Australian Bureau of Statistics

2005–06

7121.0

AGRICULTURAL COMMODITIES AUSTRALIA

EMBARGO: 11.30AM (CANBERRA TIME) TUES 4 MAR 2008

CONTENTS

page

Notes 2
Abbreviations 3

SUMMARY OF FINDINGS

Industry structure 4
Crops 5
Horticulture 7
Livestock 8
Murray-Darling Basin 9

TABLES

List of tables 10
Structure of agricultural industry 11
Crops 16
Horticulture 17
Livestock 23
Land management 26
Murray-Darling Basin, selected commodities 27

ADDITIONAL INFORMATION

Explanatory notes 32
Technical notes 36

INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Nigel Gibson on Hobart (03) 6222 5940.

NOTES

ABOUT THIS PUBLICATION

This publication contains final estimates for the main commodities collected in the 2005–06 Agricultural Census. Included are detailed statistics on crop and horticulture area and production, livestock numbers, land use and industry and size characteristics of agricultural businesses. The data are based on a response rate of 93% from the 2005–06 Agricultural Census.

The ABS also plans to release a range of sub-state geographic level data in conjunction with this publication. In particular, small area data will be released in *Agricultural Commodities: Small Area Data, Australia* (cat. no. 7125.0). The sub-state outputs will generally be available as spreadsheets, data suitable for use in Geographic Information Systems, and possibly as maps. Standard outputs will be produced to approximate as closely as possible various regional structures such as river basins and Natural Resource Management regions.

CHANGES IN THIS ISSUE

Move to a new register of agricultural businesses

Until recently, the ABS had maintained its own register of agricultural establishments. However, it had become increasingly difficult to maintain this list, and users were questioning the accuracy of some of the commodity data published. The ABS investigated a number of alternatives for maintaining the register and discussed these with key users of agriculture statistics. It was agreed that the ABS should move to a new frame sourced from the Australian Taxation Office's Australian Business Register (ABR).

The ABR-based frame has been used for the first time to conduct the 2005–06 Agricultural Census. The key implication of this strategy is that census data will not be directly comparable with historical time series. This is because, in addition to the change in frame, there have been changes in methodologies used for determining whether agricultural businesses are 'in-scope' of the collection and in some of the ways the data are compiled. (For more information, please see the technical notes at the back of this publication.)

Move to a new industrial classification

The estimates in this publication are based on the Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006 edition. Data in previous issues are based on the 1993 version of the ANZSIC. ANZSIC 2006 was adopted to provide a more contemporary industrial classification system, taking into account issues such as changes in the structure and composition of the economy, changing user demands and compatibility with major international classification standards.

Brian Pink
Australian Statistician

ABBREVIATIONS

'000	thousand
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
ANZSIC	Australian and New Zealand Standard Industrial Classification
Aust.	Australia
EVAO	Estimated Value of Agricultural Operations
ha	hectare
kg	kilogram
MDB	Murray-Darling Basin
ML	megalitre
n.e.c.	not elsewhere classified
NSW	New South Wales
NT	Northern Territory
Qld	Queensland
RSE	relative standard error
SA	South Australia
SE	standard error
SLA	statistical local area
t	tonne
Tas.	Tasmania
Vic.	Victoria
WA	Western Australia

NUMBER OF AGRICULTURAL BUSINESSES

The 2005–06 Agricultural Census found that there were an estimated 154,472 agricultural businesses at 30 June 2006.

The beef cattle farming industry was the largest, with around 28% of all agricultural businesses. The mixed farming sector (grain-sheep/beef cattle) was the next largest with around 10%, followed by sheep farming with 8%. The Census also found that there were an estimated 16,504 non-agricultural businesses who undertook some form of agricultural activity during 2005–06.

SIZE OF OPERATIONS

EVAO of operations

The median estimated value of agricultural operations (EVAO) of all agricultural businesses was approximately $90,000 in 2005–06. Around 21% (33,100) had an EVAO below $22,500, while at the other end of the scale, around 11% (17,300) had an EVAO above $499,999.

The majority of agricultural businesses with EVAO below $22,500 were involved in beef cattle farming (14,900) and sheep farming (2,500) while the majority of businesses with EVAO above $499,999 were involved in grain growing (4,100), mixed grain-sheep/beef cattle farming (2,500), beef cattle farming (2,000) and dairy cattle farming (1,500).

On an industry basis, the cotton, poultry for meat, pig, poultry for eggs, and apple and pear industries were dominated by businesses with large EVAOs, with around 80%, 62%, 37%, 36% and 20% respectively, having an EVAO greater than $499,999.

Area of operations

Most agricultural businesses in 2005–06 were between 100 and 499 hectares in size, and accounted for 47,100 (or 30% of all agricultural businesses). These businesses were mainly engaged in beef cattle grazing, dairying, sheep grazing or mixed grain-sheep/beef cattle growing.

Small operations under 50 hectares were the second main size group and accounted for 40,600 businesses(or 26%). These were mainly engaged in beef cattle grazing, grape growing, fruit and tree nut growing, vegetable growing and horse farming.

Large operations of over 2,499 hectares accounted for 9% (14,400) of all agricultural businesses and were mainly engaged in grazing or grain growing operations.

OVERVIEW

For eastern Australian agricultural areas as a whole, the 2005–06 season saw near average rainfall despite 2005 winter and spring months being wet prior to dry conditions becoming established from December 2005 onwards. There were some noticeable regional variations with a particularly wet winter-spring 2005 period in large cropping areas of South Australia and in parts of Tasmania. However, in western Victoria and southern Queensland, early rain was more than offset by the dry rest of the year. The western Australian agricultural areas also experienced regional variation in climatic conditions in 2005–06. Rainfall varied from above average in the wheatbelt areas to well below average along the coast.

CROPS FOR GRAIN

Barley

The total area sown to barley for grain in 2005–06 was 4.4 million hectares. The three main growing states were South Australia (1.2 million hectares), Western Australia (1.1 million hectares) and New South Wales (1.1 million hectares). Production of barley for grain in 2005–06 was 9.5 million tonnes. Major producing states were South Australia (2.5 million tonnes), Western Australia (2.4 million tonnes) and New South Wales (2.3 million tonnes).

Grain sorghum

The total area sown to sorghum for grain in 2005–06 was 767,000 hectares. In Queensland, the main growing state, the area sown was 436,000 hectares, while in New South Wales it was reported as 327,000 hectares. Grain sorghum production in 2005–06 was 1.9 million tonnes. Production in Queensland was 1.0 million tonnes, while in New South Wales it was reported as 888,000 tonnes.

Oats

The total area sown to oats for grain in 2005–06 was 930,000 hectares. The three main growing states were New South Wales (416,000 hectares), Western Australia (271,000 hectares) and Victoria (151,000 hectares). Production of oats for grain in 2005–06 was 1.7 million tonnes. In New South Wales, production was reported as 633,000 tonnes, in Western Australia it was 591,000 tonnes and in Victoria it was 328,000 tonnes.

Rice

The total area sown to rice for grain in 2005–06 was 102,000 hectares. The main growing state was New South Wales with 101,000 hectares. Production of rice for grain in 2005–06 was 1.0 million tonnes. In New South Wales, production was reported as 992,000 tonnes.

Wheat

The total area sown to wheat for grain in 2005–06 was 12.4 million hectares. The three main growing states were Western Australia (4.8 million hectares), New South Wales (3.6 million hectares) and South Australia (2.0 million hectares). Production of wheat for grain in 2005–06 was 25.2 million tonnes. In Western Australia, production was reported as 9.1 million tonnes, in New South Wales it was 8.0 million tonnes and in South Australia it was 3.9 million tonnes.

OTHER CROPS

Canola

The total area sown to canola in 2005–06 was 972,000 hectares. The three main growing states were Western Australia (437,000 hectares), New South Wales (194,000 hectares) and Victoria (191,000 hectares). Production of canola in 2005–06 was 1.4 million tonnes. In Western Australia, production was reported as 617,000 tonnes, in New South Wales it was 314,000 tonnes and in Victoria it was 273,000 tonnes.

Cotton lint

The total area sown to cotton in 2005–06 was 327,000 hectares. The main growing states were New South Wales (197,000 hectares) and Queensland (130,000 hectares). Production of cotton lint in 2005–06 was 560,000 tonnes. In New South Wales, production was reported as 345,000 tonnes, and in Queensland it was 214,000 tonnes.

Sugar cane

The total area of sugar cane cut for crushing in 2005–06 was 398,000 hectares. Queensland was the main growing state (375,000 hectares). The total quantity of sugar cane crushed in 2005–06 was 37.1 million tonnes. In Queensland 34.4 million tonnes were crushed.

FRUIT

Bananas

The total area of bearing bananas in 2005–06 was 11,200 hectares. The main growing states were Queensland (9,390 hectares) and New South Wales (1,510 hectares). Production was down by around one third as a result of damage caused by Cyclone Larry in early 2006. Production in Queensland was reported as 165,000 tonnes and in New South Wales it was 15,900 tonnes.

Oranges

The number of orange trees in 2005–06 of bearing age was 6.6 million. The main growing states were New South Wales (with 3.6 million bearing trees), South Australia (with 1.6 million bearing trees) and Victoria (with 1.0 million bearing trees). Production of oranges in 2005–06 was 507,000 tonnes. In New South Wales, production was reported as 244,000 tonnes, in South Australia it was 159,000 tonnes and in Victoria it was 85,700 tonnes.

Grapes

Grape production in 2005–06 was just below the previous year's record at 2.0 million tonnes. The total area of vines increased to 169,000 hectares. The bearing area for grapes rose to 158,000 hectares while the area not yet bearing fell to 10,600 hectares.

VEGETABLES

Carrots

The total area sown to carrots in 2005–06 was 6,310 hectares. The three main growing states were Victoria (1,960 hectares), South Australia (1,260 hectares) and Western Australia (1,020 hectares). Production of carrots in 2005–06 was 265,000 tonnes. The major producing states were Western Australia (62,100 tonnes), South Australia (60,000 tonnes) and Tasmania (54,700 tonnes).

Lettuces

The total area sown to lettuces in 2005–06 was 8,050 hectares. The three main growing states were Victoria (3,640 hectares), Queensland (1,970 hectares) and New South Wales (1,290 hectares). Production of lettuces in 2005–06 was 163,000 tonnes. In Victoria, production was reported as 58,800 tonnes, in Queensland it was 53,200 tonnes and in New South Wales it was 29,800 tonnes.

Onions

The total area sown to onions in 2005–06 was 4,540 hectares. The three main growing states were South Australia (1,570 hectares), Tasmania (1,230 hectares) and Queensland (730 hectares). Production of onions in 2005–06 was 222,000 tonnes. In South Australia, production was reported as 80,800 tonnes, in Tasmania it was 68,800 tonnes and in Queensland it was 27,400 tonnes.

Potatoes

The total area sown to potatoes in 2005–06 was 35,300 hectares. The three main growing states were South Australia (9,500 hectares), Victoria (8,540 hectares) and Tasmania (6,310 hectares). Production of potatoes in 2005–06 was 1.2 million tonnes. In South Australia, production was reported as 358,000 tonnes, and in both Tasmania and Victoria it was 289,000 tonnes.

Tomatoes

The total area sown to tomatoes in 2005–06 was 7,750 hectares. The three main growing states were Victoria (3,250 hectares), Queensland (2,720 hectares) and New South Wales (1,320 hectares). Production of tomatoes in 2005–06 was 450,000 tonnes. In Victoria, production was reported as 245,000 tonnes, in Queensland it was 109,000 tonnes and in New South Wales it was 75,800 tonnes.

LIVESTOCK

Milk cattle

Final estimates indicate the number of milk cattle in Australia was 2.8 million head at 30 June 2006. Victoria continued to dominate the dairy industry with a herd of 1.8 million. Respondents in Victoria indicated that numbers there were affected by a slow recovery from drought combined with low milk prices.

Meat cattle

The number of meat cattle in Australia was 25.6 million head at 30 June 2006. The dominant states in the industry were Queensland with 11.4 million head and New South Wales with 5.9 million head.

Sheep and lambs

Final estimates indicate the number of sheep and lambs in Australia was 91.0 million head at 30 June 2006. The dominant states in the industry were New South Wales with 32.1 million head, Western Australia with 22.1 million head and Victoria with 17.9 million head. Respondents indicated that there was significant destocking during the year, including on-farm deaths. The number of lambs marked in Australia was reported as 35.1 million in 2005–06.

Pigs

The number of pigs in Australia was 2.7 million head at 30 June 2006. The dominant states in the industry were Queensland with 691,000 head, Victoria with 668,000 head and New South Wales with 655,000 head.

MURRAY-DARLING BASIN

The Murray-Darling Basin (MDB) covers an area 1,450 kilometres long and 1,000 kilometres wide and consists largely of plains rising to the Great Dividing Range on its eastern and southern rim. It includes the Australian Capital Territory, and parts of Queensland, New South Wales, Victoria and South Australia and covers 1,058,800 square kilometres or approximately one-seventh (14%) of the total area of Australia. The three main river systems that make up the Murray-Darling Basin include the Darling River and its tributaries, the Murrumbidgee River, the Lachlan River and Billabong Creek and their tributaries; and the River Murray itself and its tributaries.

Sometimes described as 'Australia's fruit bowl', in 2005-06 the MDB accounted for 54% of Australia's apple production, 87% of Australia's pear production and 95% of Australia's orange production. In addition to fruit growing, the MDB accounted for around 47% of Australia's cropping land with 46% of the 2005–06 wheat area, 52% of the 2005–06 barley area and 100% of the 2005–06 rice area.

Despite representing 18% of total grazing land, the availability of water combined with often favourable growing conditions saw the MDB account for 32% of Australia's dairy cattle at 30 June 2006 and 45% of Australia's sheep and lambs at 30 June 2006. The availability of feedgrain crops, water and close proximity to some major markets saw the MDB also account for significant intensive livestock farming with 35% of Australia's layer hens at 30 June 2006 and 62% of Australia's pigs at 30 June 2006.

LIST OF TABLES

page

STRUCTURE OF AGRICULTURAL INDUSTRY

1 Establishments with agricultural activity, by state 11
2 Establishments with agricultural activity, by EVAO 12
3 Establishments with agricultural activity, by area 14

CROPS AND PASTURES

4 Crops, production 16

HORTICULTURE

5 Fruit and nuts, production 17
6 Vegetables, production 18
7 Grapes, production 21

LIVESTOCK

8 Cattle 22
9 Sheep 23
10 Pigs 24
11 Chickens 24

LAND MANAGEMENT

12 Land use, area 25
13 Fencing built to protect areas from grazing 25

MURRAY-DARLING BASIN, SELECTED COMMODITIES

14 Principal crops, production 26
15 Fruit and nuts, production 27
16 Vegetables, production 28
17 Grapes, production 29
18 Livestock numbers 30
19 Land use, area 31

1 ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY, By state—At 30 June 2006

		NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
0111	Nursery production (undercover)	122	61	98	21	32	^13	^4	—	351
0112	Nursery production (outdoors)	284	236	202	89	76	30	^3	^3	923
0113	Turf growing	130	20	130	^10	45	2	1	*1	339
0114	Floriculture production (undercover)	61	68	50	^12	25	^9	—	—	224
0115	Floriculture production (outdoors)	185	153	136	63	93	30	^11	—	670
0121	Mushroom growing	43	17	27	^6	^10	2	—	—	106
0122	Vegetable growing (undercover)	324	152	181	261	100	19	^5	—	1 043
0123	Vegetable growing (outdoors)	904	731	1 114	345	435	504	43	*1	4 077
0131	Grape growing	1 227	2 030	100	2 581	642	103	^7	*2	6 692
0132	Kiwifruit growing	^14	13	^6	^3	*1	—	—	—	38
0133	Berry fruit growing	100	154	149	24	49	47	—	—	522
0134	Apple and pear growing	107	251	48	75	110	83	—	^4	679
0135	Stone fruit growing	343	341	115	216	198	62	*1	—	1 276
0136	Citrus fruit growing	572	172	195	336	105	—	^6	—	1 387
0137	Olive growing	84	78	34	94	59	^9	*1	—	359
0139	Other fruit and tree nut growing	1 096	149	1 591	141	198	17	245	—	3 437
0141	Sheep farming (specialised)	5 270	3 731	383	1 585	1 484	621	—	19	13 093
0142	Beef cattle farming (specialised)	14 314	9 122	13 934	1 440	2 357	1 297	206	20	42 691
0143	Beef cattle feedlots (specialised)	199	77	294	36	92	^5	*1	—	705
0144	Sheep-beef cattle farming	3 805	2 123	629	815	495	352	—	23	8 242
0145	Grain-sheep or grain-beef cattle farming	5 619	2 800	1 172	2 386	2 798	66	*1	—	14 843
0146	Rice growing	780	^7	—	—	—	—	—	—	787
0149	Other grain growing	2 844	2 785	1 087	3 204	2 530	28	—	—	12 478
0151	Sugar cane growing	459	—	3 739	—	^9	—	—	—	4 207
0152	Cotton growing	330	—	357	—	—	—	—	—	687
0159	Other crop growing n.e.c.	497	666	823	128	146	88	^14	*1	2 362
0160	Dairy cattle farming	1 253	5 948	911	457	280	522	—	—	9 371
0171	Poultry farming (meat)	353	248	114	72	58	15	1	—	860
0172	Poultry farming (eggs)	156	122	64	51	54	18	1	1	468
0180	Deer farming	38	50	18	16	^9	^5	—	—	136
0191	Horse farming	919	527	656	132	177	58	^5	^4	2 478
0192	Pig farming	252	167	245	148	75	26	1	—	914
0193	Beekeeping	298	118	132	104	53	19	*1	*2	728
0199	Other livestock farming n.e.c.	286	195	169	47	75	18	^5	—	796
01	***Total agriculture***	***43 268***	***33 310***	***28 905***	***14 901***	***12 872***	***4 068***	***564***	***81***	***137 968***
99	***All other industries***	***5 505***	***3 802***	***3 258***	***1 546***	***1 613***	***671***	***90***	***18***	***16 504***
#	**Total all Industries**	**48 773**	**37 112**	**32 163**	**16 447**	**14 485**	**4 739**	**654**	**99**	**154 472**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

2 ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY, By EVAO—Year ended 30 June 2006

		ESTIMATED VALUE OF AGRICULTURAL OPERATIONS ($'000)						
		Less than 22.5(a)	*22.5-49.9*	*50.0-99.9*	*100.0-149.9*	*150.0-199.9*	*200.0-349.9*	*350.0-499.9*
0111	Nursery production (undercover)	125	65	65	31	22	23	^ 11
0112	Nursery production (outdoors)	90	125	200	120	62	141	61
0113	Turf growing	^ 14	23	46	28	33	72	23
0114	Floriculture production (undercover)	116	34	35	^ 14	^ 11	^ 10	^ 2
0115	Floriculture production (outdoors)	73	129	173	79	61	67	32
0121	Mushroom growing	*2	^ 9	^ 14	*1	*2	17	^ 2
0122	Vegetable growing (undercover)	294	275	229	67	46	57	^ 19
0123	Vegetable growing (outdoors)	447	479	619	378	279	537	330
0131	Grape growing	1 673	1 907	1 476	558	301	373	147
0132	Kiwifruit growing	^ 4	^ 14	^ 7	^ 4	^ 5	*1	1
0133	Berry fruit growing	58	68	103	59	33	56	44
0134	Apple and pear growing	81	59	86	71	63	118	66
0135	Stone fruit growing	211	209	268	162	66	162	71
0136	Citrus fruit growing	180	178	237	184	124	162	107
0137	Olive growing	254	43	19	^ 11	^ 2	^ 11	^ 5
0139	Other fruit and tree nut growing	677	690	647	388	213	313	141
0141	Sheep farming (specialised)	2 518	2 313	2 604	1 738	1 126	1 646	564
0142	Beef cattle farming (specialised)	14 866	10 630	7 111	3 032	1 744	2 310	1 011
0143	Beef cattle feedlots (specialised)	66	82	129	42	43	86	43
0144	Sheep-beef cattle farming	877	1 211	1 675	1 211	812	1 315	546
0145	Grain-sheep or grain-beef cattle farming	587	1 069	2 050	1 895	1 598	3 351	1 821
0146	Rice growing	*1	*1	30	60	91	228	129
0149	Other grain growing	667	798	1 227	1 023	949	2 133	1 593
0151	Sugar cane growing	129	314	792	825	540	899	364
0152	Cotton growing	^ 5	*1	^ 7	^ 9	^ 8	51	57
0159	Other crop growing n.e.c.	499	437	452	240	165	249	96
0160	Dairy cattle farming	192	357	755	998	1 212	2 960	1 439
0171	Poultry farming (meat)	44	^ 13	25	^ 20	17	100	106
0172	Poultry farming (eggs)	75	42	33	31	29	58	32
0180	Deer farming	56	34	25	^ 12	*2	^ 5	—
0191	Horse farming	812	705	486	198	88	91	41
0192	Pig farming	85	86	87	70	46	120	85
0193	Beekeeping	239	222	164	59	17	23	1
0199	Other livestock farming n.e.c.	576	87	58	31	14	15	^ 3
01	***Total agriculture***	***26 593***	***22 707***	***21 933***	***13 650***	***9 824***	***17 762***	***8 995***
99	***All other industries***	***6 498***	***3 468***	***2 617***	***1 136***	***598***	***999***	***430***
#	**Total all Industries**	**33 091**	**26 174**	**24 550**	**14 785**	**10 423**	**18 761**	**9 425**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

(a) Establishments on the population frame with EVAO of less than $5,000 are not in scope of the survey; however some respondents to the census may report activity below this level.

2 ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY, By EVAO—Year ended 30 June 2006

continued

ESTIMATED VALUE OF AGRICULTURAL OPERATIONS ($'000)

		500.0-999.9	*1000.0-1999.9*	*2000.0 and above*	*Total establishments*
0111	Nursery production (undercover)	^ 8	—	*1	351
0112	Nursery production (outdoors)	63	37	25	923
0113	Turf growing	57	24	19	339
0114	Floriculture production (undercover)	^ 1	—	—	224
0115	Floriculture production (outdoors)	34	14	8	670
0121	Mushroom growing	18	^ 12	27	106
0122	Vegetable growing (undercover)	34	16	7	1 043
0123	Vegetable growing (outdoors)	474	291	243	4 077
0131	Grape growing	155	70	30	6 692
0132	Kiwifruit growing	^ 1	—	1	38
0133	Berry fruit growing	56	29	18	522
0134	Apple and pear growing	78	35	23	679
0135	Stone fruit growing	64	37	25	1 276
0136	Citrus fruit growing	118	57	39	1 387
0137	Olive growing	^ 4	^ 7	*2	359
0139	Other fruit and tree nut growing	217	98	51	3 437
0141	Sheep farming (specialised)	486	84	13	13 093
0142	Beef cattle farming (specialised)	1 230	488	269	42 691
0143	Beef cattle feedlots (specialised)	87	45	81	705
0144	Sheep-beef cattle farming	471	113	11	8 242
0145	Grain-sheep or grain-beef cattle farming	1 938	459	74	14 843
0146	Rice growing	169	56	22	787
0149	Other grain growing	2 655	1 185	248	12 478
0151	Sugar cane growing	271	58	14	4 207
0152	Cotton growing	184	190	174	687
0159	Other crop growing n.e.c.	153	51	20	2 362
0160	Dairy cattle farming	1 199	226	36	9 371
0171	Poultry farming (meat)	282	174	79	860
0172	Poultry farming (eggs)	75	52	42	468
0180	Deer farming	1	—	—	136
0191	Horse farming	30	^ 15	13	2 478
0192	Pig farming	140	97	98	914
0193	Beekeeping	1	*1	—	728
0199	Other livestock farming n.e.c.	11	*1	—	796
01	***Total agriculture***	***10 765***	***4 023***	***1 716***	***137 968***
99	***All other industries***	***462***	***202***	***93***	***16 504***
#	**Total all Industries**	**11 227**	**4 225**	**1 810**	**154 472**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

3 ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY, By area—At 30 June 2006

		AREA OF HOLDING (ha)					
		0-49	*50-99*	*100-499*	*500-999*	*1000-2499*	*2500-24999*
0111	Nursery production (undercover)	320	^ 13	11	^ 4	*1	^ 2
0112	Nursery production (outdoors)	807	55	55	^ 2	^ 3	—
0113	Turf growing	229	48	54	^ 3	^ 3	*1
0114	Floriculture production (undercover)	219	*2	*2	—	—	—
0115	Floriculture production (outdoors)	519	66	70	^ 8	^ 3	^ 4
0121	Mushroom growing	100	^ 4	1	1	—	—
0122	Vegetable growing (undercover)	966	26	33	^ 11	^ 7	—
0123	Vegetable growing (outdoors)	2 250	619	956	135	79	37
0131	Grape growing	5 167	707	680	78	40	19
0132	Kiwifruit growing	29	^ 6	^ 3	—	—	—
0133	Berry fruit growing	453	39	25	^ 4	*1	—
0134	Apple and pear growing	426	111	132	9	1	—
0135	Stone fruit growing	1 004	133	123	8	*5	^ 3
0136	Citrus fruit growing	1 038	162	134	27	14	11
0137	Olive growing	248	42	44	^ 10	^ 9	^ 4
0139	Other fruit and tree nut growing	2 458	530	371	39	28	8
0141	Sheep farming (specialised)	1 138	944	5 056	2 438	1 920	1 151
0142	Beef cattle farming (specialised)	8 360	7 011	15 054	3 909	3 319	3 780
0143	Beef cattle feedlots (specialised)	108	60	195	92	112	126
0144	Sheep-beef cattle farming	485	472	2 877	1 716	1 526	853
0145	Grain-sheep or grain-beef cattle farming	411	402	3 461	3 544	4 594	2 378
0146	Rice growing	^ 9	^ 9	399	178	134	53
0149	Other grain growing	553	417	2 753	2 303	3 561	2 858
0151	Sugar cane growing	939	1 218	1 829	139	57	23
0152	Cotton growing	^ 8	^ 6	127	143	211	182
0159	Other crop growing n.e.c.	747	484	802	167	103	54
0160	Dairy cattle farming	845	1 608	6 143	588	161	26
0171	Poultry farming (meat)	638	80	123	^ 10	8	*1
0172	Poultry farming (eggs)	346	52	46	12	^ 7	5
0180	Deer farming	52	35	40	^ 5	1	^ 3
0191	Horse farming	1 361	416	557	77	33	29
0192	Pig farming	286	137	291	106	72	23
0193	Beekeeping	613	45	52	^ 10	^ 3	^ 4
0199	Other livestock farming n.e.c.	397	101	166	41	32	31
01	***Total agriculture***	***33 530***	***16 062***	***42 666***	***15 819***	***16 051***	***11 669***
99	***All other industries***	***7 058***	***2 517***	***4 437***	***1 060***	***830***	***491***
#	**Total all industries**	**40 587**	**18 579**	**47 104**	**16 879**	**16 880**	**12 160**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

		AREA OF HOLDING (ha) *continued*				
		25000-99999	*100000-199999*	*200000-499999*	*500000 or more*	*Total establishments*
0111	Nursery production (undercover)	—	—	—	—	351
0112	Nursery production (outdoors)	—	—	—	—	923
0113	Turf growing	—	—	—	—	339
0114	Floriculture production (undercover)	—	—	—	—	224
0115	Floriculture production (outdoors)	—	—	—	—	670
0121	Mushroom growing	—	—	—	—	106
0122	Vegetable growing (undercover)	—	—	—	—	1 043
0123	Vegetable growing (outdoors)	1	—	—	—	4 077
0131	Grape growing	—	—	—	—	6 692
0132	Kiwifruit growing	—	—	—	—	38
0133	Berry fruit growing	—	—	—	—	522
0134	Apple and pear growing	—	—	—	—	679
0135	Stone fruit growing	—	—	—	—	1 276
0136	Citrus fruit growing	—	—	—	—	1 387
0137	Olive growing	—	—	—	—	359
0139	Other fruit and tree nut growing	^ 2	—	—	—	3 437
0141	Sheep farming (specialised)	335	65	39	6	13 093
0142	Beef cattle farming (specialised)	730	187	248	93	42 691
0143	Beef cattle feedlots (specialised)	^ 9	—	—	^ 2	705
0144	Sheep-beef cattle farming	252	35	24	1	8 242
0145	Grain-sheep or grain-beef cattle farming	47	^ 6	1	—	14 843
0146	Rice growing	^ 3	1	—	—	787
0149	Other grain growing	32	—	^ 1	—	12 478
0151	Sugar cane growing	*1	—	—	—	4 207
0152	Cotton growing	^ 10	—	—	—	687
0159	Other crop growing n.e.c.	^ 4	—	—	—	2 362
0160	Dairy cattle farming	1	—	—	—	9 371
0171	Poultry farming (meat)	—	—	—	—	860
0172	Poultry farming (eggs)	—	—	—	—	468
0180	Deer farming	—	—	—	—	136
0191	Horse farming	^ 4	1	—	—	2 478
0192	Pig farming	—	—	—	—	914
0193	Beekeeping	—	—	—	—	728
0199	Other livestock farming n.e.c.	25	^ 2	1	—	796
01	***Total agriculture***	***1 457***	***297***	***315***	***102***	***137 968***
99	***All other industries***	***69***	***^ 20***	***21***	***1***	***16 504***
#	**Total all industries**	**1 526**	**317**	**336**	**103**	**154 472**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

CROPS, Production—Year ended 30 June 2006

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Cereal for grain									
Barley									
Production ('000 t)	2 336	2 004	166	2 548	2 400	28	na	—	9 482
Area ('000 ha)	1 103	866	129	1 169	1 129	8	na	—	4 406
Grain sorghum									
Production ('000 t)	888	^ 1	1 038	^ 1	^ 3	na	*1	—	1 932
Area ('000 ha)	327	^ —	436	—	^ 2	na	^ 1	—	767
Maize									
Production ('000 t)	212	19	129	na	^ 2	na	*—	—	362
Area ('000 ha)	31	2	34	na	^ 1	na	*—	—	67
Oats									
Production ('000 t)	633	328	7	120	591	8	na	*—	1 688
Area ('000 ha)	416	151	16	72	271	4	na	^ —	930
Rice									
Production ('000 t)	992	10	na	na	—	na	—	—	1 003
Area ('000 ha)	101	1	na	na	—	na	—	—	102
Triticale									
Production ('000 t)	374	262	^ 1	126	60	7	na	—	830
Area ('000 ha)	141	121	^ 1	83	43	2	na	—	392
Wheat									
Production ('000 t)	8 049	2 909	1 218	3 853	9 088	34	na	—	25 150
Area ('000 ha)	3 554	1 315	778	2 035	4 753	8	na	*—	12 443
Legumes									
Field peas for grain									
Production ('000 t)	56	166	^ —	258	103	2	na	—	585
Area ('000 ha)	37	99	1	143	85	1	na	—	366
Lupins									
Production ('000 t)	62	36	*—	121	1 064	^ 1	na	—	1 285
Area ('000 ha)	37	27	^ —	72	672	^ —	na	—	809
Oilseeds									
Canola									
Production ('000 t)	314	273	^ 1	213	617	1	na	—	1 419
Area ('000 ha)	194	191	^ 1	147	437	1	na	—	972
Total oilseeds									
Production ('000 t)	435	276	23	214	617	1	*—	—	1 565
Area ('000 ha)	292	196	17	149	437	1	*—	—	1 091
Other crops									
Cotton lint									
Production ('000 t)	345	na	214	na	—	na	—	—	560
Area ('000 ha)	197	na	130	na	*—	—	—	—	327
Peanuts (in shell)									
Production ('000 t)	^ 1	na	24	na	—	na	—	na	25
Area ('000 ha)	^ —	—	12	na	—	na	—	na	12
Sugar cane cut for crushing									
Production ('000 t)	2 283	na	34 385	na	^ 461	na	—	—	37 128
Area ('000 ha)	18	na	375	na	^ 4	—	—	—	398
Tobacco									
Production ('000 t)	na	3	*—	na	—	—	—	—	4
Area ('000 ha)	—	1	*—	—	—	—	—	—	1

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

na not available

FRUIT AND NUTS, Production—Year ended 30 June 2006

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Citrus									
Lemons and limes									
Production (t)	6 403	7 162	^ 12 459	6 662	^ 665	na	^ 145	—	33 495
Trees ('000)	158	93	132	78	^ 14	na	^ 16	—	490
Mandarins									
Production (t)	6 249	6 262	60 355	17 212	2 270	na	*—	—	92 348
Trees ('000)	164	109	1 022	244	74	na	*—	—	1 613
Oranges									
Production (t)	244 441	85 653	11 084	158 808	7 247	na	—	—	507 233
Trees ('000)	3 570	1 025	140	1 614	204	na	—	—	6 553
Stone									
Apricots									
Production (t)	268	11 545	^ 214	4 188	333	371	na	*—	16 920
Trees ('000)	19	296	22	155	22	73	na	*—	587
Cherries									
Production (t)	4 408	3 390	^ 18	847	135	985	na	—	9 783
Trees ('000)	704	302	^ 11	231	39	271	na	—	1 557
Nectarines									
Production (t)	6 858	33 959	2 383	2 528	3 086	126	na	—	48 940
Trees ('000)	^ 415	770	182	65	208	13	na	*—	1 652
Peaches									
Production (t)	10 071	73 104	2 738	2 665	1 953	100	na	*—	90 630
Trees ('000)	^ 445	1 366	^ 225	64	133	12	na	*—	2 245
Plums and prunes									
Production (t)	7 635	10 285	1 842	2 312	4 184	98	—	*—	26 355
Trees ('000)	630	522	^ 114	78	385	^ 12	—	*—	1 742
Other orchard fruit									
Avocados									
Production (t)	5 844	1 879	22 165	1 614	2 950	na	—	—	34 452
Trees ('000)	137	56	364	42	81	na	—	—	680
Mangoes									
Production (t)	162	na	25 125	na	2 545	na	8 516	—	36 348
Trees ('000)	36	na	926	na	122	na	352	—	1 437
Olives									
Production (t)	6 194	22 231	^ 1 411	5 111	^ 7 109	^ 121	—	—	42 177
Trees ('000)	^ 639	428	^ 264	356	^ 593	^ 26	—	—	2 307
Nuts									
Almond (kernel)									
Production (t)	^ 695	4 661	—	7 064	na	na	na	—	12 420
Trees ('000)	^ 67	475	—	794	na	na	na	—	1 336
Macadamia									
Production (t)	19 720	na	11 891	na	*3	na	na	—	31 613
Trees ('000)	2 083	na	1 241	na	*1	na	na	—	3 325
Berry fruit									
Blueberries									
Production (t)	1 996	234	*—	*10	^ —	^ 75	—	—	2 316
Area (ha)	434	86	—	*6	^ 1	^ 20	—	—	547
Strawberries									
Production (t)	^ 281	6 618	12 929	2 216	4 870	421	—	—	27 336
Area (ha)	^ 51	335	568	84	172	31	—	—	1 241
Tropical									
Bananas									
Production (t)	15 898	na	164 787	na	^ 5 058	na	1 641	—	187 384
Area bearing (ha)	1 514	na	9 386	na	201	na	67	—	11 168
Papaws/Papaya									
Production (t)	^ 18	na	^ 5 956	na	^ 375	na	^ 107	—	^ 6 456
Area bearing (ha)	^ 15	na	348	na	^ 19	na	^ 22	—	403
Pineapples									
Production (t)	—	na	152 944	na	na	na	*71	—	153 015
Area bearing (ha)	1	na	3 028	na	na	na	*6	—	3 034

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

na not available

6 VEGETABLES, Production—Year ended 30 June 2006

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Asparagus									
Production (t)	^ 151	9 368	^ 98	*6	^ 111	^ 1	—	—	9 737
Area (ha)	^ 77	1 847	^ 75	*1	^ 53	^ 2	—	—	2 056
Beans, french and runner									
Processing									
Production (t)	^ 4	358	^ 554	*6	^ 27	11 665	—	—	12 614
Area (ha)	^ 2	^ 62	^ 210	^ 11	*16	1 171	—	—	1 473
Fresh market									
Production (t)	1 452	3 429	19 158	^ 39	^ 1 095	^ 90	*2	—	25 264
Area (ha)	440	694	3 948	318	^ 233	39	*1	—	5 673
Beetroot									
Production (t)	^ 3 253	1 110	^ 31 475	*222	^ 286	*79	—	—	36 425
Area (ha)	^ 139	76	^ 1 181	*8	^ 17	*3	—	—	1 424
Broccoli									
Production (t)	3 442	22 178	10 218	^ 1 037	5 781	5 741	—	—	48 398
Area (ha)	810	2 933	1 400	^ 93	478	^ 690	—	—	6 403
Cabbages									
Production (t)	19 998	24 142	20 373	^ 6 930	5 792	^ 1 280	*1	—	78 518
Area (ha)	671	701	456	^ 121	118	^ 46	*1	—	2 115
Capsicums (excluding chillies)									
Outdoor									
Production (t)	610	^ 2 161	49 952	^ 155	^ 1 291	*17	—	—	54 184
Area (ha)	93	^ 117	1 847	^ 14	^ 105	*1	—	—	2 178
Undercover									
Production (t)	^ 181	^ 752	*54	2 586	^ 2 626	*289	*63	—	6 550
Area (ha)	^ 7	^ 6	*3	92	^ 59	*2	*3	—	171
Carrots									
Production (t)	24 479	41 541	22 148	60 024	62 064	54 705	—	—	264 961
Area (ha)	664	1 964	604	1 260	1 019	803	—	—	6 314
Cauliflowers									
Production (t)	11 460	29 571	15 072	^ 8 621	5 508	6 336	—	—	76 568
Area (ha)	508	1 002	614	^ 257	307	351	—	—	3 039
Celery									
Production (t)	*44	33 193	5 458	*4 429	7 234	580	—	—	50 938
Area (ha)	^ 3	701	172	*48	180	15	—	—	1 119
Cucumbers									
Outdoor									
Production (t)	^ 425	^ 12	2 796	^ 137	^ 460	—	^ 46	—	3 875
Area (ha)	65	^ 3	243	^ 24	^ 52	—	^ 12	—	398
Undercover									
Production (t)	4 789	^ 346	^ 7 400	3 543	^ 3 109	^ 68	142	—	19 395
Area (ha)	71	^ 3	*83	90	^ 34	^ 1	^ 3	—	284
Lettuces									
Lettuce, head									
Outdoor									
Production (t)	^ 18 638	46 162	48 803	4 467	7 586	^ 1 008	—	—	126 664
Area (ha)	819	2 279	1 708	^ 221	316	^ 54	—	—	5 397
Undercover									
Production (t)	*941	*11	*247	**208	*206	—	—	—	^ 1 613
Area (ha)	*12	*1	*5	**4	*8	—	—	—	^ 30

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

— nil or rounded to zero (including null cells)

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Lettuces *cont.*									
Lettuce, looseleaf, butterhead, coloured fancy									
Outdoor									
Production (t)	^ 7 616	^ 12 385	^ 3 271	2 852	^ 3 272	1 117	*3	—	30 516
Area (ha)	^ 381	1 351	^ 231	177	^ 172	178	*—	—	2 490
Undercover									
Production (t)	^ 2 610	^ 196	^ 831	*33	*157	^ 2	*211	—	^ 4 040
Area (ha)	^ 80	^ 5	^ 29	*2	*2	^ —	*18	—	^ 136
Melons									
Rock and cantaloupe									
Production (t)	^ 21 315	^ 5 907	32 374	2 311	20 211	—	2 902	—	85 020
Area (ha)	789	^ 264	1 320	109	595	—	121	—	3 197
Water									
Production (t)	^ 26 414	3 978	73 446	1 256	15 818	—	^ 12 866	—	133 779
Area (ha)	842	140	2 691	25	550	—	416	—	4 664
Mushrooms									
Production (t)	15 016	12 812	7 193	3 450	np	np	—	—	43 641
Area (ha)	54	64	23	15	np	np	—	—	177
Onions(a)									
Production (t)	19 266	10 436	27 410	80 780	14 951	68 831	250	—	221 923
Area (ha)	486	277	729	1 574	234	1 226	11	—	4 537
Peas, green									
Processing (shelled weight)									
Production (t)	—	^ 14	*1	*4	*308	16 552	—	—	16 879
Area (ha)	—	^ 12	*2	*1	*160	3 589	—	—	3 762
Fresh market (pod weight)									
Production (t)	^ 187	^ 329	^ 228	^ 10	*19	*34	—	—	807
Area (ha)	^ 115	^ 282	^ 81	^ 10	^ 7	*15	—	—	511
Potatoes									
Processing									
Production (t)	82 393	180 291	41 210	125 987	34 381	266 026	—	—	730 288
Area (ha)	2 695	4 803	^ 1 481	2 795	900	5 522	—	—	18 196
Fresh market									
Production (t)	48 541	109 044	52 379	231 784	55 040	22 529	—	—	519 317
Area (ha)	2 451	3 737	2 158	6 690	1 249	788	—	—	17 072
Pumpkins									
Production (t)	30 643	3 117	47 161	5 019	22 478	1 858	629	—	110 906
Area (ha)	2 009	269	3 401	270	894	^ 111	36	—	6 990
Sweet corn									
Processing									
Production (t)	^ 22 526	400	3 732	—	216	—	—	—	26 873
Area (ha)	^ 1 370	30	^ 551	—	28	—	—	—	1 978
Fresh market									
Production (t)	1 499	8 120	24 282	^ 369	^ 2 455	96	—	—	36 821
Area (ha)	217	733	2 890	52	257	15	—	—	4 164
Tomatoes									
Processing									
Production (t)	63 665	208 184	^ 2 436	*303	*1 484	*19	—	—	276 091
Area (ha)	1 031	2 419	^ 191	*12	*64	*1	—	—	3 717

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

np not available for publication but included in totals where applicable, unless otherwise indicated

(a) Includes brown, red and white onions.

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
Tomatoes *cont.*									
Fresh market									
Outdoor									
Production (t)	3 260	30 866	102 692	^ 402	^ 10 825	*20	*62	*1	148 128
Area (ha)	220	^ 804	2 509	^ 29	268	^ —	*3	*—	3 833
Undercover									
Production (t)	8 892	6 365	^ 3 543	^ 5 498	^ 1 443	^ 492	*6	—	26 240
Area (ha)	69	26	^ 18	64	^ 18	^ 5	*—	—	200
Zucchini and button squash									
Production (t)	2 164	2 192	16 827	^ 358	^ 1 138	*32	^ 50	—	22 761
Area (ha)	352	^ 237	1 909	^ 98	99	*4	8	—	2 707

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

7 GRAPES, Production(a)(b)—Year ended 30 June 2006

	NSW	Vic.	QLD	SA	WA	Tas.	NT	ACT	Aust.
AREA OF VINES AT HARVEST (ha)									
Bearing area	36 632	36 597	2 449	69 771	11 375	999	237	106	158 167
Not yet bearing: planted or grafted prior to collection year	2 235	1 537	147	2 130	531	150	36	2	6 768
Not yet bearing: planted or grafted during collection year	1 331	846	17	1 187	370	105	—	—	3 856
Total area of vines	**40 198**	**38 980**	**2 613**	**73 088**	**12 276**	**1 254**	**273**	**108**	**168 790**
GRAPE PRODUCTION (fresh weight) (t)									
Winemaking	473 580	354 796	4 764	881 346	60 840	5 571	30	742	1 781 668
Drying	17 996	96 623	—	2 847	354	—	—	—	117 819
Table and other	18 327	45 755	10 301	1 621	4 163	—	1 544	—	81 710
Total production	**509 903**	**497 174**	**15 064**	**885 814**	**65 356**	**5 571**	**1 574**	**742**	**1 981 198**

— nil or rounded to zero (including null cells)

(a) Varietal information is available in *Australian Wine and Grape Industry* (cat. no. 1329.0).

(b) All grape data are sourced from the annual Vineyards collection and not the Agricultural Census.

8 CATTLE—Year ended 30 June 2006

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
CATTLE *('000)*									
Milk cattle(a)									
Cows in milk and dry	222	1 217	127	104	67	143	—	*—	1 880
Other milk cattle	127	541	66	64	49	61	—	*—	908
Total milk cattle and calves	*349*	*1 758*	*194*	*168*	*116*	*203*	—	*—	*2 788*
Meat cattle									
Bulls and bull calves used or intended for service	172	72	287	33	59	12	62	—	698
Other calves under one year	1 387	755	2 132	304	602	136	333	2	5 651
Cows and heifers one year and over	2 997	1 272	5 745	591	1 199	228	1 160	5	13 197
Other cattle one year and over	1 305	547	3 189	233	415	124	243	2	6 060
Total meat cattle and calves	*5 862*	*2 646*	*11 354*	*1 161*	*2 275*	*501*	*1 798*	*9*	*25 605*
Total cattle and calves	**6 211**	**4 403**	**11 548**	**1 329**	**2 391**	**704**	**1 798**	**9**	**28 393**
AGRICULTURAL BUSINESSES WITH CATTLE *(no.)*									
Milk cattle(a)									
Cows in milk and dry	1 262	5 562	923	428	288	501	—	*1	8 965
Other milk cattle	1 295	5 806	916	481	297	512	—	*1	9 308
Total milk cattle and calves	*1 441*	*6 099*	*1 015*	*506*	*314*	*570*	—	*1*	*9 945*
Meat cattle									
Bulls and bull calves used or intended for service	22 280	11 912	15 600	3 607	3 977	1 882	217	46	59 522
Other calves under one year	21 756	12 837	15 256	3 975	4 004	2 076	204	45	60 152
Cows and heifers one year and over	26 004	14 568	17 851	4 385	4 495	2 389	225	54	69 970
Other cattle one year and over	14 917	10 599	13 957	2 885	2 969	1 801	179	26	47 333
Total meat cattle and calves	*29 675*	*18 172*	*20 553*	*5 127*	*5 179*	*3 029*	*241*	*61*	*82 036*
Total cattle and calves	**30 373**	**21 891**	**21 061**	**5 356**	**5 291**	**3 308**	**241**	**62**	**87 583**

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

(a) Excluding house cows.

9 SHEEP—Year ended 30 June 2006

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
SHEEP									
Sheep ('000)	23 301	13 128	3 566	7 900	16 138	2 247	*—	64	66 345
Lambs under one year ('000)	8 845	4 780	899	3 431	5 991	716	**1	20	24 684
Total sheep and lambs ('000)	**32 146**	**17 908**	**4 466**	**11 331**	**22 129**	**2 963**	***1**	**84**	**91 028**
LAMBING									
Ewes mated to produce lambs ('000)	15 080	8 276	1 796	5 503	10 713	1 317	*—	28	42 713
Lambs marked ('000)	12 072	7 229	1 191	4 618	8 847	1 096	**—	22	35 075
Proportion of lambs marked to ewes mated %	80.1	87.3	66.3	83.9	82.6	83.2	na	78.6	82.1
Ewes expected to lamb next year ('000)(a)	15 923	8 415	1 741	5 769	11 001	1 400	*—	32	44 282
AGRICULTURAL BUSINESSES WITH SHEEP									
Sheep	17 418	11 657	1 856	7 360	7 223	1 732	*4	45	47 296
Lambs under one year	14 159	9 191	1 325	6 071	5 507	1 374	*4	41	37 672
Total sheep and lambs	**17 903**	**12 049**	**1 882**	**7 560**	**7 292**	**1 808**	**^5**	**47**	**48 547**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

— nil or rounded to zero (including null cells)

na not available

(a) Forecast made at the beginning of each season.

10 PIGS—Year ended 30 June 2006

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
PIGS ('000)									
Boars	3	3	3	2	2	—	—	na	12
Breeding sows	72	75	70	49	33	2	—	na	302
Gilts intended for breeding	^ 19	11	10	6	4	—	—	na	50
All other pigs	561	580	609	346	257	14	2	na	2 369
Total pigs	**655**	**668**	**691**	**403**	**296**	**17**	**2**	na	**2 733**
AGRICULTURAL BUSINESSES WITH PIGS (no.)									
Boars	568	287	369	318	220	48	1	na	1 811
Breeding sows	634	327	406	335	231	52	1	na	1 985
Gilts intended for breeding	299	184	225	202	127	24	1	na	1 061
All other pigs	663	384	539	385	246	62	5	na	2 285
Total pigs	**792**	**450**	**595**	**426**	**281**	**72**	**5**	na	**2 620**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution
— nil or rounded to zero (including null cells)
na not available

11 CHICKENS—Year ended 30 June 2006

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Chickens									
For meat production ('000)	30 385	23 327	9 982	np	6 898	np	—	—	78 448
For egg production ('000)	5 039	4 704	3 464	748	1 405	316	40	220	15 936

— nil or rounded to zero (including null cells)
np not available for publication but included in totals where applicable, unless otherwise indicated

12 LAND USE, Area—Year ended 30 June 2006

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
	AREA ('000 ha)								
Land under crop	6 988	3 388	2 541	4 499	7 293	75	^ 31	1	24 816
Land under fallow	1 661	435	1 734	212	488	21	^ 7	^ —	4 558
Land under commercial forestry plantations	402	85	225	54	159	55	*10	—	989
Grazing land(a)	49 993	7 431	135 563	48 886	84 764	1 251	56 812	38	384 737
Land covered by remnant vegetation or woodland not suitable for grazing(b)	2 003	405	3 640	1 037	3 332	240	^ 2 010	3	12 672
Wetlands or swamps not suitable for grazing	67	52	*162	^ 161	^ 620	14	*134	^ —	1 209
Environmentally sensitive areas fenced out of production	146	69	91	293	^ 355	18	14	—	986
Land surrounding and occupied by houses and sheds and other agriculturally unproductive land	287	128	624	132	^ 722	13	17	—	1 923
Other	188	61	268	58	186	^ 13	71	^ —	846
Land use not reported	391	264	676	78	736	39	22	2	2 207
Total area of holding(c)	62 125	12 318	145 523	55 410	98 655	1 740	59 127	45	434 943
Area of non-agricultural land(d)	17 939	10 424	27 542	42 938	154 333	5 100	75 786	191	334 259
Total land area(e)	**80 064**	**22 742**	**173 065**	**98 348**	**252 988**	**6 840**	**134 913**	**236**	**769 202**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

(a) Includes pastures and rangelands.

(b) Excludes commercial plantations.

(c) Total area of agricultural businesses with EVAO of $5,000 or more.

(d) Non-agricultural land is the difference between agricultural land as reported in the Agricultural Census and the total area of the state or territory. It comprises conserved land, forestry, urban and unused land such as vacant Crown land, commercially unused land on Aboriginal and other Crown reserves and waste land, ephemeral lakes and mangrove swamps, as well as land relating to agricultural businesses not included in the scope of the Agricultural Census.

(e) Total area for Australia includes Jervis Bay.

13 FENCING BUILT TO PROTECT AREAS FROM GRAZING—Year ended 30 June 2006

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
	km	km	km	km	km	km	km	km	km
Fencing to protect									
Remnant native vegetation	1 423	1 020	569	779	1 562	170	43	—	5 565
Planted trees and shrubs	2 548	3 022	259	767	1 152	145	*1	^ 4	7 898
Creeks and rivers	2 607	2 378	1 938	395	1 203	219	^ 116	^ 11	8 867
Saline areas	404	481	^ 70	243	940	23	*1	—	2 162
Other degraded areas	505	363	393	124	^ 399	^ 15	*55	—	1 854
All other areas	2 947	1 762	2 444	691	1 274	269	^ 69	—	9 457
Total fencing length	**10 433**	**9 028**	**5 673**	**3 000**	**6 529**	**840**	**285**	**^ 15**	**35 803**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

14 PRINCIPAL CROPS, Production—Murray-Darling Basin—Year ended 30 June 2006

	Murray-Darling Basin	*Rest of Australia*	*Australia*
Cereals for grain			
Barley			
Production ('000 t)	4 635	4 847	9 482
Area ('000 ha)	2 273	2 132	4 406
Grain sorghum			
Production ('000 t)	1 717	215	1 932
Area ('000 ha)	613	153	767
Maize			
Production ('000 t)	302	60	362
Area ('000 ha)	48	20	67
Oats			
Production ('000 t)	856	832	1 688
Area ('000 ha)	548	383	930
Triticale			
Production ('000 t)	690	140	830
Area ('000 ha)	313	79	392
Wheat			
Production ('000 t)	12 110	13 040	25 150
Area ('000 ha)	5 753	6 690	12 443
Legumes			
Field peas for grain			
Production ('000 t)	223	362	585
Area ('000 ha)	138	228	366
Lupins for grain			
Production ('000 t)	119	1 166	1 285
Area ('000 ha)	76	733	809
Oilseeds			
Canola			
Production ('000 t)	489	929	1 419
Area ('000 ha)	328	644	972
Total oilseeds			
Production ('000 t)	611	954	1 565
Area ('000 ha)	430	661	1 091
Other crops			
Cotton lint			
Production ('000 t)	516	43	560
Area ('000 ha)	303	24	327

15 FRUIT AND NUTS, Production(a)—Murray-Darling Basin—Year ended 30 June 2006

	Murray-Darling Basin	*Rest of Australia*	*Australia*
Citrus			
Lemons and Limes			
Production (t)	15 239	18 257	33 495
Trees ('000)	186	304	490
Mandarins			
Production (t)	29 368	62 980	92 348
Trees ('000)	493	1 120	1 613
Oranges			
Production (t)	482 320	24 912	507 233
Trees ('000)	6 033	520	6 553
Pome			
Apples			
Production (t)	148 026	128 401	276 427
Trees ('000)	4 682	4 151	8 833
Pears (incl. nashi)			
Production (t)	124 369	18 050	142 419
Trees ('000)	1 485	291	1 776
Stone			
Apricots			
Production (t)	15 992	928	16 920
Trees ('000)	477	109	587
Cherries			
Production (t)	7 002	2 781	9 783
Trees ('000)	947	611	1 557
Nectarines			
Production (t)	42 058	6 882	48 940
Trees ('000)	1 232	420	1 652
Peaches			
Production (t)	83 221	7 409	90 630
Trees ('000)	1 850	396	2 245
Plums and prunes			
Production (t)	21 509	4 846	26 355
Trees ('000)	1 303	439	1 742
Other orchard fruit			
Avocados			
Production (t)	4 838	29 614	34 452
Trees ('000)	117	563	680
Nuts			
Almond (kernal)			
Production (t)	11 538	^ 882	12 420
Trees ('000)	1 188	^ 148	1 336

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

(a) Number of trees refers to trees of bearing age (ie. for apples it is trees four years and over, for fruit and nuts it is six years and over). Information on the total number of trees is available on request.

VEGETABLES, Production—Murray-Darling Basin—Year ended 30 June 2006

	Murray-Darling Basin	*Rest of Australia*	*Australia*
Broccoli			
Production (t)	6 746	41 652	48 398
Area (ha)	1 187	5 216	6 403
Capsicums, chillies and peppers			
Production (t)	9 970	53 692	63 662
Area (ha)	387	2 235	2 623
Carrots			
Production (t)	50 019	214 942	264 961
Area (ha)	1 439	4 875	6 314
Cauliflowers			
Production (t)	13 701	62 867	76 568
Area (ha)	588	2 451	3 039
Lettuces			
Production (t)	32 597	130 235	162 832
Area (ha)	1 609	6 444	8 053
Melons			
Rock and cantaloupe			
Production (t)	37 246	47 774	85 020
Area (ha)	1 519	1 678	3 197
Water			
Production (t)	41 950	91 828	133 779
Area (ha)	1 346	3 318	4 664
Mushrooms			
Production (t)	^ 2 761	40 879	43 641
Area (ha)	10	167	177
Onions(a)			
Production (t)	77 740	144 184	221 923
Area (ha)	1 730	2 807	4 537
Potatoes			
Production (t)	396 896	852 708	1 249 605
Area (ha)	12 103	23 165	35 268
Pumpkins			
Production (t)	35 284	75 622	110 906
Area (ha)	2 300	4 690	6 990
Tomatoes			
Production (t)	306 413	144 045	450 459
Area (ha)	4 308	3 442	7 750

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

(a) Includes brown, red and white onions.

17 GRAPES, Production(a)(b)—Murray-Darling Basin—Year ended 30 June 2006

	Murray-Darling Basin	*Rest of Australia*	*Australia*
AREA OF VINES AT HARVEST (HA)			
Bearing area	95 423	62 743	158 167
Not yet bearing: planted or grafted prior to collection year	4 224	2 544	6 768
Not yet bearing: planted or grafted during collection year	2 678	1 178	3 856
Total area of vines	**102 325**	**66 465**	**168 790**
GRAPE PRODUCTION (FRESH WEIGHT) (T)			
Winemaking	1 319 649	462 020	1 781 668
Drying	117 232	587	117 819
Table and other	70 680	11 030	81 710
Total production	**1 507 561**	**473 637**	**1 981 198**

(a) Varietal information is available in *Australian Wine and Grape Industry* (cat.no.1329.0).

(b) All grape data are sourced from the annual Vineyards collection and not the Agricultural Census.

LIVESTOCK NUMBERS, Murray-Darling Basin—Year ended 30 June 2006

	Murray-Darling Basin	*Rest of Australia*	*Australia*
MILK CATTLE(a)			
Cows in milk and dry ('000)	590	1 290	1 880
Other milk cattle ('000)	297	611	908
Total milk cattle ('000)	**887**	**1 901**	**2 788**
MEAT CATTLE			
Bulls and bull calves intended for service ('000)	197	502	698
Other calves under one year ('000)	1 673	3 977	5 651
Cows and heifers one year and over ('000)	3 387	9 810	13 197
Other cattle one year and over ('000)	1 829	4 231	6 060
Total meat cattle ('000)	**7 085**	**18 520**	**25 605**
SHEEP AND LAMBS			
Sheep ('000)	29 092	37 253	66 345
Lambs under one year ('000)	11 517	13 166	24 684
Total sheep and lambs ('000)	**40 609**	**50 419**	**91 028**
LAMBING			
Ewes mated to produce lambs ('000)	18 851	23 862	42 713
Lambs marked ('000)	15 301	19 773	35 075
Proportion of lambs marked to ewes mated (%)	81.2	82.9	82.1
Ewes expected to lamb next year ('000)(b)	19 522	24 760	44 282
PIGS			
Boars ('000)	6	7	12
Breeding sows ('000)	176	126	302
Gilts intended for breeding ('000)	37	14	50
All other pigs ('000)	1 489	880	2 369
Total pigs ('000)	**1 707**	**1 026**	**2 733**

(a) Excluding house cows.

(b) Forecast made at the beginning of each season.

19 LAND USE, Area—Murray-Darling Basin—Year ended 30 June 2006

	Murray-Darling Basin	*Rest of Australia*	*Australia*
	AREA ('000 ha)		
Land under crop	11 712	13 104	24 816
Land under fallow	3 060	1 498	4 558
Land under commercial forestry plantation	425	564	989
Grazing land(a)	68 953	315 784	384 737
Land covered by remnant vegetation or woodland not suitable for grazing(b)	3 067	9 605	12 672
Wetlands or swamps not suitable for grazing	121	1 088	1 209
Other environmentally sensitive areas	234	752	986
Land surrounding and occupied by houses and sheds and other agriculturally unproductive land	432	1 491	1 923
Other land use	331	514	846
Land use not reported	500	1 707	2 207
Total area of holding(c)	88 836	346 107	434 943
Non-agricultural land(d)	17 086	317 173	334 259
Total land area(e)	**105 922**	**663 280**	**769 202**

(a) Includes pastures and rangelands.

(b) Excludes commercial plantations.

(c) Total area of agricultural businesses with EVAO of $5,000 or more.

(d) Non-agricultural land is the difference between agricultural land as reported in the Agricultural Census and the total area of the Murray-Darling Basin and the rest of Australia. It comprises conserved land, forestry, urban and unused land such as vacant Crown land, commercially unused land on Aboriginal and other Crown reserves and waste land, ephemeral lakes and mangrove swamps, as well as land relating to agricultural businesses not included in the scope of the Agricultural Census.

(e) Total area for Australia includes Jervis Bay.

EXPLANATORY NOTES

INTRODUCTION

1 This publication contains final estimates for the main commodities collected in the 2005–06 Agricultural Census and related collections (i.e. Apples and Pears Collection and Vineyards Collection). It contains detailed statistics on crops, livestock and livestock products, and industry and size characteristics of farms.

2 The main objective of the Agricultural Census is to provide benchmark information on the agriculture sector for small geographic areas. The collection has five main roles:

- to provide core production data to derive gross operating surplus and gross income for the farm sector;
- to support the determination and monitoring of agriculture policy;
- to support the determination and monitoring of natural resource and water policy as it relates to agriculture;
- to support decision makers involved in producing, supplying, marketing and trading agricultural commodities; and
- to support the monitoring of economic and social issues affecting rural communities.

3 Where figures have been rounded, discrepancies may occur between sums of the component items and totals.

STATISTICAL UNITS USED

4 The ABS uses an economic statistics units model on the ABS Business Register (ABSBR) to describe the characteristics of businesses and the structural relationships between related businesses. The units model is used within large and diverse business groups to define reporting units that can provide data to the ABS at a suitable level.

5 The units model allocates businesses to one of two sub-populations:
a) The majority of businesses are simple in structure and are allocated to the business population that is maintained by the Australian Taxation Office (ATO). These are termed (by the ABS) Australian Business Number (ABN) units.
b) Businesses with more complex business structures are allocated to the business population maintained by the ABS. For agricultural businesses, these are primarily units which have multiple farm locations.

6 Together these two sub-populations comprise the ABSBR population from which respondents to the 2005–06 Agricultural Census were drawn.

SCOPE AND COVERAGE

7 The scope of the 2005–06 Agricultural Census was essentially all agricultural businesses above a minimum size cut-off recorded on the Australian Business Register (ABR) maintained by the ATO.

8 For the 2005–06 Agricultural Census, the measure of size was the ABS's Estimated Value of Agricultural Operations (EVAO) where available; or where it was not available a Business Activity Statement (BAS) turnover size was derived. A minimum size cut-off of $5,000, based on either EVAO or BAS Turnover, was used to determine whether a unit was in-scope for the Census.

9 While the Agricultural Census frame does not contain all agricultural businesses in Australia, it is expected to provide better coverage than the previous Agricultural Survey frame since most businesses and organisations in Australia need to obtain an Australian Business Number (ABN) from the ATO for their business operations. The Agricultural Census frame is also expected to be more up-to-date as it excludes agricultural businesses with cancelled ABNs and incorporates regularly updated information on agricultural businesses from the ATO.

10 Final estimates indicate a total in-scope population of 154,000 agricultural businesses compared to approximately 130,000 establishments on the previous ABS-maintained frame of agricultural establishments.

INDUSTRY CLASSIFICATION

11 The industry classification used in this publication differs from previous issues which used the 1993 version of the Australian and New Zealand Standard Industrial Classification (ANZSIC). This classification has since been revised. The estimates in this publication are based on the ANZSIC 2006 edition. ANZSIC 2006 was developed to provide a more contemporary industrial classification system taking into account issues such as changes in the structure and composition of the economy, changing user demands and compatibility with major international classification standards. For more information, please refer to *Australian and New Zealand Standard Industrial Classification (ANZSIC), 2006* (cat. no. 1292.0).

12 Since 1993, units in the Agricultural Census and the Agricultural Survey have been classified according to the methodology described in *Australian and New Zealand Standard Industrial Classification (ANZSIC)* (cat. no. 1292.0). Prior to 1993, establishments were classified according to the methodology described in the 1983 edition of *Australian Standard Industrial Classification (ASIC), Volume 1 – The Classification* (cat. no. 1201.0). Therefore care should be taken when making comparisons between years where different classifications have been used.

RELIABILITY OF ESTIMATES (SAMPLE ERROR)

13 The estimates in this publication are based on information obtained from respondents to the 2005–06 Agricultural Census. Since not all selected units responded, the estimates may differ from those that would have been produced if all farms had responded. One measure of the likely difference is given by the standard error (SE), which indicates the extent to which an estimate might vary by chance when not all units have responded, i.e. when a 'sample' of responses only is obtained. There are about two chances in three that a 'sample' estimate will differ by less than one SE from the figure that would have been obtained if all farms had responded, and about nineteen chances in twenty that the difference will be less than two SEs.

14 In this publication, 'sampling' variability of the estimates is measured by the relative standard error (RSE) which is obtained by expressing the SE as a percentage of the estimate to which it refers.

15 Most published estimates have RSEs less than 5%. For some states with limited production of certain commodities, RSEs are greater than 10%. Estimates that have an estimated RSE between 10% and 25% are annotated with the symbol '^'. These estimates should be used with caution as they are subject to sampling variability too high for some purposes. Estimates with an RSE between 25% and 50% are annotated with the symbol '*', indicating that the estimate should be used with caution as it is subject to sampling error too high for most practical purposes. Estimates with an RSE greater than 50% are annotated with the symbol '**', indicating that the sampling variability causes the estimates to be considered too unreliable for general use. Separate indication of the RSEs of all estimates is available on request.

RELIABILITY OF ESTIMATES (SAMPLE ERROR) *continued*

16 A table with RSEs for selected commodities follows:

RELATIVE STANDARD ERRORS OF SELECTED COMMODITIES—At 30 June 2006

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
	%	%	%	%	%	%	%	%	%
Barley for grain, production	0.8	0.4	2.0	0.4	0.6	3.4	—	—	0.3
Canola, production	1.2	0.7	21.2	0.9	1.1	7.7	—	—	0.6
Lupins for grain, production	2.9	1.5	29.5	1.1	1.0	18.6	—	—	0.8
Oats for grain, production	0.8	0.7	4.1	1.2	0.9	3.0	—	47.0	0.5
Wheat for grain, production	0.7	0.4	1.7	0.5	0.4	3.0	—	—	0.3
Oranges, production	2.4	1.8	5.9	2.1	4.0	—	—	—	1.4
Carrots, production	1.4	2.3	7.9	9.4	1.4	4.0	—	—	2.4
Potatoes, production	4.9	2.5	5.4	4.1	4.7	1.8	—	—	1.5
Tomatoes, production	4.7	7.6	4.5	14.4	10.5	11.1	37.6	40.2	4.4
Total meat cattle	0.4	0.3	0.8	0.7	1.6	0.8	2.4	4.0	0.4
Total milk cattle	1.2	0.3	1.4	1.5	2.5	1.6	—	40.2	0.3
Total sheep and lambs	0.4	0.3	1.4	0.4	0.4	1.0	46.4	2.2	0.2
Total pigs	1.3	3.0	2.3	1.6	2.3	2.1	—	—	1.0

— nil or rounded to zero (including null cells)

CROPS, PASTURES AND HORTICULTURE

17 Statistics on area and production of crops relate, in the main, to crops sown during the year ended 30 June. Statistics of perennial crops relate to the position at 30 June and the production during the year ended on that date, or fruit set by that date. Statistics for apples and pears and grapes, which in some states are harvested after 30 June, are collected by supplementary collection forms and are included in this publication.

DAIRY CATTLE

18 Investigations into the 2006 Agricultural Census estimates have revealed that the frame used for the 2005 Agricultural Survey did not accurately reflect the reduction in dairy establishments due to deregulation. Hence, the 2005 figure is considered to be over-estimated, with analysis indicating that the 2005 total milk cattle estimate to be around 2.9 million, not 3.1 million as previously reported.

ABS DATA AVAILABLE ON REQUEST

19 As well as the statistics included in this and related publications, the ABS may have other relevant data available on request. Inquiries should be made to either the National Information and Referral Service on 1300 135 070 or Linda Falzari on Hobart (03) 6222 5939.

GENERAL ACKNOWLEDGMENT

20 ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated: without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the *Census and Statistics Act 1905*.

RELATED PUBLICATIONS

21 A range of agricultural publications is produced by the ABS, including:

- *Principal Agricultural Commodities, Australia, Preliminary*, cat. no. 7111.0
- *Selected Agricultural Commodities, Australia, Preliminary*, cat. no. 7112.0
- *Natural Resource Management on Australian Farms*, cat. no. 4620.0
- *Water Use on Australian Farms,* cat. no. 4618.0
- *Livestock and Meat, Australia — Electronic Publication*, cat. no. 7218.0.55.001
- *Livestock Products, Australia*, cat. no. 7215.0
- *Value of Principal Agricultural Commodities Produced, Australia, Preliminary*, cat. no. 7501.0
- *Value of Selected Agricultural Commodities Produced, Australia, Preliminary*, cat. no. 7502.0

RELATED PUBLICATIONS *continued*

- *Value of Agricultural Commodities Produced, Australia*, cat. no. 7503.0

22 For comparisons of the agriculture industry with other industries, users are referred to:

- *Australian National Accounts: National Income, Expenditure and Product*, cat. no. 5206.0
- *Australian National Accounts: State Accounts*, cat. no. 5220.0

23 The ABS also plans to release a range of sub-state geographic level data in conjunction with this publication. In particular, small area data will be released in *Agricultural Commodities: Small Area Data, Australia* (cat. no. 7125.0). The sub-state outputs will generally be available as spreadsheets, data suitable for use in Geographic Information Systems, and possibly as maps. Standard outputs will be produced to approximate as closely as possible various regional structures such as river basins and Natural Resource Management regions.

24 Current publications and other products released by the ABS are listed in the *Catalogue of Publications and Products* (cat. no. 1101.0). The Catalogue is available from any ABS office or the ABS web site <http://www.abs.gov.au>. The ABS also issues a daily Release Advice on the web site which details products to be released in the week ahead.

OLD BASIS ESTIMATES

1 Prior to running the 2005–06 Agricultural Census, the ABS had maintained its own register of agricultural establishments. However, it was increasingly difficult to maintain this list, to the point where it was no longer viable, and users were increasingly questioning the accuracy of some commodity data.

2 The ABS investigated a number of alternatives for maintaining an agricultural business register and discussed these with key users of agriculture statistics. As a result of this, it was agreed that the ABS should move to a new frame sourced from the Australian Taxation Office's Australian Business Register (ABR) for the 2005–06 Agricultural Census.

3 The ABR-based register consists of all businesses contained on the ABR coded to an 'agricultural' industry, as well as businesses which have indicated they undertake agricultural activities. All businesses with a turnover of $50,000 or more are required to register on the ABR, and are provided with an Australian Business Number (ABN). Many agricultural businesses with a turnover of less than $50,000 have also chosen to register on the ABR, for example to access subsidies that require an ABN.

4 Moving to the ABR-based register required making changes to many of the methodologies used for compiling agriculture statistics. These included changes in the methods used for determining whether farms were 'in-scope' of the collection, and to ways the data was compiled (please see paragraphs 7–10 of the Explanatory Notes for more information about the change in scope and coverage).

IMPLICATIONS FOR USERS

5 The key implication of the move to the new register is that the 2005–06 Agricultural Census data will not be directly comparable with the historical time series of agriculture data. To provide users with a way of comparing ('bridging') the 2005–06 Agriculture Census data with the historical time series, the ABS has prepared two sets of estimates for selected principal commodities (see paragraph 25).

6 'New-basis' estimates have been prepared for 2005–06 using the new ABR-based register and its associated statistical methodologies. These methodologies have been subjected to rigorous analysis and testing, with the resulting 'new basis' estimates representing the start of the new commodity and livestock series.

7 'Old-basis' estimates have also been prepared for a selection of principal 2005–06 agricultural commodities. These estimates are a best judgement approximation to what the 2005–06 estimates may have been if the ABS had continued to use the previous ABS-maintained list of establishments (with its associated statistical methodologies) to conduct the 2005–06 Agricultural Census.

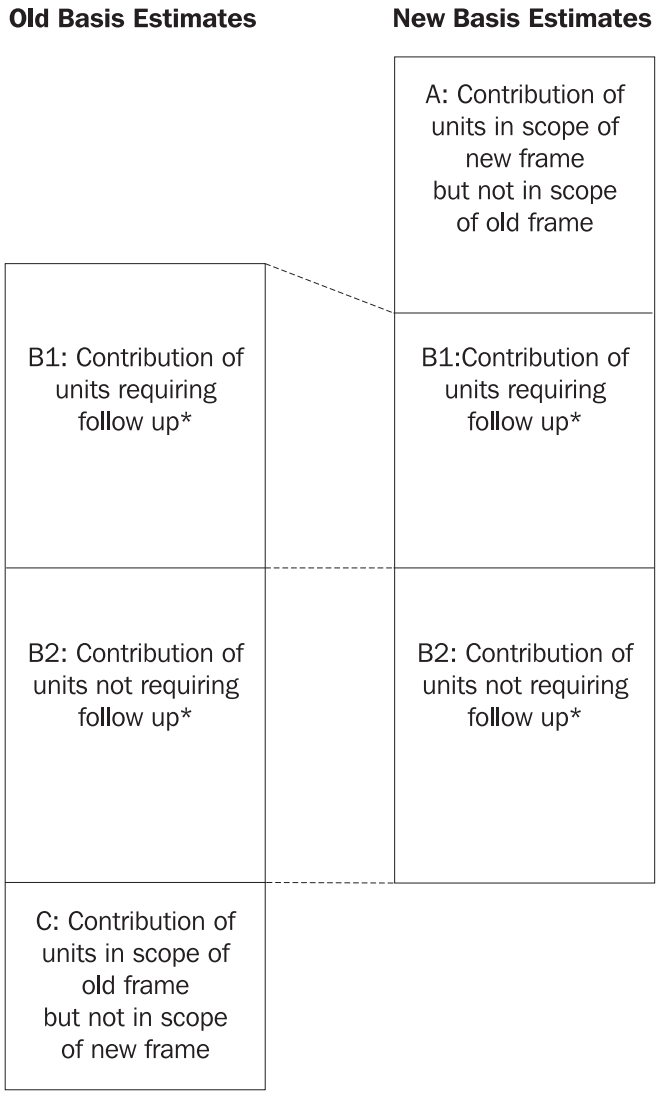
BRIDGING METHODOLOGY

8 The need for a bridging strategy for the Agriculture Census was outlined in *Information Paper: Agriculture Census: ABS Views on Content & Procedures, 2005–06* (cat. no. 7103.0) and discussed extensively with key users in March 2006.

9 The key objective of bridging is to produce estimates that reflect what would have been obtained if no changes to the frame and statistical methodology had been made. Comparing the 'old basis' estimates with the historical time series allows the user to get an indication of the 'real world' change. Comparing the 'old basis' estimates with the 'new basis' estimates gives an indication of the impact the change to the frame and statistical methodology has had on estimates.

10 In order to produce 'old-basis' estimates a sample was selected from the units which could be identified and matched between the old and new frames. These common units formed the basis of the 'old-basis' or bridging estimates. In addition to these common units, all units which were common to both frames, and did not require checking to reconcile differences between the way the business is represented on the frame and how it operates in the real-world, contributed to the bridging estimates. The diagram below illustrates the contribution to bridging estimates by the two types of common units.

BRIDGING METHODOLOGY *continued*



* Follow up required to reconcile difference between the frame and the real world situation.

METHODOLOGICAL CHANGES

11 There are two methodological changes that affect the new-basis estimates: the change in frame, specifically the change in scope, and the units model; and the change in statistical methodology, specifically the change in procedures that reconcile differences between the way the business is represented on the frame and how it operates in the real-world.

(A) THE CHANGE IN FRAME

12 The change in frame has resulted in the frame size increasing from 150,000 to 190,000 units. Not only were units added to the new frame (that is, became in-scope where they were not in-scope before, see A in Diagram and Table A) but some were removed (became out-of-scope, see C in Diagram and Table A). Changing the size and make-up of the frame will result in change to estimates even if every unit has not changed the data reported the year previously.

13 To gauge the impact of the frame change, the estimated 2005–06 values of the units that were newly out-of-scope (i.e. that had been removed from the 'old-basis' frame - see C) were compared to those of the newly in-scope units (i.e. that had been added to the frame - see A) in the sample.

(A) THE CHANGE IN FRAME *continued*

14 No 2005–06 data was available for sampled units that were newly out-of-scope i.e. row C. Instead, the data these units had reported for the last three years was used to determine the average proportion of 'old-basis' estimates due to these units. Applying this proportion of the 'old basis' estimate from the common units allowed an estimate of the contribution to 'new basis' estimates from the newly out-of-scope units to be produced.

(B) THE CHANGE IN STATISTICAL METHODOLOGY

15 The change in statistical methodology has resulted in a change in the way that some units are treated and how their data contributes to estimates (see B1 in Diagram and Table A). The impact of this change was the most difficult to measure.

16 One of the most important changes has been the way in which holdings owned by a unit were followed up when they were sold or otherwise disposed of by that unit. This process is undertaken to address known discrepancies between the frame and the real world-situation that exist at the time of sample selection. Under the old methodology, each unit in the survey which had sold or otherwise disposed of land would have been investigated to determine details of the new land-holder. If that land-holder was not already on the frame, a survey form would have been dispatched and data gathered. The new methodology dictates that this will only occur for units with an Estimated Value of Agricultural Operations (EVAO) or equivalent of greater than $3 million, to ensure coverage of the largest land holdings does not fluctuate due to changes in ABN registration details of the operating businesses.

17 No 2005–06 data was gathered for the sampled units under the $3 million EVAO cut off, so a value was assigned to reflect the data that would have been obtained under the old procedures. A methodology known as imputation was used to assign this value. The aim of imputation is to assign to a unit with missing data, a value as close as possible to the one that would have been obtained had data been collected. Having no data for these units made imputation difficult and it had to be assumed that these units would be similar in characteristics to the units which had not newly acquired their holding.

DECOMPOSITION

18 For illustration purposes only, table A provides an indication of what the contribution to 2005–06 'old-basis' and 2005–06 'new-basis' estimates of grain sorghum and oats production from the change in frame and change in statistical methodology may have been if the processes outlined above were used. The decomposition consists of four parts:

A - the contribution to estimate of units that are in-scope for the new frame but not for the old frame;

B1 - the contribution to estimate of units that are found on both frames and did require treatment to reconcile differences between the way the business is represented on the frame, and how it operates in the real world;

B2 - the contribution to estimate of units that are found on both frames and did not require any treatment to reconcile differences between the way the business is represented on the frame, and how it operates in the real world; and

C - the contribution to estimate of units that are in-scope for the old frame but not for the new frame.

19 Whereas the contribution to 2005–06 'new-basis' estimates could be derived using the above processes, the ABS has quality concerns with the contribution to 2005–06 'old-basis' estimates from continuing units that did require follow up to reconcile frame differences. The contribution from these units has therefore not been included in table A, and consequently the total 2005–06 'old-basis' estimate derived using the processes outlined above are also not included. Readers should note that these totals will differ to those presented in table B as the estimates provided in table B were derived using an alternative strategy as outlined in paragraph 21.

TABLE A, Illustrative bridging decomposition data(a)

	OLD BASIS ESTIMATE		NEW BASIS ESTIMATE	
	2004-05	*2005-06*	*2005-06*	*% contribution to 2005-06*
OATS-PRODUCTION (t)				
A: Units in scope of new frame but in scope of old frame	na	na	549	33
B1: Continuing units that did require follow up to reconcile frame differences	615	690	739	44
B2: Continuing units that did not require follow up to reconcile frame differences	280	np	400	24
C: Units in scope of old frame but not in scope of new frame	388	512	na	na
Total	1 283	np	1 688	100
GRAIN SORGHUM-PRODUCTION (t)				
A: Units in scope of new frame but in scope of old frame	na	na	699	36
B1: Continuing units that did require follow up to reconcile frame differences	819	721	749	39
B2: Continuing units that did not require follow up to reconcile frame differences	621	np	484	25
C: Units in scope of old frame but not inscope of new frame	571	534	na	na
Total	2 011	np	1 932	100

na not available
np not available for publication but included in totals where applicable, unless otherwise indicated

(a) The estimates in this table were derived using the processes outlined in paragraphs 12-17 of the technical note. The 2005-06 'old basis' estimates will differ to those provided in Table B.

FINAL BRIDGED ESTIMATES

20 As a result of these difficulties and resulting quality concerns, the ABS explored an alternate strategy for producing 'old-basis' estimates for 2005–06.

21 Key considerations in the alternate strategy have included:

- analysis of the 'old-basis' estimates produced using the strategy outlined above;
- known movements between 2004–05 and 2005–06 for those units common to both the old and new frame;
- analysis of historical trends in the commodity estimates; and
- information sourced from relevant industry bodies.

22 'Old-basis' estimates based upon this strategy are presented in tables B and C at the end of this Technical Note.

INTERPRETING THE BRIDGED DATA

23 Users should exercise a degree of caution when interpreting the tables as both sets of estimates are subject to variability; the 'old-basis' estimates to both sampling and non-sampling error and the 'new basis' estimates to non-sampling error.

24 The non-sampling variability in the 'old-basis' 2005–06 estimates in particular, is expected to be significant due to difficulties experienced in collecting, processing and estimating 'old basis' data from a 'new-basis' framework. For this reason, the 2005–06 'old-basis' estimates should be used with considerable caution and movements between 2004–05 and 2005–06 considered as indicative only.

INTERPRETING THE BRIDGED DATA *continued*

25 The following tables allow users to compare 2005 and 2006 estimates subject to the caveats mentioned:

TABLE B, Production and area of principal crops(a)—Year ended 30 June

	AUST. OLD BASIS(b)		2006 NEW BASIS(c)
	2005	*2006*(d)	*Aust.*
BARLEY FOR GRAIN			
Production ('000 t)	7 740	9 480	9 482
Area ('000 ha)	4 646	4 408	4 406
CANOLA			
Production ('000 t)	1 542	1 370	1 419
Area ('000 ha)	1 377	934	972
COTTON LINT			
Production ('000 t)	563	550	560
Area ('000 ha)	304	318	327
GRAIN SORGHUM			
Production ('000 t)	2 011	1 980	1 932
Area ('000 ha)	755	772	767
LUPINS FOR GRAIN			
Production ('000 t)	937	1 290	1 285
Area ('000 ha)	845	809	809
OATS FOR GRAIN			
Production ('000 t)	1 283	1 700	1 688
Area ('000 ha)	894	939	930
RICE FOR GRAIN			
Production ('000 t)	339	960	1 003
Area ('000 ha)	51	98	102
SUGAR CANE CUT FOR CRUSHING			
Production ('000 t)	37 822	37 900	37 128
Area ('000 ha)	434	403	398
WHEAT FOR GRAIN			
Production ('000 t)	21 905	24 950	25 150
Area ('000 ha)	13 399	12 337	12 443

(a) Caution should be exercised in comparing 2005 and 2006 estimates.
(b) Used an ABS-maintained land-based frame (list of 'farms').
(c) Use the Australian Business Register-based frame (list of Agricultural businesses).
(d) Data for 2006 old basis are bridged estimates.

INTERPRETING THE BRIDGED DATA *continued*

TABLE C, Livestock numbers(a)—Year ended 30 June

	AUST. OLD BASIS(b)		2006 NEW BASIS(c)
	2005	*2006*(d)	*Aust.*
MILK CATTLE(e)			
Cows in milk and dry ('000)	2 076	1 865	1 880
Other milk cattle ('000)	981	905	908
Total milk cattle ('000)	(f)**3 056**	**2 770**	**2 788**
MEAT CATTLE			
Bulls and bull calves intended for service ('000)	659	687	698
Other calves under one year ('000)	5 357	5 571	5 651
Cows and heifers one year and over ('000)	12 935	12 899	13 197
Other cattle one year and over ('000)	5 776	5 843	6 060
Total meat cattle ('000)	**24 725**	**25 000**	**25 605**
SHEEP AND LAMBS			
Sheep ('000)	71 947	66 655	66 345
Lambs under one year ('000)	29 178	24 845	24 684
Total sheep and lambs ('000)	**101 125**	**91 500**	**91 028**
LAMBING			
Ewes mated to produce lambs ('000)	46 147	42 803	42 713
Lambs marked ('000)	37 223	35 117	35 075
Proportion lambs marked to ewes mated (%)	81	82	82
Ewes expected to lamb next year ('000)(g)	46 904	47 292	44 282
PIGS			
Boars ('000)	12	12	12
Breeding sows ('000)	286	286	302
Gilts intended for breeding ('000)	43	47	50
All other pigs ('000)	2 197	2 215	2 369
Total pigs ('000)	**2 538**	**2 560**	**2 733**

(a) Caution should be exercised in comparing 2005 and 2006 estimates.
(b) Used an ABS-maintained land-based frame (list of 'farms').
(c) Used the Australian Business Register-based frame (list of agricultural businesses).
(d) Data for 2006 old basis are bridged estimates.
(e) Excluding house cows.
(f) See Explanatory notes, paragraph 18.
(g) Forecast made at the beginning of each season.

FOR MORE INFORMATION . . .

INTERNET **www.abs.gov.au** the ABS website is the best place for data from our publications and information about the ABS.

INFORMATION AND REFERRAL SERVICE

Our consultants can help you access the full range of information published by the ABS that is available free of charge from our website. Information tailored to your needs can also be requested as a 'user pays' service. Specialists are on hand to help you with analytical or methodological advice.

PHONE 1300 135 070

EMAIL client.services@abs.gov.au

FAX 1300 135 211

POST Client Services, ABS, GPO Box 796, Sydney NSW 2001

FREE ACCESS TO STATISTICS

All statistics on the ABS website can be downloaded free of charge.

WEB ADDRESS www.abs.gov.au

2712100007053
ISSN 1442 7184

RRP $27.00

© Commonwealth of Australia 2008
Produced by the Australian Bureau of Statistics