

## 1. HISTORICAL OUTLINE

The first Agricultural Census (AC) in Brazil was conducted in 1920. Since 1940, ACs have been conducted on a decennial basis<sup>1</sup> until 1970, and quinquennially<sup>2</sup> thereafter, until 1985. A lack of resources delayed the implementation of the AC 1996 and of its next edition, the AC 2006, to which the metadata review and data presented here refer.

## 2. LEGAL BASIS AND ORGANIZATION

### **Legal framework**

The AC legislation includes:

- Law No. 5878 of 11 May 1973, Article 2 (Items I and II), with reference to the basic objective of the Brazilian Institute of Geography and Statistics (IBGE); and
- Decree 74084 of 20 May 1974, which approved the General Plan of Statistical and Geographical Information.

### **Institutional framework and international collaboration**

Within the legislation in force, IBGE was responsible for planning, conducting and coordinating the AC 2006 in Brazil. The Research Directory, the Operational Coordination of the Census and the Technical Management of the Agricultural Census (GTA) of IBGE were directly responsible for the census. The fieldwork was coordinated by IBGE territorial units.

### **Census staff**

Approximately 90 000 people were trained for the fieldwork, out of which 80 000 were engaged as field interviewers and field supervisors; other 10 000 people served as reserve staff. Field supervision was also provided by the GTA team.

## 3. REFERENCE DATE AND PERIOD

**Reference day:** 31 December 2006, for items on total area of the holding, land tenure, livestock, machinery, etc.

**Reference period:** calendar year 2006, for items on crop and animal production, investments, inputs, etc.

## 4. ENUMERATION PERIOD

The census enumeration was conducted from 16 April to 31 August 2007.

## 5. SCOPE OF THE CENSUS AND DEFINITION OF THE STATISTICAL UNIT

The **census scope** covered agricultural (crop and livestock production) activities, as well as forestry and aquaculture activities.

The **statistical unit** was the agricultural holding, defined as any production unit dedicated wholly or partially to agricultural, forestry and aquaculture activities, subject to a single management, with the objective of producing for sale or subsistence, regardless of size, legal form (own, partnership, lease, etc.) or location (rural or urban). The agricultural holdings were classified according to the legal status of the producer as: individual holder, condominium, consortium or partnership; cooperative; incorporated or limited liability company; public utility institutions (church, NGO, hospital), or government.

## 6. GEOGRAPHICAL COVERAGE

The census covered the entire country, including urban areas.

## 7. CUT-OFF THRESHOLD AND OTHER EXCLUSIONS

No cut-off thresholds were used for agricultural holdings. More detailed information was collected from the holdings above a certain threshold (for further details, see below, "Data collection method(s)" subsection).

## 8. METHODOLOGY

### **Methodological modality for conducting the census**

The classical approach was used in the AC 2006.

### **Frame**

The 2000 Population and Housing Census and the cartographic documentation constituted the source of the AC 2006 frame. No list frames were available in digital media with georeferenced addresses of the holdings. Census coverage was ensured on the basis of the canvassing of the EAs by enumerators.

### **Complete and/or sample enumeration methods**

The AC 2006 was a complete enumeration operation of all agricultural holdings in the country.

<sup>1</sup> Census years: 1940, 1950, 1960 and 1970.

<sup>2</sup> Census years: 1975, 1980 and 1985.

**Sample design (if sampling was used)**

No sampling was used.

**Data collection method(s)**

Data collection was performed through face-to-face interviews using Personal Digital Assistants (PDAs). Due to the use of PDAs, the data collection programme was structured to allow for gathering more details on specific production issues. The PDAs were programmed in a modular manner, to enable use of a detailed questionnaire on all holdings with more than:

- 50 head of cattle;
- five cows for milk production;
- 2 000 head of poultry;
- permanent crops over 50 feet; or
- forest products over 500 feet.

**Questionnaire(s)**

An electronic questionnaire was used for data collection. The AC 2006 covered all 16 items recommended by FAO under the WCA 2010.

**9. USE OF TECHNOLOGY**

IBGE introduced electronic questionnaires into PDAs integrated with GPS to obtain georeferenced information on all farms in the country. The census data were disseminated online.

**10. DATA PROCESSING AND ARCHIVING**

The entire data collection and supervision software was developed in house by IBGE, using the Visual Studio platform in the Microsoft Operations Manager 2005 environment and Microsoft SQL Server 2000, with the assistance of Microsoft Brazil consulting. In addition, the GEOPAD application was installed to view, navigate and view maps and use GPS guidance. Updated versions of the software were installed automatically as soon as census enumerators connected the PDAs to the central server to transmit the data collected. Once internally validated by the device, the data were immediately transmitted to the database at the IBGE state unit. The previous AC (1996) served as the basis for defining the parameter values for the electronic editing process.

**11. CENSUS DATA QUALITY**

Automatic validation was incorporated into PDAs. Previously programmed skip patterns and real-time edits, performed during enumeration, ensured faster and more reliable interviews. In addition, the Bluetooth® technology incorporated into the PDAs allowed for direct data transmission to IBGE's central mainframe by each of enumerators on a weekly basis.

**12. DATA DISSEMINATION**

The preliminary census results were published in 2007. The final results were released in 2009 through a printed volume and CD-ROMs. The census results were disseminated at the national and subnational scope (country, state and municipality) and are available online at IBGE's website.

**13. DATA SOURCES**

**FAO.** 2016. Regional Roundtable on the World Programme for the Census of Agriculture 2020 (WCA 2020). 12–16 December 2016, Montevideo, Uruguay. In: *World Programme for the Census of Agriculture* [online]. Rome, Italy. [Cited 10 September 2019]. <http://www.fao.org/world-census-agriculture/events/wca2020montevideo/en/>

**IBGE.** 2009. *Censo Agropecuário, 2006, Brasil, Grandes Regiões e Unidades da Federação*. Rio de Janeiro, Brazil. (also available at [https://biblioteca.ibge.gov.br/visualizacao/periodicos/51/agro\\_2006.pdf](https://biblioteca.ibge.gov.br/visualizacao/periodicos/51/agro_2006.pdf)).

**IBGE.** 2012. *Censo Agropecuário, 2006, Brasil, Grandes Regiões e Unidades da Federação, Segunda apuração*. Rio de Janeiro, Brazil. (also available at [ftp://ftp.ibge.gov.br/Censo\\_Agropecuario/Censo\\_Agropecuario\\_2006/Segunda\\_Apuracao/tabelas\\_pdf/tab\\_2\\_7.pdf](ftp://ftp.ibge.gov.br/Censo_Agropecuario/Censo_Agropecuario_2006/Segunda_Apuracao/tabelas_pdf/tab_2_7.pdf)).

**Oliveira, O., Bolliger, F. and Florido, A.** 2007. *Brazil Agricultural Census 2006: Innovations and Impact*. Paper presented at the Fourth International Conference on Agriculture Statistics, Volume 4 (ICAS-4), 22–24 October 2007, Beijing, China. (also available at <http://www.stats.gov.cn/english/icas/papers/P020071017541825784798.pdf>).

**14. CONTACT**

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# BRAZIL – AGRICULTURAL CENSUS 2006 – MAIN RESULTS

NUMBER OF HOLDINGS AND AREA, BY LEGAL STATUS <sup>1</sup>		
	Holdings	Area (ha)
<b>Total</b>	<b>5 175 636</b>	<b>333 680 037</b>
Individual	4 952 265	280 849 807
Condominium, consortium or partnership	115 700	18 584 255
Cooperative	9 084	1 395 045
Limited liability company	53 656	28 581 360
Institution	1 464	441 475
Government	4 396	655 854
Others	39 071	3 172 241

LAND TENURE		Area (ha)
<b>Total</b>		<b>333 680 037</b>
Owned		302 138 391
Non-legal ownership		5 957 124
Land under partnership		3 240 841
Non-legal owner-like possession		7 216 236
Rented from others		15 127 498

DISTRIBUTION OF HOLDINGS BY LAND SIZE CLASSES		
	Holdings	Area (ha)
<b>Total</b>	<b>5 175 636</b>	<b>333 680 037</b>
Holdings without land	255 019	
Holdings with land	4 920 617	333 680 037
Less than 0.1 ha	101 291	3 749
0.1–0.2 ha	50 206	7 039
0.2–0.5 ha	165 435	55 028
0.5–1 ha	289 905	199 013
1–2 ha	442 163	563 899
2–3 ha	319 671	711 147
3–4 ha	256 148	826 226
4–5 ha	215 988	947 784
5–10 ha	636 344	4 484 892
10–20 ha	736 798	10 289 758
20–50 ha	843 920	26 120 877
50–100 ha	390 882	26 483 343
100–200 ha	219 432	29 218 870
200–500 ha	150 698	46 384 925
500–1 000 ha	54 158	37 240 391
1 000–2 500 ha	32 242	48 640 082
2 500 ha and over	15 336	101 503 014

LAND USE		
	Holdings	Area (ha)
<b>Total</b>	<b>5 175 636</b>	<b>333 680 037</b>
Agricultural land	4 789 490	220 534 031
Land under temporary and forage crops	3 313 755	48 812 817
Land under permanent crops	1 480 251	11 679 152
Land under cultivated pasture	1 699 329	102 408 873
Land under natural pasture	1 672 338	57 633 189
Forest and wooded land	1 981 750	91 724 815
Cultivated area with forest species also used for crops and grazing animals	305 825	8 316 119
Other land	2 419 473	13 107 485

HOLDERS IN THE HOUSEHOLD SECTOR, BY SEX		
	Number	Area operated (ha)
<b>Total</b>	<b>4 952 265</b>	<b>280 849 807</b>
Male	4 319 123	264 628 226
Female	633 142	16 221 581

MEMBERS OF HOLDER'S HOUSEHOLD, BY SEX		Number
<b>Total</b>		<b>12 801 406</b>
Male		8 291 357
Female		4 510 049
Engaged in agricultural activities on the holding		12 577 729

EMPLOYEES WORKING ON THE HOLDING		Number
<b>Total</b>		<b>3 766 799</b>
Male		3 224 360
Female		542 439
Individuals		2 881 232
Male		2 477 938
Female		403 294
Juridical persons		624 362
Male		526 476
Female		97 886
Others		261 205
Male		219 946
Female		41 259

HOLDERS IN THE HOUSEHOLD SECTOR, BY SEX AND AGE		Number
<b>Total</b>		<b>4 952 265</b>
Male		4 319 123
Female		633 142
Under 25 years		163 187
Male		142 065
Female		21 122
25–35 years		669 555
Male		602 069
Female		67 486
35–45 years		1 081 097
Male		967 705
Female		113 392
45–55 years		1 152 280
Male		1 012 100
Female		140 180
55–65 years		1 010 822
Male		868 759
Female		142 063
65 years and over		875 324
Male		726 425
Female		148 899

LIVESTOCK		
	Holdings	Head
<b>Total holdings with livestock</b>	<b>3 927 445</b>	
Cattle	2 678 392	176 000 000
Buffaloes	13 279	885 119
Sheep	438 623	14 167 504
Goats	286 676	7 107 613
Pigs/swine	1 496 111	31 189 351
Equines	1 764 358	5 947 076
Horses	1 407 817	4 541 833
Mules and hinnies	366 413	750 529
Asses	394 710	654 714
Poultry (1 000 head)	2 728 938	1 174 118
Chickens	2 713 403	1 143 456
Other	299 105	30 662
Other animals	n.a.	
Rabbits	17 615	294 584

<sup>1</sup> Production units engaged in agricultural, forestry and aquaculture activities.