



AUSTRALIA – Agricultural Census 2015/2016 – Metadata review

1. Historical outline

Australia has collected agricultural commodity data since the 1860s. The Agricultural Census (AC) was conducted annually at the end of March each year, until 1996/1997. From then, the Australian Bureau of Statistics (ABS) changed the collection period to 30 June to ensure better alignment with other ABS surveys. The current strategy envisages a five-year-interval census with sample surveys in inter-censal years. Subsequent ACs have been conducted on a quinquennial basis since 2000/2001. The metadata review and data presented here refer to the AC 2015/2016.

2. Legal basis and organization

Legal framework

The AC 2015/2016 was undertaken under the following:

- Census and Statistics Act 1905, with further amendments (Act No. 10 of 2006);
- Australian Bureau of Statistics Act 1975, with further amendments (Act No. 46 of 2011), setting up the establishment and functions of the Bureau of Statistics, the appointment and attributions of the Australian Statistician and the statistical information to be collected.

Institutional framework and international collaboration

The ABS is the responsible office for the collection, compilation and publication of official statistics, including the organization and implementation of the AC.

Census staff

The AC 2015/2016 was conducted using both mail-out/mail-back paper collection instruments or a web-based e-form. As such, enumerators and/or field staff were not required. The ABS distributed statistical processing activities across specialist processing and support areas located in a number of Australian state offices of the ABS.

3. Reference date and period

Reference day: 30 June 2016 for inventory items such as the total area of holdings owned or operated and the number of livestock on the holding.

Reference period: the agricultural year (1 July 2015 to 30 June 2016) for crop production, land management practices and water use, etc.

4. Enumeration period

The enumeration was carried out from July to November 2016.

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

The **census scope** covered agricultural activities (crop and livestock production).

The **statistical unit** for the AC 2015/2016, was a “business”, identified by its Australian Business Number (ABN); a geographic split was applied for ABNs operating over multiple locations. Units were identified as undertaking agricultural activity if any of the primary or secondary productive activities of those businesses fall within the Agriculture Subdivision (Subdivision 01), as defined by the 2006 edition of the Australian and New Zealand Standard Industrial Classification (ANZSIC).

Community-level data

There were no community-level data collected along with the AC 2015/2016.

6. Census coverage

Geographic coverage

The AC 2015/2016 covered the entire territory of Australia.

Cut-off threshold and other exclusions

The scope of the AC 2015/2016 included all businesses undertaking agricultural activity recorded on the ABS Business Register above a minimum size cut-off of AUD¹ 40 000. The measure of size was based on the ABS Estimated Value of Agricultural Operations (EVAO).

For businesses with no previously reported agricultural activity (that is, new businesses), a derived value of operations was based on the turnover reported in its Businesses Activity Statement, sourced from the Australian Taxation Office.

7. Methodology

Methodological modality for conducting the census

The classical approach was used in the AC 2015/2016.

Relation to other censuses

The AC 2015/2016 was conducted simultaneously with the Land Management Practices Survey (LaMPS) 2015/2016. Agricultural businesses selected in both the AC and LAMPS received one combined web e-form, and questions common to both collections were asked once.

The AC 2015/2016 was conducted in the same reference period as the (separate) ABS' Census of Population and Housing 2016. No direct linkage of businesses or individuals (or survey frame) occurred between the two census collections.

Frame

The frame used for the AC 2015/2016 was drawn from the ABS Business Register (ABSBR).² The ABSBR has been used for ABS agricultural collections since 2005–2006.

Complete and/or sample enumeration methods

The census was conducted using complete enumeration of agricultural businesses listed on the ABSBR that met the census scope.

Sample design

No sampling was used.

Data collection method(s)

Paper forms were dispatched to all in-scope agricultural businesses. Forms were returned to the ABS using reply-paid (postage paid) envelopes. Included with the form was a cover letter outlining the AC 2015/2016, as well as details that enabled an alternate mode of response to be provided – specifically, via a web form (using Computer-assisted Web Interviewing, or CAWI) with some of the basic information pre-filled.

Questionnaire(s) and items covered

Data were collected using one single questionnaire.

The AC 2015/2016 covered 13 out of the 23 essential items recommended in the WCA 2020.³

8. Use of technology

The AC 2015/2016 used online web-based form (e-form) and for respondents unable to access or use this option a traditional mail out/mail back paper collection instruments was dispatched. Optical character recognition (OCR) method was used for scanning and extracting data from paper

¹ Australian dollar.

² The ABSBR has a high level of coverage of agricultural businesses in Australia, as most businesses and organizations in the country must obtain an ABN from the Australian Business Register for their business operations, and the ABR is updated regularly to reflect changes in business populations.

³ The following essential items were not covered by the AC: (i) 0107 Main purpose of production of the holding; (ii) 0108 Other economic activities of the household; (iii) 0406 Area of productive and non-productive permanent crops in compact plantations (for each permanent crop type); (iv) 0407 Number of permanent crop trees in scattered plantings (for each tree crop); (v) 0601 Use of agricultural pesticides; (vi) 0801 Household size by sex and age groups; (vii) 0901 Whether working on the holding is the main activity; (viii) 0902 Working time on the holding; (ix) 0903 Number and working time of employees on the holding by sex; and (x) 1201 Presence of aquaculture on the holding.

questionnaires. The computer assisted telephone interviewing (CATI) method was also used on a limited basis for data collection by telephone.

9. Data processing

A range of SAS-based tools (programs, projects and code) was used to interrogate estimates and identify anomalies, either at the unit (micro) or estimate (macro) level. Editing of unit-level data was undertaken via the Blaise/Editors Tool Kit (ETK). ABS imputation and estimation processes used SAS-based projects (software) with ABS-developed interfaces allowing for setup and operations.

10. Quality assurance

The frame used for the census was stratified into businesses by size (EVAO), type of agricultural activity (ANZSIC 2006) and location. The stratification allowed for weighting of strata to compensate for non-response. The response rate achieved for the AC 2015/2016 was 85 percent. The accuracy of estimates was assured through coherence between earlier years' estimates and relevant other sources. The main measure of accuracy of estimates from the AC 2015/2016 was indicated by calculating relative standard errors, calculated by dividing the standard error of the estimate by the estimate itself, which were assigned to each estimate produced and released.

11. Data and metadata archiving

Unit record data (microdata) and metadata are retained for the three most recent ACs in accordance with the ABS' data retention policies. Data and metadata are stored on secured Oracle databases with access limited to officers within the AC workgroup. Unit record data for earlier ACs are deleted with only the aggregated estimates retained indefinitely.

12. Data reconciliation

Final estimates from the AC 2015/2016 were not revised as a result of any reconciliation processes. External data sources were used for confrontation of estimates as a part of the quality assurance processes. A limited amount of reliable external administrative data was used to supplement or improved collected data.

13. Dissemination of census results and microdata

Census results were disseminated and are accessible online. The final AC 2015/2016 results were published on the ABS website (<http://www.abs.gov.au>) in various publications: (i) Agricultural Commodities, Australia, 2015-16 (ABS cat. no. 7121.0); (ii) Value of Agricultural Commodities Produced, Australia, 2015-16 (ABS cat. no. 7503.0); and (iii) Water Use on Australian Farms, Australia, 2015-16 (ABS cat. no. 4618.0). These publications also included methodological notes.

Access to microdata (unit record data) from the AC 2015/2016 was limited to those authorized under the ABS' Census and Statistics Act 1905. Access to microdata by external users was restricted under the ABS' Census and Statistics Act 1905. External users were limited to officers working for agencies within the Australian Commonwealth Public Service, access was only provided to approved (by the Australian Statistician) external users with all research undertaken solely in ABS properties with only authorized macro data enabled to be removed from the ABS.

14. Data sources

Australian Bureau of Statistics (ABS). ABS [online]. Canberra. [Cited 03 December 2020]. <http://www.abs.gov.au/>

15. Contact

Australian Bureau of Statistics (ABS)
National Information Consultancy Service⁴
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⁴ This workgroup addresses all international data and information requests.