level data

There were no community-level data collected along with the census.

6. Census coverage

Geographic coverage

The APC 2017 covered the entire country.

Cut-off threshold and other exclusions

The Statistics NZ Business Register (see section 7 below) includes the following units engaged in “livestock, cropping, horticulture and forestry activities”:

- units registered for the Goods and Services Tax (GST) and filing a non-zero GST return that have indicated involvement in agricultural activity; and
- businesses with more than NZD 30 000 of GST sales or purchases, or that are an employer having a main activity other than agriculture but that has indicated some secondary agricultural activity.

The compulsory registration level for GST is NZD 60 000 so there is a partial and unquantifiable coverage of units below this level.

7. Methodology

Methodological modality for conducting the census

The APC 2017 used the classical approach.

Relation to other censuses

No relationship with other censuses.

Frame

The frame included all units that were identified on Statistics NZ's Business Register as having agricultural activity. The Business Register is a list of businesses in New Zealand, based on their registration for GST with the Inland Revenue Department (IRD).

Complete and/or sample enumeration methods

The APC 2017 was based on a complete enumeration of the agricultural businesses registered for GST.

Sample design

Not applicable.

Data collection method(s)

The APC was a postal survey (mail-out/mail-back). The concerned farmers and growers were asked to complete and return questionnaires within 14 days of receipt. A complete return was requested for anyone carrying out farming, horticultural or forestry activities.

Questionnaire(s) and items covered

Data were collected using one single questionnaire.

The APC 2017 covered 11 out of the 23 essential items recommended in the WCA 2020.¹

8. Use of technology

Optical scanning was used for data capture. The census results were disseminated online.

9. Data processing

Data collection was done with online forms or paper forms suitable for the optical scanning used for data entry relating to the APC 2017 questionnaires. The values were imputed for farmers and foresters who did not return a completed questionnaire. The method of imputation for missing data was random “hot deck” imputation. Data with high imputation levels were suppressed and were indicated by “S” in the tables.

10. Quality assurance

Published information maintained the confidentiality of individual respondents and it was implemented using an input perturbation method, which involved adding noise to data at an individual farm level. The proportion of eligible businesses that responded to the APC 2017 for the

¹ The following essential items were not covered by the APC: (i) 104: Sex of agricultural holder; (ii) 105: Age of agricultural holder; (iii) 0107: Main purpose of production of the holding; (iv) 0108: Other economic activities of the household; (v) 0402: Area of temporary crops harvested (for each temporary crop type), (vi) 0406: Area of productive and non-productive permanent crops in compact plantations (for each permanent crop type); (vii) 0601: Use of agricultural pesticides; (viii) 0801: Household size by sex and age groups; (ix) 0901: Whether working on the holding is the main activity; (x) 0902: Working time on the holding; (xi) 0903: Number and working time of employees on the holding by sex; and (xii) 1201: Presence of aquaculture on the holding.

final release was 85.5 percent. These businesses represent 88.3 percent of the total estimated value of agricultural operations.

11. Data and metadata archiving

Complete unit record datasets of perturbed² and unperturbed were held internally in a SAS format. Metadata was published on the website (Datainfo+) and in more detail in an internal software system, Micro Economic Platform (MEP).

12. Data reconciliation

There was no reconciliation process of APC 2017 data.

13. Dissemination of census results and microdata

Final census results were published in May 2018. Products published included a media release, industry commentary, key facts, Microsoft Excel tables and other data tables in Statistics NZ's data dissemination tools, Infoshare and NZ.Stat. Census information is available on the Statistics NZ's website. Agricultural data can also be found in the Statistics NZ Yearbooks. Access to data was also available via customized requests to Stats NZ or through a Datalab (by arrangement).

14. Data sources

Statistics New Zealand. 2017a. Agricultural Production Census: June 2017 (Final). In: *Statistics New Zealand* [online]. Tauranga Aotearoa. [Cited 10 December 2020]. <http://datainfoplus.stats.govt.nz/Item/nz.govt.stats/6362a469-f374-412e-ac25-d76fd0962003?&ga%20=%202.57796458.1509023849.1607321988-1886371355.1607321988#/nz.govt.stats/0da803f1-7e28-448d-8360-28c03a92a9a1/#>

Statistics New Zealand. 2017b. Agriculture Production Surveys Censuses. In: *Statistics New Zealand* [online]. Tauranga Aotearoa. [Cited 10 December 2020]. http://datainfoplus.stats.govt.nz/Item/nz.govt.stats/6362a469-f374-412e-ac25-d76fd0962003?&_ga=2.57796458.1509023849.1607321988-1886371355.1607321988#/nz.govt.stats/6362a469-f374-412e-ac25-d76fd0962003/256

15. Contact

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² Data perturbation is a data security technique that adds 'noise' to databases allowing individual record confidentiality.