1998–99 7113.0

AGRICULTURE

AUSTRALIA

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CONTENTS

■ For more information about these and related statistics, contact Debbie Thomas on Hobart 03 6222 5948 or the National Information Service on 1300 135 070.

NOTES

ABOUT THIS PUBLICATION

This compendium presents a picture of Australian agriculture in the late 1990s. It contains detailed statistics on crops, livestock and livestock products and characteristics of farms. Also included are detailed statistics on the financial performance of agricultural industries, the value of agricultural commodities produced (VACP) and summary trade data.

A special article which provides a detailed guide to understanding agricultural exports data has been included.

CHANGES IN THIS ISSUE

The final estimates from the VACP collection comprise Chapter 3 of this publication. A summary table appears in Chapter 1.

D. Trewin
Australian Statistician

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LIVESTOCK AND LIVESTOCK PRODUCTS *continued*

TRADE

CHAPTER 1 AGRICULTURE AND THE AUSTRALIAN ECONOMY

OVERVIEW

Agriculture has historically played an important role in the development of Australia's economy. The contribution of agriculture to the Australian economy can be measured in a number of ways. The most direct measurement available is the gross value of agricultural production, which is based on data collected in the annual Agricultural Commodity Survey and measures the value of agricultural commodities produced by all establishments with an estimated value of agricultural operations (EVAO) of $5,000 or more. The gross value of agricultural production was $28.8 billion in 1998–99.

Other measures of the contribution of agriculture to the economy include:

- gross farm product (GFP), which is a measure of the value added in production contributed by businesses classified to the Australian and New Zealand Standard Industrial Classification (ANZSIC) Subdivision 01 (Agriculture). In 1998–99, GFP was calculated to be $16.8 billion or approximately 3% of gross domestic product;
- aggregate turnover of all businesses classified to ANZSIC Subdivision 01 (Agriculture) with an EVAO of $22,500 or more, collected in the annual Agricultural Finance Survey. In 1998–99 this was estimated to be $27.6 billion. This figure includes some turnover attributable to non-agricultural sales conducted by these businesses, but similarly, excludes turnover from agricultural activities conducted by businesses classified to other industries;
- the number of persons employed by businesses classified to ANZSIC Subdivision 01 with an EVAO of $22,500 or more, which for 1998–99 was 311,000 persons;
- the value of exports of agricultural commodities (export products classified to ANZSIC Subdivision 01 as their industry of origin), which amounted to $7.7 billion in 1998–99.

GROSS VALUE OF AGRICULTURAL PRODUCTION

The gross value of agricultural commodities produced for 1998–99 was $28.8 billion, a 2% increase on the 1997–98 value of $28.3 billion. Increases in the gross value of crops and in the gross value of livestock slaughterings and other disposals were partially offset by a decrease in the gross value of livestock products.

Increases in the gross value of crops were mainly due to increases in the quantity of wheat, cotton, canola, grain sorghum rice and oats harvested, as the price per tonne received by farmers fell. Falls in both average prices and production resulted in a decrease in the value of the sugar cane and barley crops. Most fruit crops, including grapes, apples, oranges and bananas, recorded increases in gross values of production in 1998–99. The gross value of vegetable production increased despite falls in a number of major crops including potatoes and mushrooms.

GROSS VALUE OF AGRICULTURAL PRODUCTION *continued*

The gross value of livestock slaughterings and other disposals rose due to an increase in the value of cattle and calves. The value of all other livestock including sheep and lambs, pigs and poultry fell.

The gross value of livestock products fell mainly as a result of a drop in the values of wool, eggs, honey and beeswax. Milk was the only livestock product to experience an increase in gross value, with higher production more than offsetting lower prices.

1.1 GROSS AND LOCAL VALUE OF AGRICULTURAL PRODUCTION(a)

	AUSTRALIA			1999							
	r1997	*r1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
GROSS VALUE											
Crops (incl. pastures and grasses)	15 995.8	15 308.2	16 189.5	4 471.4	2 556.7	3 542.8	2 357.6	2 870.1	345.0	43.1	2.6
Livestock slaughterings and other disposals	6 376.3	6 991.9	7 247.2	1 795.5	1 684.5	2 274.2	430.6	763.7	123.3	172.9	2.5
Livestock products	5 758.7	5 957.8	5 411.3	1 432.8	2 070.2	567.3	455.4	636.2	231.5	8.2	9.8
Total agriculture	**28 130.8**	**28 258.0**	**28 848.0**	**7 699.7**	**6 311.4**	**6 384.3**	**3 243.6**	**4 270.0**	**699.9**	**224.2**	**14.9**
MARKETING COSTS											
Crops (incl. pastures and grasses)	2 141.6	1 833.3	2 050.8	637.4	322.8	410.7	240.2	416.3	21.2	2.1	—
Livestock slaughterings and other disposals	556.2	637.0	669.7	158.8	159.8	206.5	40.3	71.8	13.7	18.5	0.2
Livestock products	220.9	200.6	189.3	66.6	34.0	19.6	22.1	40.5	5.2	0.3	0.9
Total agriculture	**2 918.6**	**2 670.9**	**2 909.8**	**862.9**	**516.6**	**636.8**	**302.6**	**528.6**	**40.1**	**21.0**	**1.2**
LOCAL VALUE											
Crops (incl. pastures and grasses)	13 854.3	13 475.0	14 138.7	3 834.0	2 233.9	3 132.1	2 117.5	2 453.8	323.8	41.0	2.6
Livestock slaughterings and other disposals	5 820.1	6 354.9	6 577.5	1 636.7	1 524.7	2 067.7	390.3	691.9	109.7	154.4	2.2
Livestock products	5 537.8	5 757.2	5 222.0	1 366.2	2 036.2	547.7	433.2	595.7	226.3	7.8	8.9
Total agriculture	**25 212.1**	**25 587.1**	**25 938.2**	**6 836.9**	**5 794.8**	**5 747.5**	**2 941.0**	**3 741.3**	**659.8**	**203.2**	**13.8**

(a) Reference period for crops, pastures and grasses is 31 March. Reference period for livestock slaughterings and other disposals and livestock products is 30 June.

GROSS FARM PRODUCT

In 1998–99 GFP increased in current price terms. The increase in the chain volume measure reflects an increase in the level of production of grains, which are a high contributor to GFP.

The farm sector's direct contribution to GDP in 1998–99 remained steady at 3%.

GROSS FARM PRODUCT *continued*

1.2 GROSS FARM PRODUCT—Years ended 30 June

	1997	*1998*	*1999*
Price	$m	$m	$m
At basic prices	16 057	16 239	16 752
Chain volume measurement(a)	15 577	15 441	16 752

(a) Reference year of chain volume measurement is 1998–99.

The graph below shows GFP as a proportion of GDP for the last 7 years. The proportion has remained stable at 3% over the last four years after falling to a low of 2% in 1994–95.

1.3 GROSS FARM PRODUCT AS A PROPORTION OF GDP

EMPLOYMENT IN AGRICULTURE

During the last pay period in June 1999 the number of people working on farm businesses with an EVAO over $22,500, was estimated to be 311,000. These comprised 187,000 working proprietors and partners and 124,000 paid employees. This was an increase of 3% on the previous year (up from 301,000 people) mostly as a result of an increase in the number of paid employees (up 6% from 117,000 in June 1998).

The largest employing industries were the mixed grain-sheep/beef industry (with 47,800 people or 15% of total agricultural employment), the grain industry (with 38,800 people or 12% of total agricultural employment) and the fruit industry (with 36,900 people or 12% of total agricultural employment).

Over the five year period to June 1999, employment in the cotton industry increased 58% to 6,100 people, with 1,600 working proprietors and partners, and 4,500 paid employees. Employment in the vegetable growing industry decreased by 16% over the same period, falling to a low of 19,900 people in 1996–97. However, by 1998–99 employment in the vegetable growing industry had increased to 24,000 people, up 7% on the previous year.

1.4 AGRICULTURE INDUSTRY, Employment—Years ended 30 June(a)

ANZSIC code	Description	*1995* no.	*1996* no.	*1997* no.	*1998* no.	*1999* no.
	PROPRIETORS AND PARTNERS					
0114–0119	Fruit	13 495	13 329	17 258	17 852	18 154
0113	Vegetables	7 721	7 430	7 286	6 110	6 141
0121	Grain growing	19 757	26 240	28 435	23 765	29 083
0122	Grain-sheep/beef cattle farming	35 310	28 024	37 310	35 300	33 521
0123	Sheep-beef cattle farming	18 842	16 772	12 008	10 757	12 182
0124	Sheep farming	19 039	18 664	19 603	20 931	21 581
0125	Beef cattle farming	26 952	28 960	24 210	23 391	22 304
0130	Dairy cattle farming	25 461	23 806	24 702	25 276	26 379
0142	Poultry farming (eggs)	(b)	(b)	(b)	589	566
0151	Pig farming	2 456	2 052	1 725	1 901	1 768
0161	Sugar cane growing	8 310	6 350	6 183	7 057	5 912
0162	Cotton growing	1 371	1 259	1 103	1 610	1 643
0111–0112, 0141, 0152–0159, 0169	Other agriculture	9 950	12 064	9 275	8 874	8 006
01	**All agriculture**	**188 664**	**184 950**	**189 098**	**183 413**	**187 240**
	EMPLOYEES(c)					
0114–0119	Fruit	12 353	*16 121	17 312	15 615	18 715
0113	Vegetables	20 796	13 982	12 659	16 280	17 870
0121	Grain growing	8 626	9 120	10 999	10 067	9 687
0122	Grain-sheep/beef cattle farming	9 706	9 434	11 481	12 041	14 265
0123	Sheep-beef cattle farming	7 473	8 167	4 896	4 182	4 337
0124	Sheep farming	7 969	*8 835	9 231	7 518	8 088
0125	Beef cattle farming	13 705	12 288	12 008	10 929	11 108
0130	Dairy cattle farming	9 592	7 040	8 327	9 744	8 292
0142	Poultry farming (eggs)	(b)	(b)	(b)	2 462	2 072
0151	Pig farming	2 658	2 251	3 139	*3 550	2 478
0161	Sugar cane growing	4 991	4 510	5 620	5 612	6 031
0162	Cotton growing	2 516	2 980	4 296	4 283	4 483
0111–0112, 0141, 0152–0159, 0169	Other agriculture	17 470	19 709	16 585	15 157	16 485
01	**All agriculture**	**117 855**	**114 437**	**116 553**	**117 440**	**123 908**
	TOTAL EMPLOYMENT					
0114–0119	Fruit	25 848	29 450	34 570	33 467	36 869
0113	Vegetables	28 517	21 412	19 945	22 390	24 011
0121	Grain growing	28 383	35 360	39 434	33 832	38 770
0122	Grain-sheep/beef cattle farming	45 016	37 458	48 791	47 341	47 786
0123	Sheep-beef cattle farming	26 315	24 939	16 904	14 939	16 519
0124	Sheep farming	27 008	27 499	28 834	28 449	29 669
0125	Beef cattle farming	40 657	41 248	36 218	34 320	33 412
0130	Dairy cattle farming	35 053	30 846	33 029	35 020	34 671
0142	Poultry farming (eggs)	(b)	(b)	(b)	3 051	2 638
0151	Pig farming	5 114	4 303	4 864	5 451	4 246
0161	Sugar cane growing	13 301	10 860	11 803	12 669	11 943
0162	Cotton growing	3 887	4 239	5 399	5 893	6 126
0111–0112, 0141, 0152–0159, 0169	Other agriculture	27 420	31 773	25 860	24 031	24 491
01	**All agriculture**	**306 519**	**299 387**	**305 651**	**300 853**	**311 148**

(a) Includes persons working on farm businesses with an EVAO over $22,500 during the last pay period in June.

(b) Data not collected.

(c) Includes employees absent on paid or unpaid leave, but excludes non-salaried directors, consultants, contractors and unpaid labour.

CHAPTER 2 STRUCTURE OF AGRICULTURAL INDUSTRY ..

OVERVIEW

The number of establishments having an estimated value of agricultural operations (EVAO) of $5,000 or more increased slightly, to 145,000 in the 12 months to March 1999. This increase was a result of increased farm numbers in New South Wales and Victoria which offset decreases in all other States.

In the 10 years from 1989, the number of establishments having an EVAO of $5,000 or more fell by 14% (22,700 establishments). Tasmania experienced a 16% decrease in the number of establishments, followed by both New South Wales and Queensland with 15%. Only the Northern Territory experienced an increase, up 18% over the period.

2.1 ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY(a)—Years ended 31 March

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
1989	50 791	40 995	36 059	18 258	16 106	5 311	307	107	167 934
1990(b)	37 539	33 306	26 619	14 636	13 410	3 699	257	73	129 539
1991(b)	36 812	32 620	25 364	14 482	13 202	3 563	270	79	126 392
1992	44 443	39 170	33 181	17 511	14 790	4 884	302	99	154 380
1993	43 227	37 773	33 531	17 386	14 910	4 719	322	98	151 966
1994	42 817	37 330	34 268	16 345	14 555	4 663	316	95	150 389
1995	42 287	37 070	32 849	15 952	13 973	4 554	337	93	147 115
1996	42 497	36 905	32 186	15 939	13 987	4 640	355	103	146 612
1997	42 758	36 656	30 987	15 817	13 872	4 536	354	103	145 083
1998	42 496	36 687	30 951	15 774	13 990	4 482	377	105	144 863
1999	43 302	36 701	30 753	15 738	13 822	4 446	363	101	145 226

(a) Establishments having an EVAO of $5,000 or more

(b) Establishments having an EVAO of $20,000 or more, see Explanatory Notes, paragraph 3.

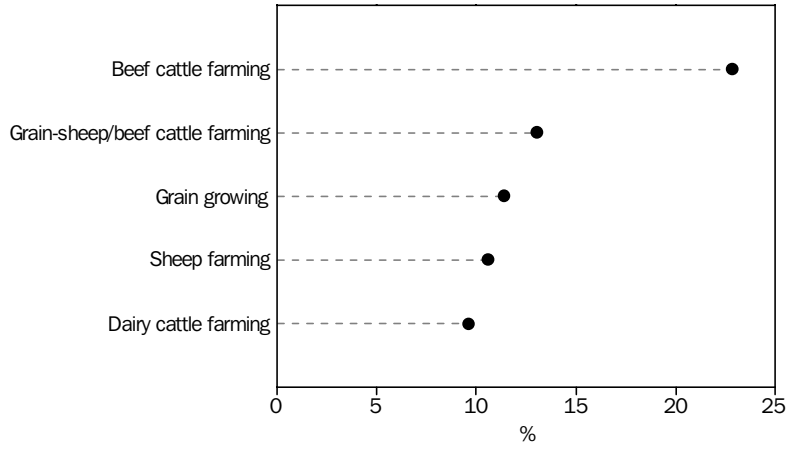
INDUSTRY COMPOSITION

The composition of agricultural industries in Australia in 1999 was little changed from the previous year.

The beef cattle farming industry remained the largest in terms of farm numbers, accounting for 23% (33,200) of total establishments with farming activity.

Despite a slight reduction in numbers, the mixed farming sector (grain–sheep/beef cattle) remained the second largest industry with 13% (19,000) of total establishments being classified to this industry. The grain growing industry remained the third largest industry in terms of numbers, accounting for 11% (16,600) of total establishments.

2.2 NUMBER OF AGRICULTURAL ESTABLISHMENTS, Proportion by Industry



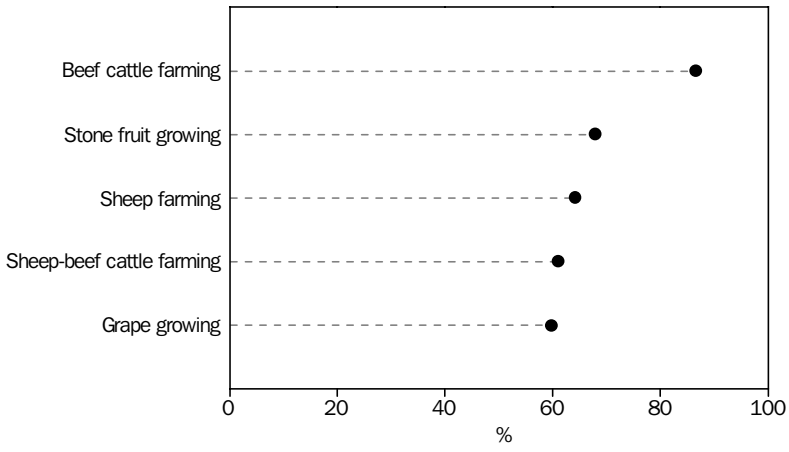
INDUSTRY ANALYSIS

The agricultural sector is extremely diverse in terms of the size and type of operations of its component industries.

Size of operations

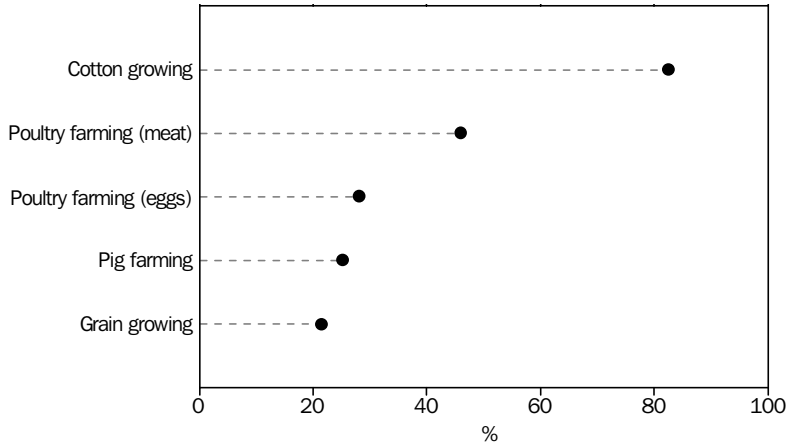
More than half of all farm establishments (77,300 farms or 53%) had an estimated value of agricultural operations (EVAO) below $100,000 in 1998–99 and nearly a quarter of all farm establishments (33,900 farms or 23%) had an EVAO below $22,500. At the other end of the scale, 8% (12,200) of farming establishments had an EVAO above $500,000. Industries consisting of mainly smaller producers in 1998–99 included the beef cattle industry, stone fruit industry, sheep industry and the combined sheep–beef industry with 87%, 68%, 64% and 61% respectively of all operations having an EVAO below $100,000.

2.3 EVAO LESS THAN $100,000, Proportion of Establishments Within Each Industry



Industries consisting of mainly larger producers in 1998–99 included the cotton industry, the meat poultry industry, the poultry egg industry and the pig industry with 83%, 46%, 28% and 25% respectively of all operations having an EVAO greater than $500,000.

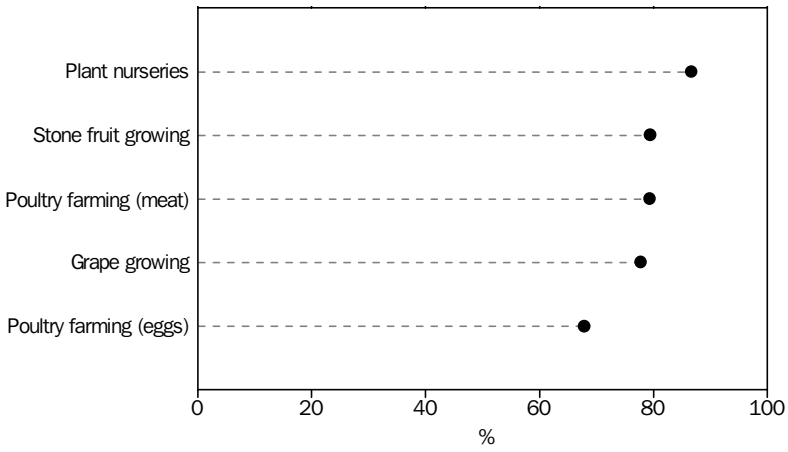
2.4 EVAO GREATER THAN $500,000, Proportion of Establishments Within Each Industry



Area of operations

Most farm holdings in 1998–99 were between 100 and 499 hectares in size. These 48,900 holdings accounted for 34% of all farming establishments and consisted of mainly beef cattle, dairy cattle and grain growing operations. Farm holdings of 49 hectares or less were next most common, and accounted for 21% (31,100) of all farms. In percentage terms, smaller farms dominate in the horticultural industries, with 87% of plant nurseries, 79% of stone fruit growers and 78% of grape growers operating farms of less than 50 hectares.

2.5 AREA OF HOLDING LESS THAN 50ha, Proportion of Establishments Within Each Industry



Farm holdings of over 2,500 hectares accounted for 9% (13,800) of all farms. These farms were mainly large scale grazing and cropping operations.

2.6 ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY, By State—As at 31 March 1999

ANZSIC code	*Description*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*WA*	*Aust.*
0111	Plant nurseries	1 069	379	765	119	200	55	17	6	2 611
0112	Cut flower and flower seed growing	251	268	207	122	146	46	7	—	1 047
0113	Vegetable growing	826	1 045	1 466	584	563	617	8	—	5 109
0114	Grape growing	1 090	2 086	75	2 079	360	74	4	2	5 770
0115	Apple and pear growing	235	445	102	123	244	170	—	2	1 320
0116	Stone fruit growing	424	250	79	277	139	*26	—	—	1 195
0117	Kiwi fruit growing	*34	**6	**4	—	**6	—	—	—	*50
0119	Fruit growing n.e.c.	1 874	324	2 169	602	316	39	89	—	5 412
0121	Grain growing	4 735	2 763	2 262	4 145	2 632	40	3	—	16 579
0122	Grain–sheep/beef cattle farming	7 105	3 472	1 896	2 633	3 762	85	—	—	18 954
0123	Sheep–beef cattle farming	3 772	2 357	918	742	472	391	—	22	8 674
0124	Sheep farming	5 474	5 136	651	1 678	1 703	739	—	30	15 410
0125	Beef cattle farming	10 172	7 890	10 853	1 053	1 947	1 014	211	23	33 163
0130	Dairy cattle farming	2 044	8 066	1 849	785	445	772	1	1	13 963
0141	Poultry farming (meat)	333	163	122	76	64	14	1	—	773
0142	Poultry farming (eggs)	176	143	99	46	96	13	5	2	579
0151	Pig farming	324	172	346	146	95	45	1	—	1 129
0152	Horse farming	791	499	608	100	119	52	2	6	2 177
0153	Deer farming	*28	*38	*54	**19	*16	12	—	—	166
0159	Livestock farming n.e.c.	460	349	291	142	81	44	3	2	1 373
0161	Sugar cane growing	501	—	4 706	—	*3	—	—	—	5 210
0162	Cotton growing	625	—	607	—	—	—	—	—	1 232
0169	Crop and plant growing n.e.c.	283	473	495	62	85	107	7	1	1 513
Agriculture		*42 626*	*36 322*	*30 622*	*15 532*	*13 495*	*4 354*	*359*	*97*	*143 407*
All other industries		*676*	*379*	*130*	*206*	*327*	*92*	*4*	*4*	*1 818*
Total all industries		**43 302**	**36 701**	**30 753**	**15 738**	**13 822**	**4 446**	**363**	**101**	**145 226**

2.7 ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY, By EVAO—As at 31 March 1999

ESTIMATED VALUE OF AGRICULTURAL OPERATIONS($'000)

ANZSIC code	Description	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	350.0–499.0	500.0–999.9	1,000.0–1,999.9	2,000.0 or more	Total establishments
0111	Plant nurseries	551	359	588	278	252	255	147	111	48	22	2 611
0112	Cut flower and flower seed growing	206	207	248	110	76	108	31	36	17	7	1 047
0113	Vegetable growing	856	644	733	511	442	690	357	529	218	131	5 109
0114	Grape growing	935	908	1 604	889	522	480	198	147	61	26	5 770
0115	Apple and pear growing	*93	120	233	196	123	181	132	174	37	30	1 320
0116	Stone fruit growing	267	226	319	105	71	105	44	43	13	3	1 195
0117	Kiwi fruit growing	**12	*19	**15	—	1	1	—	1	1	—	*50
0119	Fruit growing n.e.c.	1 455	955	999	555	331	484	210	263	103	57	5 412
0121	Grain growing	877	1 073	2 039	1 679	1 899	3 404	2 043	2 532	875	158	16 579
0122	Grain–sheep/beef cattle farming	1 339	1 959	3 397	2 586	2 176	3 982	1 728	1 496	245	44	18 954
0123	Sheep–beef cattle farming	1 702	1 622	1 975	1 139	648	916	397	242	28	*5	8 674
0124	Sheep farming	3 132	3 212	3 543	1 932	1 266	1 555	421	288	*48	12	15 410
0125	Beef cattle farming	17 801	6 997	3 954	1 477	715	1 131	394	453	146	95	33 163
0130	Dairy cattle farming	722	558	1 444	2 241	2 792	3 985	1 329	787	99	6	13 963
0141	Poultry farming (meat)	*35	*8	39	*32	*32	158	114	247	78	31	773
0142	Poultry farming (eggs)	*108	36	32	45	42	89	65	82	55	26	579
0151	Pig farming	113	111	122	135	79	184	98	168	72	45	1 129
0152	Horse farming	1 058	627	236	156	*33	*45	**4	13	3	1	2 177
0153	Deer farming	112	*36	*10	4	—	*2	1	—	—	—	166
0159	Livestock farming n.e.c.	1 085	*121	*32	*37	*34	*17	*32	7	6	2	1 373
0161	Sugar cane growing	*143	*92	832	1 033	888	1 235	418	494	60	15	5 210
0162	Cotton growing	34	—	**4	*27	**23	*59	*67	340	361	316	1 232
0169	Crop and plant growing n.e.c.	466	277	260	195	108	90	40	40	*21	16	1 513
Agriculture		*33 102*	*20 167*	*22 659*	*15 363*	*12 555*	*19 155*	*8 271*	*8 494*	*2 594*	*1 048*	*143 407*
All other industries		*795*	*292*	*291*	*90*	**111*	*89*	**77*	*39*	**22*	*13*	*1 818*
Total all industries		**33 897**	**20 459**	**22 949**	**15 453**	**12 667**	**19 245**	**8 347**	**8 533**	**2 615**	**1 061**	**145 226**

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

2.8 ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY, By Area—As at 31 March 1999

ANZSIC code	Description	AREA OF HOLDING (ha) 0–49	50–99	100–499	500–999	1,000–2,499	2,500–24,999	25,000–99,999	100,000–199,999	200,000–499,999	500,000 or more	Total establishments
0111	Plant nurseries	2 260	152	137	**50	6	5	—	—	—	—	2 611
0112	Cut flower and flower seed growing	875	81	68	16	4	3	—	—	—	—	1 047
0113	Vegetable growing	2 698	776	1 285	215	104	29	3	—	—	—	5 109
0114	Grape growing	4 481	493	715	40	29	*12	—	—	—	—	5 770
0115	Apple and pear growing	816	232	247	23	2	—	—	—	—	—	1 320
0116	Stone fruit growing	949	119	114	8	**5	—	—	—	—	—	1 195
0117	Kiwi fruit growing	*35	**7	**7	—	—	—	—	—	—	—	*50
0119	Fruit growing n.e.c.	4 096	726	481	60	28	19	2	—	—	—	5 412
0121	Grain growing	571	435	4 629	3 532	4 276	3 106	28	—	—	—	16 579
0122	Grain–sheep/beef cattle farming	487	505	4 836	4 816	5 707	2 528	71	3	—	—	18 954
0123	Sheep–beef cattle farming	385	544	3 143	1 716	1 398	1 086	317	50	29	6	8 674
0124	Sheep farming	806	1 020	6 342	3 028	2 130	1 420	461	113	86	5	15 410
0125	Beef cattle farming	5 155	5 384	13 354	3 053	2 383	2 812	496	124	305	98	33 163
0130	Dairy cattle farming	1 397	2 663	8 890	760	186	*64	2	**2	—	—	13 963
0141	Poultry farming (meat)	613	61	81	12	5	—	—	—	1	—	773
0142	Poultry farming (eggs)	393	48	*114	8	14	2	—	—	—	—	579
0151	Pig farming	371	198	364	113	65	17	1	—	—	—	1 129
0152	Horse farming	963	457	662	*57	**19	*19	—	—	—	—	2 177
0153	Deer farming	*78	*30	*48	8	2	—	—	—	—	—	166
0159	Livestock farming n.e.c.	1 095	*86	163	*9	9	7	2	—	1	—	1 373
0161	Sugar cane growing	1 273	1 788	1 884	127	*77	**56	**4	—	—	—	5 210
0162	Cotton growing	*39	**6	338	256	292	288	11	2	—	—	1 232
0169	Crop and plant growing n.e.c.	624	309	470	50	49	7	3	—	—	—	1 513
Agriculture		*30 459*	*16 121*	*48 372*	*17 958*	*16 793*	*11 478*	*1 401*	*294*	*422*	*109*	*143 407*
All other industries		*640*	*341*	*508*	*129*	*126*	*57*	**5	**7	**5	—	*1 818*
Total all industries		**31 099**	**16 462**	**48 880**	**18 088**	**16 919**	**11 535**	**1 406**	**301**	**426**	**109**	**145 226**

CHAPTER 3 VALUE OF AGRICULTURAL COMMODITIES PRODUCED

OVERVIEW

The gross value of agricultural commodities produced in Australia increased by 2% to $28.8 billion in 1998–99. Increases in the gross value of crops and in the gross value of livestock slaughterings and other disposals were partially offset by a decrease in the gross value of livestock products.

The largest commodities in terms of gross value of production in 1998–99 were: cattle and calf slaughterings with $4.5 billion (up from $4.1 billion in 1997–98); wheat with $4.0 billion (up from $3.8 billion in 1997–98); milk with $2.9 billion (up from $2.8 billion in 1997–98); wool with $2.1 billion (down from $2.8 billion in 1997–98) and cotton with $1.4 billion (up from $1.2 billion in 1997–98).

CROPS

The gross value of crops produced increased by 6% to $16.2 billion in 1998–99. Increases were recorded in the gross value of the principal crops, up 4% to $10.3 billion; fruit and nuts (including grapes), up 14% to $3.0 billion; and vegetables, up 3% to $1.9 billion.

All of the principal broadacre crops suffered falls in prices, as indicated by their Gross Unit Values (GUV). Increases in the gross value of major broadacre crops, including wheat (up 6% to $4.0 billion), cotton (up 10% to $1.4 billion), canola (up 95% to $643 million) and grain sorghum (up 54% to $282 million), resulted from production increases exceeding falls in prices. Decreased production and prices saw falls in the gross value of sugar cane (down 16% to $1.0 billion) and barley (down 19% to $836 million).

Most fruit crops recorded increases in gross values of production in 1998–99. Grapes were the highest value fruit crop with an estimated value of production of $1.2 billion. The value of grapes was up by 19% from the previous year as a result of an increase in the estimate of the quantity of grapes grown and improved coverage of the grape industry. Increases in the gross value of other major fruit crops were reported for apples (up 18% to $321 million), oranges (up 15% to $296 million) and bananas (up 16% to $266 million).

Potatoes were the highest value vegetable crop in 1998–99, although the estimated gross value of production was down by 11% to $438 million. The estimated value of production also decreased for mushrooms (down 5% to $149 million). In contrast, the estimated value of tomatoes rose 15% to $192 million, while the value of carrots increased 11% to $167 million.

LIVESTOCK SLAUGHTERINGS AND OTHER DISPOSALS

The gross value of total livestock slaughterings and other disposals increased by 4% to $7.2 billion in 1998–99. This was due to an increase in the value of cattle and calf slaughterings, since decreases were recorded for all other livestock groups.

LIVESTOCK SLAUGHTERINGS AND OTHER DISPOSALS *continued*

The value of cattle and calf slaughterings and other disposals increased by 8% in 1998–99 to $4.5 billion. This was a result of a 10% increase in the average gross unit value, up from $408.60 per head in 1997–98 to $450.35 per head in 1998–99, and a 3% increase in the gross value of live cattle exports, up from $334 million in 1997–98 to $343 million in 1998–99. These increases more than offset a 2% reduction in the number of cattle and calves slaughtered and a slight decrease in the average price of live cattle exported.

The value of sheep and lamb slaughterings and other disposals decreased by 2% in 1998–99 to $1.0 billion. This was mainly the result of a 3% decrease in the number of sheep and lambs slaughtered, down from 31.3 million head in 1997–98 to 30.5 million head in 1998–99. The average gross unit value of sheep and lamb slaughterings and other disposals increased slightly, up from $29.30 per head in 1997–98 to $29.44 per head in 1998–99, reflecting the move from slaughtering sheep to slaughtering lambs.

Despite a 2% increase in the number of pigs slaughtered, the gross value of pig slaughterings fell by 3% to $690 million in 1998–99. This was the result of a 4% fall in the average gross unit value of pigs slaughtered, down from $139.34 per head in 1997–98 to $133.21 per head in 1998–99.

The gross value of poultry slaughterings fell by 3% in 1998–99 to $1.0 billion. A 3% increase in the number of birds slaughtered was offset by a 5% fall in the average gross unit value, down from $2.72 per head in 1997–98 to $2.58 per head in 1998–99.

LIVESTOCK PRODUCTS

The gross value of livestock products decreased by 9% (down from $6.0 billion in 1997–98 to $5.4 billion in 1998–99) mainly as a result of a fall in the value of wool (down 22% from $2.8 billion in 1997–98 to $2.1 billion in 1998–99). The fall in the gross value of wool was primarily due to a decrease in gross unit value (down 22% from $3.99 per kilogram in 1997–98 to $3.11 per kilogram in 1998–99).

The gross value of milk production increased 3%, from $2.8 billion in 1997–98 to $2.9 billion in 1998–99, but this increase did not offset the fall in the value of wool produced, or decreases in the values of other livestock products including eggs, honey and beeswax.

MARKETING COSTS

Marketing costs represent the difference between the estimates of gross and local values. Although there were difficulties in obtaining complete information on marketing costs (which include freight, cost of containers, commission and other marketing charges) the following information provides a perspective on the marketing costs component of these estimates.

Significant differences in the marketing costs of individual commodities may occur as a result of different marketing arrangements for different commodities.

Total marketing costs comprised $2.9 billion or 10% of the total gross value of production in 1998–99. Marketing costs for crops were $2.1 billion or 13% of the gross value of production for crops.

MARKETING COST *continued*

Marketing costs among the more important crops were: 18% ($732 million) of the gross value for wheat; 20% ($164 million) for barley; 20% ($82.4 million) for total citrus fruit; 26% ($68.0 million) for bananas and 17% ($54.9 million) for apples; 16% ($69.2 million) for potatoes, 22% ($42.3 million) for tomatoes and 23% ($38.3 million) for carrots.

Marketing costs for livestock slaughterings and other disposals were $670 million or 9% of the total gross value for these commodities. For cattle and calf slaughterings, these costs were estimated at $447 million (or 10%), and for sheep and lamb slaughterings $132 million (or 13%). Marketing costs for livestock products amounted to $189 million or 3% of the total gross value. For shorn wool these costs were $156 million (or 8%) and for eggs $33.1 million (or 10%). As milk is collected at the farm gate by the processor, marketing costs are not calculated for this commodity.

STATE AND TERRITORY COMPARISONS

New South Wales had the highest value of agricultural production of $7.7 billion in 1998–99. Queensland's value of agricultural production was next highest, increasing from $5.9 billion to $6.4 billion to surpass Victoria, whose value of agricultural production also increased, up from $6.1 billion to $6.3 billion. Western Australia had the next highest value of agricultural production with $4.3 billion in 1998–99, followed by South Australia ($3.2 billion), Tasmania ($700 million), the Northern Territory ($224 million) and the Australian Capital Territory ($14.9 million).

New South Wales

The estimated gross value of agricultural production in New South Wales remained steady at $7.7 billion in 1998–99. This represented 27% of the total value of Australian agricultural production.

The gross value of crops rose by 7% to $4.5 billion, with canola (up 70% to $240 million) and grain sorghum (up 111% to $126 million) the major contributors. These increases were partially offset by falls in cotton (down 6% to $825 million) and barley (down 21% to $166 million). Wheat was the most valuable crop in New South Wales with the 1998–99 estimate of value little changed at $1.1 billion.

The gross value of livestock slaughterings and other disposals in New South Wales fell by 6% to $1.8 billion in 1998–99. Decreases were recorded in all livestock groups with the main falls recorded in cattle and calves (down 6% to $951 million, as a result of falling slaughter numbers) and in poultry (down 8% to $412 million, as a result of falling prices).

The estimate of gross value of livestock products fell by 13% to $1.4 billion. This was the result of a 17% decrease in the gross value of wool to $842 million, due to falling prices, and a 7% decrease in the gross value of milk to $462 million, with falling prices partially offset by increased production.

Victoria

The estimated gross value of agricultural production in Victoria in 1998–99 increased by 3% to $6.3 billion.

Victoria *continued*

The gross value of crops increased by 4% or $105 million to $2.6 billion. Significant increases in gross value were recorded for canola, up 86% to $93.9 million, grapes, up 12% to $336 million, and apples, up 30% to $112 million. Major falls in gross value were recorded for barley, down 21% to $126 million, wheat, down 7% to $274 million, and potatoes, down 9% to $110 million.

The estimate of gross value of livestock slaughterings and other disposals in Victoria increased by 8% to $1.7 billion. Cattle and calf slaughterings and other disposals were the major contributors to this increase with the gross value up 11% to $873 million as a result of higher prices.

The estimate of gross value of livestock products fell by 3% to $2.1 billion as a result of a slump in the gross value of wool, down 26% to $386 million. Milk accounted for 77% ($1.6 billion) of the gross value of livestock products in Victoria and recorded a 4% increase in gross value.

Queensland

The gross value of agricultural production in Queensland in 1998–99 increased by 8% to $6.4 billion.

The estimate of the gross value of crops in 1998–99 increased by 8% to $3.5 billion. Increases in production resulted in significant increases in the gross values of cotton, up 53% to $528 million and wheat, up 34% to $365 million. Increased prices combined with increased production saw the gross value of bananas increase by 25% to $198 million. Partially offsetting these increases was a fall in the gross value of Queensland's most valuable crop, sugar cane for crushing, which dropped 18% to $961 million as a result of low world sugar prices and to a lesser extent, low production due to adverse weather conditions.

The estimate of gross value of livestock slaughterings and other disposals in Queensland increased by 13% to $2.3 billion. Cattle and calf slaughterings and other disposals were the major contributors to this increase, with higher average prices and increased production leading to a 17% increase in gross value to $1.9 billion. Falls were recorded in the values of slaughtering and other disposals for sheep and lambs, pigs and poultry but these had little impact on the overall estimates.

The estimate of the gross value of livestock products fell 6% to $567 million largely due to the gross value of wool decreasing by 18% to $170 million.

South Australia

The gross value of agricultural production in South Australia in 1998–99 increased by 2% to $3.2 billion.

The estimate of the gross value of crops rose by 7% to $2.4 billion. This was mainly due to the gross value of wheat increasing 18% to $641 million, with increased production more than offsetting lower prices. The gross value of grapes increased 14% to $540 million, as a result of increases in both estimated production and prices. However, barley fell 8% to $304 million as a result of lower prices.

South Australia *continued*

The estimated gross value of livestock slaughterings and other disposals in South Australia fell by 11% to $431 million. The value of cattle and calf slaughterings and other disposals decreased 18% to $129 million, as a result of lower slaughter numbers and lower export numbers. The value of sheep and lambs slaughtered or otherwise disposed of decreased 16% to $148 million, mainly due to a drop in the number of live animals exported.

The estimate of the gross value of livestock products decreased by 12% to $455 million. This was due to a 25% fall in the gross value of wool to $232 million which was partially offset by an 11% increase in the gross value of milk production to $197 million.

Western Australia

The gross value of agricultural production in Western Australia in 1998–99 fell by 2% to $4.3 billion. Increases in the value of crops and livestock slaughterings and other disposals were more than offset by a decrease in the value of livestock products.

The estimate of the gross value of crops rose by 1% to $2.9 billion. Increases in the gross value of canola, up 119% to $231 million, and wheat, up 3% to $1.6 billion were partially offset by a 33% decrease in the value of barley to $198 million. As a result, canola replaced barley as Western Australia's second most valuable crop behind wheat.

The estimated gross value of livestock slaughterings and other disposals in Western Australia rose by 6% to $764 million. This was due to a 14% increase (to $351 million) in the gross value of cattle and calf slaughterings and other disposals. A 23% fall in the value of sheep and lambs slaughtered (due to lower slaughter numbers and prices) was offset by a 20% increase in the value of sheep and lambs and other disposals, which occurred as a result of increasing export numbers.

The estimate of the gross value of livestock products fell by 20% to $636 million. This was due to a large decrease in the value of wool, down 27% to $441 million, which occurred as a result of lower prices (down 25%) and lower production (down 3%).

Tasmania

The gross value of agricultural production in Tasmania in 1998–99 increased by 4% to $700 million.

The estimate of the gross value of crops rose by 9% to $345 million, with increases in the values of the apple and grape crops being partially offset by a fall in the value of the potato crop.

The estimated gross value of livestock slaughterings and other disposals in Tasmania increased 5% to $123 million. This was due to a 7% increase to $85.9 million in the gross values of cattle and calf slaughterings and other disposals.

The estimate of the gross value of livestock products fell by 3% to $232 million. This was due to a fall in the value of wool, down 26% to $68.3 million, as a result of lower prices (down 22%) and lower production (down 5%). The overall decrease in gross value was partially offset by an increase in the value of milk, up by 14% to $152 million, as a result of increased production (up 11%) and increased prices (up 2%).

Territories

The gross value of agricultural production in the Northern Territory in 1998–99 rose by 10% to $224 million. This was largely due to an increase in the value of cattle disposals (which includes overseas exports and interstate trade), which increased by 8% to $159 million. The total value of crops also increased (up 14% to $43.1 million).

The gross value of agricultural production in the Australian Capital Territory fell by 6% to $14.9 million. An increase in the value of crops produced was more than offset by falls in the value of livestock disposals and livestock products.

3.1 GROSS VALUE OF AGRICULTURAL PRODUCTION(a)

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
Crops (excl. pastures and grasses)											
Cereals for grain	7 177.4	r5 758.8	5 785.9	1 888.0	471.8	596.2	980.8	1 835.6	13.0	0.5	—
Cotton(b)	r1 156.1	r1 227.8	1 352.8	824.5	(c)	527.8	(c)	0.4	(c)	(c)	—
Crops for hay	154.9	213.5	209.7	47.5	49.4	13.2	42.1	54.7	1.9	0.8	—
Legumes for grain	593.8	543.3	512.0	75.1	78.5	40.3	106.2	211.5	0.4	—	—
Fruit and nuts	1 667.8	r1 586.8	1 762.7	411.4	423.3	490.1	227.1	131.7	58.3	20.7	0.1
Grapes	721.4	998.2	1 191.7	249.3	336.1	18.6	540.2	34.5	4.2	8.6	—
Nursery production	642.6	695.0	742.9	175.6	232.8	175.6	45.8	90.8	16.2	4.0	2.1
Oilseeds	325.5	391.6	777.5	305.8	98.1	62.8	79.2	231.2	0.4	—	—
Sugar cane cut for crushing	1 186.4	1 247.7	1 044.1	76.9	(c)	960.8	(c)	6.4	(c)	(c)	—
Vegetables	1 662.3	r1 812.3	1 864.4	251.1	498.6	528.6	225.1	202.4	155.4	3.1	0.1
All other crops n.e.i.	210.6	219.8	239.5	15.9	57.7	82.6	24.4	5.2	53.3	0.3	—
Total	*r15 498.9*	*r14 694.8*	*15 483.1*	*4 321.1*	*2 246.3*	*3 496.7*	*2 270.9*	*2 804.4*	*303.3*	*38.0*	*2.3*
Pastures and grasses											
Cut for hay	441.4	540.8	627.9	136.2	282.8	43.8	59.2	63.0	38.0	4.6	0.3
Harvested for seed	55.5	72.6	78.5	14.0	27.7	2.3	27.5	2.7	3.8	0.6	—
Total	*496.9*	*613.4*	*706.4*	*150.2*	*310.5*	*46.1*	*86.7*	*65.7*	*41.8*	*5.1*	*0.3*
Total crops (incl. pastures and grasses)	***r15 995.8***	***r15 308.2***	***16 189.5***	***4 471.4***	***2 556.7***	***3 542.8***	***2 357.6***	***2 870.1***	***345.0***	***43.1***	***2.6***
Livestock											
Cattle and calves	r3 597.0	r4 138.2	4 476.6	951.0	873.1	1 914.1	129.4	350.9	85.9	170.3	2.0
Sheep and lambs	r1 042.6	r1 066.2	1 044.8	256.2	338.8	47.7	148.2	237.1	16.6	—	0.3
Pigs	(d)r764.8	r709.8	689.7	173.2	215.2	149.9	n.p.	n.p.	n.p.	n.p.	—
Poultry	(d)r932.0	r1 053.6	1 018.5	411.6	253.6	158.2	n.p.	n.p.	n.p.	n.p.	0.2
Other livestock	13.6	r24.0	17.6	3.6	3.8	4.2	1.0	4.6	—	0.3	—
Total livestock slaughterings and other disposals	***r6 376.3***	***r6 991.9***	***7 247.2***	***1 795.5***	***1 684.5***	***2 274.2***	***430.6***	***763.7***	***123.3***	***172.9***	***2.5***
Livestock products											
Wool(e)	2 621.2	r2 753.9	2 140.6	842.3	386.2	169.8	232.0	441.3	68.3	—	0.7
Total whole milk production	(f)r2 808.9	r2 817.0	2 899.6	461.6	1 585.4	341.4	197.2	156.9	152.1	n.p.	n.p.
Eggs	(f)r274.9	347.5	337.1	112.8	94.1	50.3	22.7	35.3	9.6	n.p.	n.p.
Honey	46.0	36.9	32.0	15.1	4.2	5.5	3.3	2.5	1.4	—	—
Beeswax	2.7	2.5	2.0	1.0	0.3	0.3	0.2	0.2	0.1	—	—
Total livestock products	***5 758.7***	***r5 957.8***	***5 411.3***	***1 432.8***	***2 070.2***	***567.3***	***455.4***	***636.2***	***231.5***	***8.2***	***9.8***
Total agriculture(e)	**r28 130.8**	**r28 258.0**	**28 848.0**	**7 699.7**	**6 311.4**	**6 384.3**	**3 243.6**	**4 270.0**	**699.9**	**224.2**	**14.9**

(a) Reference period for crops, pastures and grasses is 31 March. Reference period for livestock slaughterings and other disposals and livestock products is 30 June.

(b) Includes value of cotton seed.

(c) Data not collected.

(d) Excludes Tasmania and Northern Territory pigs and poultry.

(e) Includes dead and fellmongered wool and wool on skins.

(f) Excludes Northern Territory milk and eggs.

3.2 PRINCIPAL CROPS, Values—Years ended 31 March

	AUSTRALIA		1999								
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Cereal for grain											
Barley											
Gross value ($m)	1 308.0	r1 032.0	835.5	166.0	126.0	35.8	303.5	198.4	5.8	—	—
Local value ($m)	1 079.0	r860.2	672.0	125.9	102.2	31.3	250.8	157.2	4.7	—	—
GUV ($/t)	195.34	r159.21	139.54	133.09	144.81	111.77	148.00	135.09	192.15	—	—
Grain sorghum											
Gross value ($m)	257.2	182.9	282.0	125.7	**0.5	154.6	—	*0.8	—	0.4	—
Local value ($m)	200.2	151.1	219.8	90.5	**0.5	127.8	—	*0.7	—	0.3	—
GUV ($/t)	180.50	169.19	149.09	152.97	221.43	145.93	—	134.00	—	180.00	—
Maize											
Gross value ($m)	79.7	55.2	60.5	33.9	0.9	24.6	**—	*0.9	—	0.1	—
Local value ($m)	77.5	49.7	54.5	30.5	0.8	22.2	**—	*0.9	—	0.1	—
GUV ($/t)	200.35	203.06	178.86	182.06	335.49	170.04	246.00	251.47	165.00	200.00	—
Oats											
Gross value ($m)	226.6	223.3	156.6	61.7	42.2	2.6	17.2	30.9	2.1	—	—
Local value ($m)	195.7	200.6	126.3	45.4	34.0	2.5	15.5	26.9	2.0	—	—
GUV ($/t)	137.09	136.61	87.09	92.24	92.06	168.97	96.49	66.61	145.79		95.19
Rice											
Gross value ($m)	310.3	340.6	332.4	331.2	1.2	—	—	—	—	—	—
Local value ($m)	258.3	298.6	290.1	289.0	1.0	—	—	—	—	—	—
GUV ($/t)	247.35	257.20	244.07	244.07	244.07	—	—	—	—	—	—
Triticale											
Gross value ($m)	106.5	107.9	84.7	36.8	23.3	*0.5	17.2	5.2	1.6	—	—
Local value ($m)	87.2	94.6	75.7	33.2	20.0	*0.5	15.7	4.9	1.5	—	—
GUV ($/t)	158.08	170.60	119.79	113.77	129.89	117.62	117.36	120.63	167.77	—	—
Wheat											
Gross value ($m)	4 877.9	3 801.5	4 011.0	1 128.4	273.5	365.2	641.0	1 599.5	3.3	—	—
Local value ($m)	4 004.1	3 192.7	3 279.0	886.2	216.9	289.8	536.7	1 346.2	3.1	—	—
GUV ($/t)	212.78	197.75	186.86	171.93	187.06	188.12	193.65	195.77	187.10	—	—
Legumes											
Lupins for grain											
Gross value ($m)	314.1	305.5	242.0	34.7	8.3	**—	17.5	181.4	0.1	—	—
Local value ($m)	262.5	266.9	199.8	29.9	7.4	**—	15.1	147.2	0.1	—	—
GUV ($/t)	206.35	195.76	142.73	197.97	182.61	245.69	171.51	132.18	231.90	—	—
Field peas for grain											
Gross value ($m)	111.0	85.8	91.2	6.6	22.8	*0.1	52.2	9.2	0.3	—	—
Local value ($m)	98.9	78.3	81.7	5.2	20.4	*0.1	47.4	8.4	0.2	—	—
GUV ($/t)	244.37	271.92	246.36	240.70	245.59	230.37	251.18	226.62	281.24	—	—
Crops cut for hay											
Cereal crops for hay											
Gross value ($m)	142.3	193.6	195.6	44.4	45.7	10.8	40.7	52.6	1.3	0.2	—
Local value ($m)	142.2	193.4	195.5	44.4	45.7	10.8	40.7	52.6	1.2	0.2	—
GUV ($/t)	116.65	123.55	107.06	108.19	126.00	126.00	97.49	97.49	126.00	118.27	108.19
Non-cereal crops for hay											
Gross value ($m)	12.6	19.9	14.0	3.2	3.8	2.4	1.4	2.1	0.7	0.6	—
Local value ($m)	12.6	19.9	14.0	3.2	3.8	2.4	1.4	2.1	0.7	0.6	—
GUV ($/t)	115.79	116.67	110.97	108.19	121.00	113.66	75.40	119.81	161.60	111.76	—
Total											
Gross value ($m)	*154.9*	*213.5*	*209.7*	*47.5*	*49.4*	*13.2*	*42.1*	*54.7*	*1.9*	*0.8*	—
Local value ($m)	*154.8*	*213.3*	*209.5*	*47.5*	*49.4*	*13.2*	*42.1*	*54.7*	*1.8*	*0.8*	—
GUV ($/t)	..	..	..	..	..	..	..	..	..	..	..

3.2 PRINCIPAL CROPS, Values—Years ended 31 March *continued*

	AUSTRALIA		1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Oilseeds											
Canola											
Gross value ($m)	238.6	329.8	643.3	239.6	93.9	*0.4	78.0	231.0	0.4	—	—
Local value ($m)	211.4	302.6	577.8	209.1	84.8	*0.3	72.0	211.2	0.4	—	—
GUV ($/t)	382.87	385.62	380.55	384.51	364.90	445.45	404.02	375.68	354.69	—	—
Total oilseeds											
Gross value ($m)	*325.5*	*391.6*	*777.5*	*305.8*	*98.1*	*62.8*	*79.2*	*231.2*	*0.4*	—	—
Local value ($m)	*291.7*	*360.4*	*696.2*	*269.0*	*88.7*	*53.6*	*73.0*	*211.5*	*0.4*	—	—
GUV ($/t)	..	..	..	..	..	..	..	..	..	..	..
Other Crops											
Sugar cane cut for crushing											
Gross value ($m)	1 186.4	1 247.7	1 044.1	76.9	(a)	960.8	(a)	6.4	(a)	(a)	—
Local value ($m)	1 170.6	1 224.1	1 030.2	68.3	(a)	956.6	(a)	5.3	(a)	(a)	—
GUV ($/t)	30.71	31.56	27.10	30.10	..	27.00	..	16.20	..	..	—
Cotton(b)											
Gross value ($m)	r1 156.1	r1 227.8	1 352.8	824.5	(a)	527.8	(a)	0.4	(a)	(a)	—
Local value ($m)	r1 145.8	r1 213.5	1 336.0	813.3	(a)	522.3	(a)	0.4	(a)	(a)	—
GUV ($/kg)(c)	r2.06	r2.18	2.13	2.10	..	2.19	..	2.19	..	..	—
Peanuts (in shell)											
Gross value ($m)	35.0	21.5	31.0	*1.3	—	29.4	—	—	—	0.3	—
Local value ($m)	34.5	21.2	30.5	*1.3	—	29.0	—	—	—	0.3	—
GUV ($/kg)	0.74	0.67	0.66	0.66	—	0.66	—	—	—	0.73	—
Tobacco											
Gross value ($m)	53.7	45.9	40.1	—	18.0	22.1	—	—	—	—	—
Local value ($m)	46.5	44.1	38.6	—	17.3	21.3	—	—	—	—	—
GUV ($/kg)	6.00	5.84	5.96	—	5.96	5.96	—	—	—	—	—
Pastures and Grasses											
Cut for hay											
Lucerne											
Gross value ($m)	143.4	150.9	170.2	77.8	36.5	34.4	12.8	3.7	1.9	2.9	0.2
Local value ($m)	143.2	150.6	169.9	77.8	36.3	34.4	12.8	3.6	1.9	2.9	0.2
GUV ($/t)	159.83	174.85	182.45	191.61	183.73	175.71	149.06	235.69	180.00	151.29	191.21
Other											
Gross value ($m)	298.0	389.8	457.6	58.4	246.3	9.4	46.4	59.3	36.0	1.7	0.1
Local value ($m)	292.2	381.9	447.5	57.8	244.7	8.9	43.2	55.1	36.0	1.7	0.1
GUV ($/t)	121.08	144.67	136.29	110.81	127.95	198.63	191.64	162.49	150.68	150.00	103.24
Total											
Gross value ($m)	*441.4*	*540.8*	*627.9*	*136.2*	*282.8*	*43.8*	*59.2*	*63.0*	*38.0*	*4.6*	*0.3*
Local value ($m)	*435.4*	*532.5*	*617.4*	*135.5*	*281.1*	*43.3*	*55.9*	*58.7*	*38.0*	*4.6*	*0.3*
GUV ($/t)	..	..	..	..	..	..	..	..	..	..	..
Harvested for seed											
Pasture Seed											
Gross value ($m)	55.5	72.6	78.5	14.0	27.7	2.3	27.5	2.7	3.8	0.6	—
Local value ($m)	47.4	63.9	68.9	12.8	23.7	2.1	24.4	2.3	3.2	0.5	—
GUV ($/kg)	2.20	2.65	2.64	3.73	2.25	3.73	2.79	2.01	2.25	3.98	—
Total Pastures and Grasses											
Gross value ($m)	*496.9*	*613.4*	*706.4*	*150.2*	*310.5*	*46.1*	*86.7*	*65.7*	*41.8*	*5.1*	*0.3*
Local value ($m)	*482.8*	*596.4*	*686.4*	*148.3*	*304.8*	*45.4*	*80.3*	*61.0*	*41.2*	*5.1*	*0.3*
GUV ($/t)	..	..	..	..	..	..	..	..	..	..	..
Total Principal Crops											
Gross value ($m)	**r10 999.8**	**r9 896.0**	**10 257.4**	**3 331.4**	**974.6**	**2 245.8**	**1 256.7**	**2 384.5**	**57.3**	**6.7**	**0.3**
Local value ($m)	**r9 590.2**	**r8 865.7**	**9 026.3**	**2 883.6**	**863.3**	**2 115.5**	**1 076.6**	**2 025.2**	**55.2**	**6.6**	**0.3**
GUV ($/t)	..	..	..	..	..	..	..	..	..	..	..

(a) Data not collected.

(b) Includes value of cotton seed.

(c) Expressed on a per kilogram of cotton lint and cotton seed basis.

3.3 FRUIT AND NUTS, Values—Years ended 31 March

	AUSTRALIA		1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Citrus											
Oranges											
Gross value ($m)	256.3	r257.9	296.2	133.5	49.3	17.4	92.2	3.9	—	—	—
Local value ($m)	189.4	r196.9	237.9	96.8	43.4	13.0	81.3	3.4	—	—	—
GUV ($/kg)	0.49	r0.52	0.66	0.73	0.68	0.86	0.56	0.56	—	—	—
Lemons and limes											
Gross value ($m)	29.3	22.8	22.6	6.0	4.1	5.6	5.3	*1.6	—	—	—
Local value ($m)	23.8	18.9	18.9	4.7	3.7	4.3	4.9	*1.4	—	—	—
GUV ($/kg)	0.89	0.79	0.77	0.97	1.02	0.78	0.52	0.97	—	1.50	—
Mandarins											
Gross value ($m)	86.4	76.4	81.9	5.7	*6.5	57.9	9.6	2.1	—	—	—
Local value ($m)	66.5	58.9	64.2	4.2	*5.5	44.3	8.3	1.9	—	—	—
GUV ($/kg)	1.19	1.22	1.05	1.03	0.91	1.10	0.86	1.42	—	—	—
Pome											
Apples											
Gross value ($m)	378.4	272.7	321.2	64.4	111.8	20.2	33.5	38.8	52.4	(a)	0.1
Local value ($m)	321.7	221.7	266.3	49.5	99.6	15.2	30.5	28.4	43.0	(a)	0.1
GUV ($/kg)	1.07	0.88	0.96	0.94	1.04	0.69	1.33	0.92	0.84	. .	1.30
Pears (excl. Nashi)											
Gross value ($m)	106.2	107.8	112.4	1.8	94.3	0.8	6.6	8.3	0.7	(a)	—
Local value ($m)	94.8	94.1	102.1	1.4	86.6	0.7	6.0	6.9	0.6	(a)	—
GUV ($/kg)	0.63	0.71	0.72	0.94	0.69	0.57	1.17	0.80	0.94	. .	—
Stone											
Apricots											
Gross value ($m)	39.1	31.0	27.9	**1.4	*7.5	*0.5	17.3	0.7	**0.5	—	—
Local value ($m)	36.6	29.0	26.3	**1.1	*7.2	*0.5	16.3	0.7	**0.5	—	—
GUV ($/kg)	1.51	1.56	1.30	1.94	0.78	1.75	1.67	2.87	2.45	—	—
Cherries											
Gross value ($m)	29.1	28.4	35.0	15.2	*11.4	**0.1	5.8	0.9	1.6	—	—
Local value ($m)	26.5	25.8	32.0	13.0	*10.9	**—	5.6	0.9	1.6	—	—
GUV ($/kg)	4.35	4.06	5.82	5.36	5.97	6.40	6.29	10.80	6.35	—	—
Nectarines											
Gross value ($m)	41.2	44.1	58.8	24.5	19.2	6.4	2.6	6.0	*0.1	—	—
Local value ($m)	35.8	38.1	50.9	19.9	17.7	5.2	2.4	5.6	*0.1	—	—
GUV ($/kg)	1.88	1.94	2.15	2.08	2.18	2.22	1.87	2.44	1.81	—	—
Olives											
Gross value ($m)	2.2	2.1	*6.2	**—	1.0	**—	**4.9	**0.2	—	—	—
Local value ($m)	2.1	2.0	*5.8	**—	0.9	**—	**4.6	**0.2	—	—	—
GUV ($/kg)	3.41	2.73	2.56	2.79	2.71	2.92	2.54	2.54	—	—	—
Peaches											
Gross value ($m)	60.1	53.4	65.5	22.5	28.8	5.6	4.6	3.9	*—	—	—
Local value ($m)	54.8	48.1	58.7	18.7	27.6	4.5	4.3	3.5	*—	—	—
GUV ($/kg)	0.83	0.82	0.99	1.49	0.72	1.56	0.83	2.00	1.25	—	—
Plums and prunes											
Gross value ($m)	38.6	44.1	42.4	16.9	9.8	2.6	4.5	8.6	**—	—	—
Local value ($m)	33.0	38.1	37.5	14.3	9.1	2.1	4.2	7.9	**—	—	—
GUV ($/kg)	1.53	1.67	1.87	1.95	1.70	1.78	1.75	2.06	1.98	—	—
Other orchard n.e.i.											
Avocados											
Gross value ($m)	42.1	45.8	51.7	7.9	*5.2	29.2	0.6	8.8	—	—	—
Local value ($m)	32.8	35.8	41.3	6.0	*4.7	22.0	0.5	8.1	—	—	—
GUV ($/kg)	2.10	2.27	2.13	2.14	2.33	1.91	2.41	3.03	—	—	—
Mangoes											
Gross value ($m)	69.6	80.7	66.4	**1.0	(a)	44.1	*—	*10.7	(a)	10.6	—
Local value ($m)	55.8	64.3	59.8	**0.9	(a)	37.9	*—	*10.5	(a)	10.4	—
GUV ($/kg)	2.15	2.21	2.52	3.56	. .	2.15	1.56	4.43	. .	3.29	—

(a) Data not collected.

3.3 FRUIT AND NUTS, Values—Years ended 31 March *continued*

	AUSTRALIA		1999								
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Nuts											
Almonds											
Gross value ($m)	39.1	43.3	46.4	*1.7	25.0	—	19.7	—	—	—	—
Local value ($m)	38.7	42.9	46.1	*1.7	24.8	—	19.6	—	—	—	—
GUV ($/kg)	6.64	6.29	5.17	5.22	5.18	—	5.15	—	—	—	—
Macadamia											
Gross value ($m)	54.8	52.5	44.3	26.1	—	18.2	—	**—	—	—	—
Local value ($m)	53.9	50.9	42.6	25.2	—	17.4	—	**—	—	—	—
GUV ($/kg)	3.41	2.58	2.34	2.31	—	2.38	—	2.73	—	—	—
Kiwifruit											
Gross value ($m)	5.9	6.2	6.2	*1.6	2.4	**0.8	**0.3	1.2	—	—	—
Local value ($m)	5.3	5.4	5.4	*1.2	2.2	**0.6	**0.3	1.1	—	—	—
GUV ($/kg)	1.75	1.61	1.93	1.45	2.24	2.09	1.86	2.21	—	—	—
Blueberries											
Gross value ($m)	7.9	17.1	20.3	17.6	*2.0	—	—	—	**0.6	—	—
Local value ($m)	7.1	15.6	18.4	15.8	*2.0	—	—	—	**0.6	—	—
GUV ($/kg)	13.33	13.40	13.27	13.23	16.22	—	—	—	8.90	—	—
Strawberries											
Gross value ($m)	56.0	67.4	86.2	*0.9	28.3	24.5	12.7	*19.2	0.7	—	—
Local value ($m)	48.2	58.1	79.2	*0.7	26.6	20.8	12.2	*18.2	0.6	—	—
GUV ($/kg)	4.98	5.02	6.07	4.69	5.43	6.59	7.19	6.06	4.37	—	—
Tropical											
Bananas											
Gross value ($m)	216.6	230.3	266.3	45.2	(a)	198.0	(a)	14.2	(a)	8.9	—
Local value ($m)	162.3	169.2	198.3	39.3	(a)	139.2	(a)	12.0	(a)	7.9	—
GUV ($/t)	1 085.35	1 032.99	1 182.80	1 314.83	..	1 134.49	..	1 359.02	..	1 536.49	—
Pawpaw											
Gross value ($m)	6.3	4.5	6.1	**—	(a)	5.5	(a)	*0.6	(a)	—	(a)
Local value ($m)	3.9	2.5	4.2	**—	(a)	3.7	(a)	*0.5	(a)	—	(a)
GUV ($/kg)	1.03	0.84	0.86	0.89	..	0.81	..	2.40	..	—	..
Pineapples											
Gross value ($m)	39.3	37.3	39.4	**—	(a)	39.4	(a)	—	(a)	—	(a)
Local value ($m)	33.6	33.1	34.5	**—	(a)	34.5	(a)	—	(a)	—	(a)
GUV ($/t)	319.77	303.22	300.19	595.23	..	300.17	..	—	..	—	..
Grapes											
Gross value ($m)	721.4	998.2	1 191.7	249.3	336.1	18.6	540.2	34.5	4.2	8.6	0.0
Local value ($m)	681.6	936.6	1 135.7	237.1	298.8	15.4	538.8	33.2	4.2	8.2	0.0
GUV ($/kg)	..	..	..	..	..	..	..	..	..	..	..
Other fruit n.e.c.											
Gross value ($m)	60.0	54.9	56.2	17.0	16.2	12.5	6.9	2.0	*0.3	1.2	—
Local value ($m)	53.2	47.5	48.6	14.4	14.6	10.3	6.1	1.8	*0.3	1.1	—
GUV ($/t)	..	..	..	..	..	..	..	..	..	..	..
Total fruit and nuts											
Gross value ($m)	**2 389.2**	**r2 585.0**	**2 954.4**	**660.7**	**759.4**	**508.7**	**767.3**	**166.2**	**62.5**	**29.4**	**0.1**
Local value ($m)	**2 064.4**	**r2 239.6**	**2 617.5**	**566.3**	**686.6**	**392.0**	**745.7**	**146.2**	**52.9**	**27.6**	**0.1**
GUV ($/t)	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**	**..**

(a) Data not collected.

3.4 VEGETABLES, Values—Years ended 31 March

	AUSTRALIA		1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Asparagus											
Gross value ($m)	37.6	39.0	52.9	6.5	37.4	7.6	0.8	*0.1	—	0.4	—
Local value ($m)	35.8	37.0	48.0	5.4	35.0	6.3	0.8	*0.1	—	0.3	—
GUV ($/t)	4 762.40	5 130.54	5 957.54	7 157.00	5 779.14	5 977.55	6 955.24	5 364.05	4 050.73	5 402.53	—
Beans, French and runner											
Gross value ($m)	41.4	47.1	42.8	*1.2	4.4	27.9	*0.1	**4.8	4.4	—	—
Local value ($m)	39.0	44.0	38.5	*0.9	3.9	24.7	*0.1	**4.4	4.4	—	—
GUV ($/kg)	1.10	1.32	1.41	1.94	2.07	2.01	3.23	2.66	0.37	2.55	—
Beetroot											
Gross value ($m)	5.4	6.9	5.6	0.2	*0.3	4.8	*0.1	*0.2	**—	—	—
Local value ($m)	4.7	6.0	2.2	0.1	*0.2	1.7	*—	*0.2	**—	—	—
GUV ($/t)	184.86	211.26	187.99	334.08	730.00	168.84	614.33	1 166.70	1 266.67	—	—
Broccoli											
Gross value ($m)	60.8	61.8	61.6	4.7	32.9	12.8	*2.1	2.5	6.5	—	—
Local value ($m)	46.5	47.7	47.2	3.6	25.8	8.8	*1.7	1.8	5.6	—	—
GUV ($/kg)	1.50	1.55	1.56	1.98	1.54	1.71	1.74	1.17	1.39	—	—
Cabbages											
Gross value ($m)	24.1	24.1	21.6	4.7	7.5	4.8	2.4	1.7	0.4	0.1	—
Local value ($m)	15.6	15.6	13.1	3.0	5.0	2.3	1.7	0.9	0.3	0.1	—
GUV ($/t)	399.92	414.44	407.16	439.98	418.52	363.53	542.69	312.68	322.71	1 160.26	—
Capsicums, chillies and peppers											
Gross value ($m)	40.6	48.9	62.1	1.9	2.9	51.9	*2.0	3.2	**—	0.2	—
Local value ($m)	30.7	38.5	47.1	1.4	2.4	38.5	*1.8	2.9	**—	0.2	—
GUV ($/kg)	1.26	1.60	1.50	1.20	1.21	1.49	1.83	2.27	3.15	4.02	—
Carrots											
Gross value ($m)	142.1	150.7	167.1	10.0	65.0	12.9	21.7	36.2	21.3	—	—
Local value ($m)	104.9	112.8	128.8	6.0	50.9	8.6	17.6	27.6	18.0	—	—
GUV ($/t)	551.95	565.45	651.25	517.54	673.59	635.53	799.65	637.95	582.54	—	—
Cauliflowers											
Gross value ($m)	48.1	47.7	55.6	*6.4	10.8	8.0	2.7	25.3	2.4	—	—
Local value ($m)	37.3	36.8	40.3	*3.6	7.8	4.2	1.9	20.9	1.9	—	—
GUV ($/t)	746.58	736.19	756.57	541.64	659.36	530.58	624.74	1 200.91	499.52	—	—
Celery											
Gross value ($m)	31.1	28.0	26.1	—	12.3	5.3	*3.6	4.5	0.3	—	—
Local value ($m)	23.5	20.3	19.4	—	9.3	3.2	*2.9	3.6	0.3	—	—
GUV ($/kg)	0.69	0.63	0.60	—	0.57	0.53	0.69	0.81	0.56	—	—
Cucumbers											
Gross value ($m)	16.3	16.4	19.7	4.3	0.7	6.9	*5.6	1.7	0.4	—	—
Local value ($m)	12.9	12.7	15.6	3.5	0.6	4.6	*5.0	1.4	0.3	—	—
GUV ($/kg)	1.03	1.03	1.10	0.79	1.30	0.94	1.92	1.24	1.73	1.81	—
Green peas (pod wt)											
Gross value ($m)	18.1	14.1	13.2	*0.7	*0.7	*0.8	*0.1	**0.2	10.7	—	—
Local value ($m)	17.9	13.9	13.0	*0.6	*0.6	*0.7	*0.1	**0.2	10.7	—	—
GUV ($/kg)	0.42	0.40	0.44	3.69	3.05	0.89	3.46	0.31	0.38	—	—
Lettuces											
Gross value ($m)	75.8	93.1	87.9	18.7	27.0	28.6	5.5	6.5	1.3	0.2	—
Local value ($m)	37.1	46.7	55.4	11.0	18.6	16.6	4.2	3.8	1.0	0.2	—
GUV ($/t)	683.91	720.82	671.77	675.03	669.86	683.79	833.48	527.58	714.46	1 586.08	—

3.4 VEGETABLES, Values—Years ended 31 March *continued*

	AUSTRALIA		1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Marrows, squashes and zucchini											
Gross value ($m)	20.2	25.5	32.4	2.4	*1.6	24.3	0.2	*2.3	1.5	—	—
Local value ($m)	17.4	21.6	27.4	1.8	*1.4	20.4	0.2	*2.1	1.4	—	—
GUV ($/kg)	1.51	1.36	1.63	1.45	1.46	1.58	1.74	2.19	2.83	1.26	—
Melons											
Water											
Gross value ($m)	29.9	29.8	32.7	3.2	1.1	19.3	*0.4	8.1	—	0.6	—
Local value ($m)	22.1	21.9	25.6	2.3	1.0	14.7	*0.4	6.6	—	0.6	—
GUV ($/t)	344.95	368.83	492.95	427.17	425.43	481.22	854.31	553.51	—	538.20	—
Rock and cantaloupe											
Gross value ($m)	53.6	63.3	84.9	15.8	6.2	46.6	2.0	13.4	—	0.9	—
Local value ($m)	37.9	44.5	61.3	10.2	4.8	32.9	1.5	11.1	—	0.8	—
GUV ($/t)	745.42	744.03	839.94	733.78	739.43	854.02	704.17	1 039.57	—	1 020.55	—
Mushrooms(a)											
Gross value ($m)	135.2	156.9	149.3	*43.5	65.1	26.4	11.2	(b)	3.2	—	—
Local value ($m)	120.4	138.6	130.5	*35.5	60.4	21.2	10.4	(b)	3.0	—	—
GUV ($/kg)	3.81	4.03	4.01	3.48	4.33	3.80	4.57	(b)	4.90	—	—
Onions, white and brown											
Gross value ($m)	91.5	124.8	118.5	18.5	7.0	19.5	38.1	9.4	26.0	—	—
Local value ($m)	77.7	106.2	100.3	12.7	6.1	15.1	33.5	7.9	25.1	—	—
GUV ($/t)	465.54	570.32	528.93	450.01	449.69	717.69	619.84	515.17	429.92	—	—
Parsnips											
Gross value ($m)	11.4	11.5	13.6	1.0	9.3	**—	*0.7	1.9	0.7	—	—
Local value ($m)	10.2	10.4	11.2	0.8	7.6	**—	*0.6	1.7	0.6	—	—
GUV ($/t)	1 113.75	1 326.16	1 337.86	1 443.30	1 257.00	1 601.20	1 443.30	1 800.83	1 289.10	—	—
Potatoes											
Gross value ($m)	449.4	493.1	437.7	66.2	110.3	45.8	107.1	37.3	71.0	—	—
Local value ($m)	402.8	424.1	368.5	45.9	92.0	35.6	91.9	32.4	70.7	—	—
GUV ($/t)	349.46	359.53	329.92	408.53	345.65	423.31	355.89	342.85	216.69	—	—
Pumpkins											
Gross value ($m)	38.3	r33.7	39.4	10.9	*3.1	14.8	2.5	7.1	0.5	0.4	—
Local value ($m)	30.7	r25.6	30.6	8.2	*2.8	10.2	2.2	6.2	0.5	0.4	—
GUV ($/t)	440.01	r397.27	449.56	495.29	502.52	394.23	479.77	511.18	237.60	923.16	—
Sweet corn											
Gross value ($m)	27.5	34.5	29.3	8.7	5.2	10.7	1.2	3.4	—	—	—
Local value ($m)	22.1	28.5	23.3	7.2	4.5	7.5	1.1	2.9	—	—	—
GUV ($/t)	425.08	444.53	513.09	238.09	1 343.92	804.87	1 592.00	1 365.00	743.36	—	—
Tomatoes											
Gross value ($m)	176.9	166.8	191.6	9.7	58.5	107.2	*3.9	11.0	1.3	—	0.1
Local value ($m)	137.0	128.3	149.3	8.8	51.5	76.0	*3.3	8.5	1.1	—	—
GUV ($/t)	449.99	438.87	485.75	157.60	259.72	1 212.27	941.04	767.01	1 399.80	100.00	1 469.16
Other vegetables											
Gross value ($m)	86.9	94.4	118.8	11.9	29.2	41.6	11.1	21.4	3.4	0.1	—
Local value ($m)	73.3	79.7	100.7	10.1	27.3	30.8	9.9	19.3	3.2	0.1	—
GUV ($/t)	..	..	..	..	..	..	..	..	..	..	..
Total vegetables											
Gross value ($m)	**1 662.3**	**r1 812.3**	**1 864.4**	**251.1**	**498.6**	**528.6**	**225.1**	**202.4**	**155.4**	**3.1**	**0.1**
Local value ($m)	**1 357.5**	**r1 461.6**	**1 497.3**	**182.8**	**419.5**	**384.6**	**192.7**	**166.6**	**148.3**	**2.8**	**0.1**
GUV ($/t)	..	..	..	..	..	..	..	..	..	..	..

(a) Australian total excludes Western Australia.

(b) Included in Other vegetables.

3.5 LIVESTOCK SLAUGHTERINGS AND OTHER DISPOSALS, Values—Years ended 30 June

	AUSTRALIA		1999							
	r1997	*r1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Cattle and calves											
Gross value ($m)	3 597.0	4 138.2	4 476.6	951.0	873.1	1 914.1	129.4	350.9	85.9	170.3	2.0
Local value ($m)	3 237.8	3 706.9	4 029.3	853.0	776.7	1 736.0	115.5	317.9	76.6	151.9	1.8
GUV ($)	384.40	408.60	450.35	443.34	346.95	554.32	434.57	480.06	315.54	327.07	486.80
Sheep and lambs											
Gross value ($m)	1 042.6	1 066.2	1 044.8	256.2	338.8	47.7	148.2	237.1	16.6	—	0.3
Local value ($m)	929.0	944.9	912.4	219.7	299.7	40.1	131.0	208.0	13.5	—	0.3
GUV ($)	30.18	29.30	29.44	26.94	33.23	22.82	31.96	29.19	18.01	—	29.65
Pigs											
Gross value ($m)	(a)764.8	709.8	689.7	173.2	215.2	149.9	n.p.	n.p.	n.p.	n.p.	—
Local value ($m)	(a)702.3	648.0	622.0	156.7	196.1	133.4	n.p.	n.p.	n.p.	n.p.	—
GUV ($)	160.17	139.34	133.21	128.54	136.83	132.35	n.p.	n.p.	n.p.	n.p.	—
Poultry											
Gross value ($m)	(a)932.0	1 053.6	1 018.5	411.6	253.6	158.2	n.p.	n.p.	n.p.	n.p.	0.2
Local value ($m)	(a)914.2	1 034.2	998.7	404.1	248.7	154.8	n.p.	n.p.	n.p.	n.p.	0.2
GUV ($)	2.62	2.72	2.58	2.76	2.58	2.32	n.p.	n.p.	n.p.	n.p.	0.89
Other											
Gross value ($m)	13.6	24.0	17.6	3.6	3.8	4.2	1.0	4.6	—	0.3	—
Local value ($m)	11.9	20.9	15.1	3.3	3.5	3.4	0.8	3.9	—	0.3	—
GUV ($)	..	..	..	..	..	..	..	..	..	..	..
Total slaughterings and other disposals											
Gross value ($m)	**6 376.3**	**6 991.9**	**7 247.2**	**1 795.5**	**1 684.5**	**2 274.2**	**430.6**	**763.7**	**123.3**	**172.9**	**2.5**
Local value ($m)	**5 820.1**	**6 354.9**	**6 577.5**	**1 636.7**	**1 524.7**	**2 067.7**	**390.3**	**691.9**	**109.7**	**154.4**	**2.2**
GUV ($)	..	..	..	..	..	..	..	..	..	..	..

(a) Excludes Tasmania and Northern Territory pigs and poultry.

3.6 LIVESTOCK PRODUCTS, Values—Years ended 30 June

	AUSTRALIA		1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Wool											
Shorn											
Gross value ($m)	2 536.1	2 652.4	2 066.1	816.4	364.8	165.2	223.0	430.3	65.7	—	0.7
Local value ($m)	2 384.0	2 485.5	1 910.5	761.1	340.3	150.8	203.1	393.1	61.4	—	0.7
GUV ($/kg)	3.70	4.14	3.23	3.70	3.09	2.93	2.84	2.88	3.90	—	2.87
Other(a)											
Gross value ($m)	85.0	101.5	74.5	25.9	21.4	4.6	9.0	11.0	2.7	—	—
Local value ($m)	85.0	101.5	74.5	25.9	21.4	4.6	9.0	11.0	2.7	—	—
GUV ($/kg)	1.85	2.08	1.53	1.79	1.36	1.45	1.39	1.43	1.95	—	—
Total wool											
Gross value ($m)	*2 621.2*	*2 753.9*	*2 140.6*	*842.3*	*386.2*	*169.8*	*232.0*	*441.3*	*68.3*	—	*0.7*
Local value ($m)	*2 469.0*	*2 587.0*	*1 985.0*	*787.0*	*361.7*	*155.3*	*212.1*	*404.1*	*64.1*	—	*0.7*
GUV ($/kg)	*3.58*	*3.99*	*3.11*	*3.59*	*2.89*	*2.85*	*2.73*	*2.81*	*3.75*	—	*2.87*
Liquid whole milk used for											
Manufacturing											
Gross value ($m)	1 830.2	1 838.4	1 946.5	161.9	1 382.2	107.0	108.4	58.0	129.0	—	—
Local value ($m)	1 830.2	1 838.4	1 946.5	161.9	1 382.2	107.0	108.4	58.0	129.0	—	—
GUV ($/KL)	257.59	244.50	235.94	239.59	232.44	252.33	240.14	289.41	233.84	—	—
Human consumption											
Gross value ($m)	(b)978.8	978.5	953.1	299.7	203.2	234.4	88.8	98.9	23.1	n.p.	n.p.
Local value ($m)	(b)978.8	978.5	953.1	299.7	203.2	234.4	88.8	98.9	23.1	n.p.	n.p.
GUV ($/KL)	510.35	508.94	492.99	491.28	434.40	582.30	457.37	488.80	446.52	n.p.	n.p.
Total whole milk production											
Gross value ($m)	*(b)2 808.9*	*2 817.0*	*2 899.6*	*461.6*	*1 585.4*	*341.4*	*197.2*	*156.9*	*152.1*	*n.p.*	*n.p.*
Local value ($m)	*(b)2 808.9*	*2 817.0*	*2 899.6*	*461.6*	*1 585.4*	*341.4*	*197.2*	*156.9*	*152.1*	*n.p.*	*n.p.*
GUV ($/KL)	*311.39*	*298.35*	*284.75*	*359.03*	*247.17*	*413.02*	*305.45*	*389.55*	*252.10*	*n.p.*	*n.p.*
Eggs											
Gross value ($m)	(b)274.9	347.5	337.1	112.8	94.1	50.3	22.7	35.3	9.6	n.p.	n.p.
Local value ($m)	(b)207.3	r314.6	304.0	101.5	84.6	45.2	20.7	32.0	9.0	n.p.	n.p.
GUV ($/doz)	1.57	1.83	1.78	1.74	1.74	1.71	2.02	1.86	2.50	n.p.	n.p.
Honey											
Gross value ($m)	46.0	36.9	32.0	15.1	4.2	5.5	3.3	2.5	1.4	—	—
Local value ($m)	45.1	36.1	31.4	15.1	4.2	5.5	3.0	2.5	1.1	—	—
GUV ($/kg)	1.70	1.68	1.70	1.70	1.69	1.66	1.68	1.69	1.99	1.52	1.53
Beeswax											
Gross value ($m)	2.7	2.5	2.0	1.0	0.3	0.3	0.2	0.2	0.1	—	—
Local value ($m)	2.7	2.5	2.0	1.0	0.3	0.3	0.2	0.2	0.1	—	—
GUV ($/kg)	5.48	5.26	5.37	5.39	5.34	5.31	5.32	5.17	6.43	5.28	5.39
Total livestock products											
Gross value ($m)	**5 758.7**	**5 957.8**	**5 411.3**	**1 432.8**	**2 070.2**	**567.3**	**455.4**	**636.2**	**231.5**	**8.2**	**9.8**
Local value ($m)	**5 537.8**	**r5 757.2**	**5 222.0**	**1 366.2**	**2 036.2**	**547.7**	**433.2**	**595.7**	**226.3**	**7.8**	**8.9**
GUV ($/t)	..	..	..	..	..	..	..	..	..	..	..

(a) Includes dead and fellmongered wool and wool on skins.

(b) Excludes Northern Territory milk and eggs.

CHAPTER 4 FINANCE

OVERVIEW

There were a number of changes in the financial performance of the Australian farm business sector during 1998–99. While total turnover was up slightly, increased purchases and expenses (including purchases of livestock, payments for crop and pasture chemicals, wages and salaries, rates and taxes and interest paid) saw cash operating surplus fall. The total value of farm business assets at 30 June 1999 increased slightly although net capital expenditure in 1998–99 was down on the previous year. The level of farm business debt was higher than for 1997–98, with borrowings from banks accounting for the majority of the increase.

TURNOVER

Aggregate turnover for all agricultural industries in 1998–99 was $27.6 billion, slightly higher than the 1997–98 figure of $27.3 billion. Turnover was boosted by significant increases in the sales of livestock and from other miscellaneous revenue, plus a slight increase in the value of sales of crops. However, these increases were offset by a significant fall in the value of sales of livestock products.

In 1998–99, an estimated 11,600 farm businesses (11%) had a turnover of $500,000 or more. These farm businesses accounted for 49% of the aggregate turnover, 47% of gross farm indebtedness and 50% of aggregate cash operating surplus made by all farm businesses. In comparison, an estimated 20,000 farm businesses (20%) had a turnover of less than $50,000. These farm businesses accounted for 2% of aggregate turnover and 3% of gross farm debt, but were estimated to be operating with a negative cash operating surplus.

Average turnover was $269,000 per farm business in 1998–99 compared with $262,000 the year before.

4.1 AGGREGATE TURNOVER OF AGRICULTURAL INDUSTRIES

TURNOVER *continued*

Aggregate and average turnover per farm business are shown in the following table for 1998–99 for each State.

4.2 FARM BUSINESS TURNOVER

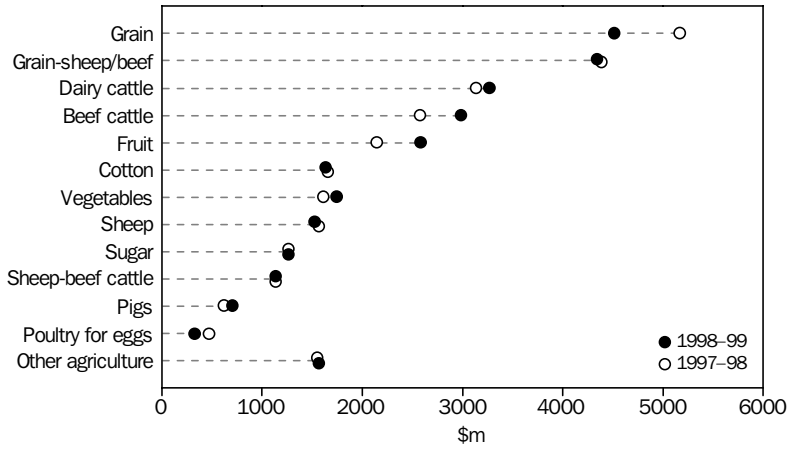
	Aggregate	*Average*
	$m	$'000
New South Wales(a)	7 538.8	260.0
Victoria	5 463.2	202.5
Queensland	6 634.7	322.9
South Australia	2 938.9	241.2
Western Australia	4 182.7	385.7
Tasmania	676.4	244.4
Australia(b)	**27 606.6**	**269.3**

(a) Includes the Australian Capital Territory.

(b) Includes the Northern Territory.

Significant movements in industry aggregate turnover included a 21% increase in the fruit industry, a 16% increase in the beef cattle industry and a 13% decline in the grain industry. The increased turnover in the fruit industry was a reflection of increased production and prices for most major fruit crops in 1998–99. The increase in turnover for the beef cattle industry during 1998–99 was a result of farmers receiving better prices for cattle for slaughter since the number of cattle slaughtered was down slightly on the previous year. The fall in turnover for the grain industry was a result of falling prices as production was up for most major grains. Farm businesses with sheep operations saw turnover remain steady or decrease slightly as their returns from wool fell as a result of falling prices and reduced production.

4.3 TURNOVER OF AGRICULTURAL INDUSTRIES



VALUE ADDED

Farm businesses with an EVAO of $22,500 or more contributed $12.2 billion in value added to the Australian economy during 1998–99, up slightly on 1997–98. The main industries contributing to value added were the grain industry ($1.9 billion), the mixed grain/sheep/beef industry ($1.7 billion), the fruit industry ($1.5 billion), the dairy industry ($1.4 billion) and the beef industry ($1.3 billion).

CASH OPERATING SURPLUS

At the national level there was a $563 million or 9% drop in the cash operating surplus (COS), down from $6.1 billion in 1997–98 to $5.5 billion in 1998–99.

The grain industry had the biggest COS in 1998–99, with an estimated value of $1.0 billion, despite experiencing a significant fall from the previous year's value of $1.6 billion. While remaining the biggest contributor to COS, the percentage of total COS accounted for by the grain industry has fallen in recent years. In 1998–99 it represented only 18% of the total COS compared with 26% in 1997–98 and 29% in 1996–97. The next biggest contributors to COS in 1998–99 after the grain industry were the dairy industry with COS of $857 million (up 8% from $793 million in 1997–98) and the fruit industry with COS of $702 million (up 35% from $518 million in 1997–98).

The pattern of changes in average COS followed the pattern of changes in total COS although the drop in average COS (down 8% from $58,400 in 1997–98 to $53,900 in 1998–99) was less than that for total overall COS because the number of farm businesses fell from 104,000 in 1997–98 to 103,000 in 1998–99.

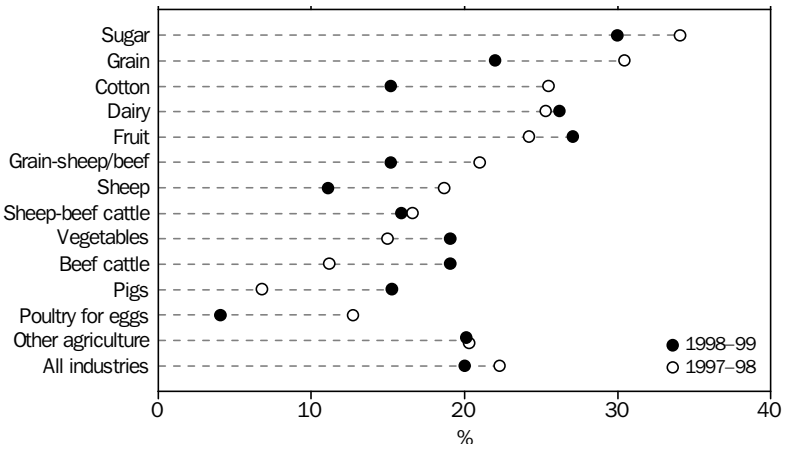
4.4 AVERAGE CASH OPERATING SURPLUS

PROFIT MARGIN

Most industries recorded decreased profit margins (that is, COS as a percentage of turnover) during 1998–99, with the cotton, grain and sheep industries recording the largest decreases. Increased profit margins, however, were recorded by the pig, beef cattle, vegetable, fruit, poultry for eggs and dairy cattle industries.

PROFIT MARGIN *continued*

4.5 INDUSTRY PROFIT MARGINS



The national profit margin for farm businesses in 1998–99 was 20% (that is, for every $100 of turnover, farm businesses generated $20 of COS) compared with 22% in the previous year. Increased purchases and selected expenses and wages, salaries and supplements (as employment increased) were the main contributors to this drop. Note that profit margin is derived before allowing for any drawings taken by directors of unincorporated businesses.

4.6 PROFIT MARGIN

	1997–98	*1998–99*
	%	%
New South Wales(a)	21.8	16.9
Victoria	22.6	19.9
Queensland	21.9	21.9
South Australia	25.0	26.5
Western Australia	23.7	18.4
Tasmania	14.9	20.0
Australia(b)	**22.3**	**20.0**

(a) Includes the Australian Capital Territory.

(b) Includes the Northern Territory.

RATE OF RETURN

The return on farm operating costs by farm businesses in 1998–99 was 24% (that is, for every $100 of farm operating costs, farm businesses generated $24 of COS), compared with 28% the previous year. New South Wales had the lowest rate of return on farm operating costs with 20%, while the highest rate of return was achieved in South Australia with 35%.

The rate of return on farm business assets in 1998–99 was 4% (slightly lower than the previous two years) and the rate of return on net worth was 5% (which was also slightly lower than the previous two years).

RATE OF RETURN *continued*

4.7 RATE OF RETURN ON ASSETS AND NET WORTH

NET CAPITAL EXPENDITURE

Net capital expenditure by farm businesses in 1998–99 was estimated at $2.6 billion, down slightly from the previous year. Average net capital expenditure per farm business in 1998–99 was $25,100 compared with $25,200 the previous year.

4.8 AVERAGE NET CAPITAL EXPENDITURE

DEBT AND INTEREST PAYMENTS

The level of gross debt of Australian farm businesses increased by 12% during 1998–99, up from $21.6 billion at 30 June 1998 to $24.3 billion at 30 June 1999. Net indebtedness (which is gross indebtedness less the value of financial assets) was $14.4 billion at 30 June 1999, up from $12.4 billion at 30 June 1998.

The average gross indebtedness per farm business at 30 June 1999 was $237,000, an increase of 14% over the end of the previous year's value of $208,000. The average level of net indebtedness of Australian farm businesses also increased from $119,000 at 30 June 1998 to $141,000 at 30 June 1999.

DEBT AND INTEREST PAYMENTS *continued*

Western Australian farm businesses, with an average gross indebtedness of $357,000, had the highest level of average State debt. This was 7% above the level in 1997–98 ($333,000). Victoria had the lowest average gross indebtedness of $147,000 at 30 June 1999.

4.9 AVERAGE GROSS AND NET INDEBTEDNESS

	Average gross indebtedness	*Average net indebtedness*
	$'000	$'000
New South Wales(a)	233.1	141.7
Victoria	147.0	83.0
Queensland	324.1	205.8
South Australia	191.4	117.5
Western Australia	356.9	185.7
Tasmania	205.5	122.0
Australia(b)	**237.0**	**140.5**

(a) Includes the Australian Capital Territory.

(b) Includes the Northern Territory.

Total interest payments by farm businesses in 1998–99 increased slightly to $1.6 billion with estimated average interest payments per farm business up from $15,300 in 1997–98 to $16,100 in 1998–99.

ASSET VALUE

The estimated value of farm business assets at 30 June 1999 was $142 billion, up 3% from the figure recorded at 30 June 1998 ($138 billion). The value of land, buildings and other structures ($98.9 billion), represented 69% of the total value of farm business assets and was 2% higher than the previous year's figure of $96.7 billion. The average asset value for farm businesses at 30 June 1999 was $1.4 million, up from the 30 June 1998 figure of $1.3 million. Note that the total value of assets does not include the value of on-farm stocks of hay and grain.

4.10 AVERAGE FARM BUSINESS ASSET VALUE

	$'000
New South Wales(a)	1 360.5
Victoria	1 058.5
Queensland	1 693.7
South Australia	1 114.2
Western Australia	2 048.5
Tasmania	1 112.6
Australia(b)	**1 389.4**

(a) Includes the Australian Capital Territory.

(b) Includes the Northern Territory.

The debt to asset ratio (value of assets divided by gross indebtedness) was 1:5.9 at 30 June 1999. That is, for every dollar of debt there was $5.90 of asset backing. The debt to asset ratio has, in general, been falling steadily since 1989.

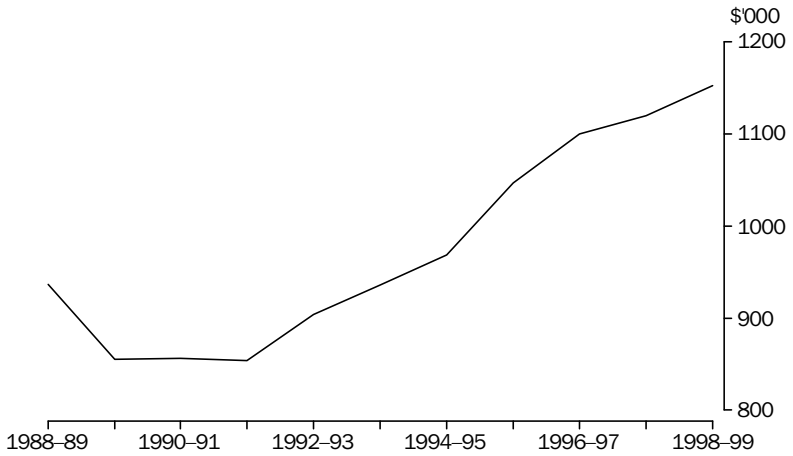
ASSET VALUE *continued*

4.11 DEBT TO ASSET RATIO

NET WORTH

Aggregate net worth (value of assets less gross indebtedness) of all farm businesses at 30 June 1999 was $118 billion which was up slightly on the previous year's value of $116 billion. The average net worth per farm business was $1.2 million at 30 June 1999.

4.12 AVERAGE NET WORTH



FARM BUSINESSES

The number of farm businesses continued to decline. There were an estimated 103,000 farm businesses at 30 June 1999 compared with 104,000 farm businesses at 30 June 1998.

FARM BUSINESSES *continued*

4.13 FARM BUSINESSES—Years ended 30 June

State	*1997*	*1998*	*1999*
New South Wales(a)	30 603	29 170	28 998
Victoria	26 696	27 105	26 979
Queensland	22 430	21 560	20 548
South Australia	12 184	12 487	12 185
Western Australia	11 049	10 932	10 844
Tasmania	3 043	2 798	2 768
Australia(b)	**106 134**	**104 267**	**102 510**

(a) Includes the Australian Capital Territory.

(b) Includes the Northern Territory.

4.14 NUMBER OF FARM BUSINESSES

4.15 FARM BUSINESS FINANCES, Aggregates—Years ended 30 June

	AUSTRALIA		
	1997	*1998*	*1999*
Items	$m	$m	$m
Sales from crops	13 581.2	13 493.1	13 564.3
Sales from livestock	5 964.7	5 922.0	6 373.4
Sales from livestock products	5 403.3	5 556.5	4 986.5
Rent and leasing revenue	228.8	262.0	258.7
Other miscellaneous revenue	1 944.3	2 066.6	2 423.7
Turnover	**27 122.3**	**27 300.1**	**27 606.6**
Less			
Marketing expenses	2 134.3	1 959.4	1 933.8
Purchases of livestock	1 396.7	1 254.4	1 354.1
Payments for seed	381.7	395.4	470.6
Payments for fodder	1 426.5	1 508.7	1 313.9
Payments for fertiliser	1 742.1	1 816.5	1 814.0
Payments for crop and pasture chemicals	1 142.9	1 140.9	1 317.0
Payments for veterinary supplies and services	359.3	355.7	358.1
Payments for electricity	325.6	323.0	300.3
Payments for fuel	1 201.4	1 337.2	1 288.2
Water and drainage charges	212.8	210.5	200.9
Payments to contractors	1 325.8	1 395.8	1 498.0
Repairs and maintenance	1 776.0	2 029.9	2 087.1
Rent and leasing expenses	477.5	451.9	603.9
Other selected expenses	1 789.8	1 293.1	1 368.6
Purchases and selected expenses	*15 692.3*	*15 472.4*	*15 908.7*
Value added(a)	**10 797.4**	**12 034.4**	**12 181.4**
Industry value added(a)(b)	9 481.1	10 433.7	10 795.2
Less			
Rates and taxes	480.7	460.4	474.5
Insurance payments	488.2	659.9	667.4
Other expenses	725.4	769.2	848.6
Adjusted value added(a)	*9 103.2*	*10 145.0*	*10 191.0*
Less			
Wages, salaries and supplements	2 514.9	2 536.9	2 831.9
Gross operating surplus(a)	*6 588.3*	*7 608.1*	*7 359.1*
Less			
Interest paid	1 719.9	1 595.1	1 645.3
Plus			
Interest, land rent received	413.2	310.2	338.7
Cash operating surplus(c)	**5 906.3**	**6 091.7**	**5 529.1**
Net capital expenditure on vehicles, machinery and equipment	2,083.5	2,058.2	2,138.1
Net capital expenditure on buildings, structures and other developments	397.2	566.5	435.0
Total net capital expenditure	**2 480.7**	**2 624.7**	**2 573.1**
Value of land, buildings and other structures	96 917.2	96 679.4	98 867.6
Value of motor vehicles, machinery and equipment	16 116.6	17 031.1	16 515.1
Value of financial assets	8 494.2	9 254.8	9 889.3
Value of livestock at 30 June	15 639.4	15 406.1	15 655.2
Total value of assets	**137 167.4**	**138 371.3**	**142 422.4**
Less			
Amounts owing to banks (including off-shore borrowings)	13 941.2	14 072.6	16 288.5
Amounts owing to pastoral and insurance companies etc.	1 333.0	1 205.1	1 124.6
Finance leasing	742.7	1 090.8	1 130.5
Loans under hire-purchase and other instalment credit	713.0	1 190.6	1 488.7
Other amounts owing	3 705.9	4 030.2	3 357.1
Gross indebtedness	*20 464.2*	*21 630.8*	*24 295.4*
Net indebtedness	*11 970.0*	*12 376.0*	*14 406.0*
Net worth	**116 703.3**	**116 740.5**	**118 127.0**

(a) Includes an estimate for the change in value of livestock.

(b) Refer to Explanatory Notes paragraph 16.

(c) Excludes any estimate for the change in value of livestock.

4.15 FARM BUSINESS FINANCES, Aggregates—Years ended 30 June *continued*

	NEW SOUTH WALES			VICTORIA		
	1997	*1998*	*1999*	*1997*	*1998*	*1999*
Items	$m	$m	$m	$m	$m	$m
Sales from crops	3 826.6	3 681.5	3 819.1	1 887.9	1 800.2	1 978.5
Sales from livestock	1 846.9	1 660.6	1 869.2	994.4	936.3	962.8
Sales from livestock products	1 463.4	1 629.9	1 208.8	2 058.0	2 010.6	2 006.8
Rent and leasing revenue	77.8	60.6	72.9	24.1	51.5	56.4
Other miscellaneous revenue	496.9	526.7	568.7	281.4	327.6	458.7
Turnover	**7 711.6**	**7 559.3**	**7 538.8**	**5 245.9**	**5 126.2**	**5 463.2**
Less						
Marketing expenses	588.1	531.7	498.8	390.5	358.7	403.2
Purchases of livestock	510.6	366.8	446.3	198.4	146.6	197.2
Payments for seed	88.9	105.3	120.0	79.5	79.6	112.2
Payments for fodder	360.4	424.9	335.3	430.4	444.1	400.9
Payments for fertiliser	432.8	414.0	424.6	338.5	341.4	344.7
Payments for crop and pasture chemicals	336.5	337.3	422.9	144.7	129.7	147.9
Payments for veterinary supplies and services	108.7	100.7	93.7	104.1	99.5	118.6
Payments for electricity	83.4	90.3	79.2	77.0	73.0	72.0
Payments for fuel	366.0	388.5	372.1	197.3	238.9	224.2
Water and drainage charges	59.7	59.2	57.1	73.1	80.8	70.5
Payments to contractors	498.2	434.0	531.4	154.7	204.1	210.2
Repairs and maintenance	466.1	568.5	594.9	338.7	384.3	387.2
Rent and leasing expenses	139.8	122.8	154.6	145.9	118.8	133.8
Other selected expenses	535.2	375.1	347.0	373.6	218.7	277.3
Purchases and selected expenses	*4 574.4*	*4 319.0*	*4 477.9*	*3 046.5*	*2 918.4*	*3 099.8*
Value added(a)	**3 076.9**	**3 099.7**	**3 342.8**	**2 103.4**	**1 946.6**	**2 492.5**
Industry value added(a)(b)	2 732.6	2 635.3	2 965.4	1 888.5	1 690.4	2 267.3
Less						
Rates and taxes	161.8	152.1	161.0	74.5	83.6	90.9
Insurance payments	169.1	220.7	222.8	77.5	111.2	121.4
Other expenses	217.5	216.7	244.5	139.2	133.9	165.4
Adjusted value added(a)	*2 528.5*	*2 510.2*	*2 714.5*	*1 812.2*	*1 618.0*	*2 114.8*
Less						
Wages, salaries and supplements	681.3	651.6	764.9	503.3	480.0	659.7
Gross operating surplus(a)	*1 847.2*	*1 858.6*	*1 949.6*	*1 308.9*	*1 137.9*	*1 455.0*
Less						
Interest paid	496.4	437.2	463.9	305.2	282.2	297.5
Plus						
Interest, land rent received	166.1	95.9	93.1	61.0	45.4	68.8
Cash operating surplus(c)	**1 575.1**	**1 648.6**	**1 276.9**	**1 159.8**	**1 159.4**	**1 088.4**
Net capital expenditure on vehicles, machinery and equipment	446.8	479.9	557.5	466.0	295.5	384.0
Net capital expenditure on buildings, structures and other developments	67.1	101.5	142.5	99.8	114.1	*97.9
Total net capital expenditure	**513.9**	**581.5**	**700.0**	**565.8**	**409.7**	**481.9**
Value of land, buildings and other structures	29 311.9	27 864.9	27 971.5	17 782.8	18 180.7	20 678.2
Value of motor vehicles, machinery and equipment	4 361.9	4 524.8	4 375.4	2 881.5	3 027.1	3 081.2
Value of financial assets	2 728.3	2 677.6	2 650.6	1 144.2	1 260.7	1 726.9
Value of livestock at 30 June	3 947.0	3 474.1	3 641.2	3 252.0	2 833.7	2 919.0
Total value of assets	**40 349.1**	**38 541.4**	**39 449.4**	**25 060.6**	**25 302.1**	**28 557.5**
Less						
Amounts owing to banks (including off-shore borrowings)	4 288.4	4 035.4	4 840.0	2 186.7	2 171.9	2 434.1
Amounts owing to pastoral and insurance companies etc.	112.4	159.8	*220.2	483.6	407.5	355.3
Finance leasing	221.6	313.3	309.3	88.6	131.7	149.1
Loans under hire-purchase and other instalment credit	135.3	299.4	349.2	151.5	184.5	369.2
Other amounts owing	890.8	867.1	679.7	501.1	679.8	539.4
Gross indebtedness	*5 665.3*	*5 696.1*	*6 758.3*	*3 413.3*	*3 581.6*	*3 966.2*
Net indebtedness	*2 937.0*	*3 018.5*	*4 107.7*	*2 269.1*	*2 321.0*	*2 239.2*
Net worth	**34 683.8**	**32 845.2**	**32 691.1**	**21 647.3**	**21 720.5**	**24 591.4**

(a) Includes an estimate for the change in value of livestock.

(b) Refer to Explanatory Notes paragraph 16.

(c) Excludes any estimate for the change in value of livestock.

4.15 FARM BUSINESS FINANCES, Aggregates—Years ended 30 June *continued*

	QUEENSLAND			SOUTH AUSTRALIA		
	1997	*1998*	*1999*	*1997*	*1998*	*1999*
Items	$m	$m	$m	$m	$m	$m
Sales from crops	3 587.4	3 463.1	3 190.8	1 615.0	1 655.7	1 840.2
Sales from livestock	1 732.1	1 823.6	2 144.9	483.8	562.1	482.8
Sales from livestock products	507.1	567.0	577.2	467.8	440.1	385.7
Rent and leasing revenue	58.4	73.1	60.7	18.7	22.6	20.9
Other miscellaneous revenue	571.6	462.8	661.1	138.9	201.5	209.2
Turnover	**6 456.6**	**6 389.5**	**6 634.7**	**2 724.2**	**2 881.9**	**2 938.9**
Less						
Marketing expenses	440.4	420.5	366.0	209.4	186.2	216.2
Purchases of livestock	381.4	410.6	466.3	86.5	98.3	82.8
Payments for seed	101.3	99.6	132.4	47.9	40.2	43.2
Payments for fodder	389.6	396.8	377.7	110.1	109.7	87.6
Payments for fertiliser	314.3	286.3	290.6	179.7	211.6	202.7
Payments for crop and pasture chemicals	238.5	237.6	247.8	142.9	137.5	150.7
Payments for veterinary supplies and services	61.0	62.4	62.5	28.9	33.9	27.6
Payments for electricity	81.0	74.4	63.6	33.9	35.7	32.6
Payments for fuel	309.5	302.8	304.3	112.8	152.5	151.5
Water and drainage charges	30.4	32.1	27.5	36.8	27.9	33.9
Payments to contractors	387.1	390.8	430.1	86.0	118.1	93.9
Repairs and maintenance	488.1	469.1	519.6	166.1	214.9	220.6
Rent and leasing expenses	70.0	74.3	117.0	61.6	52.1	71.7
Other selected expenses	351.8	287.5	318.4	157.6	124.6	116.4
Purchases and selected expenses	*3 644.6*	*3 544.8*	*3 723.8*	*1 460.2*	*1 543.3*	*1 531.3*
Value added(a)	**2 745.8**	**3 350.5**	**2 898.4**	**1 158.3**	**1 403.1**	**1 488.4**
Industry value added(a)(b)	2 445.4	3 053.7	2 618.7	1 054.5	1 227.4	1 370.5
Less						
Rates and taxes	117.8	96.8	104.5	48.3	48.1	42.9
Insurance payments	103.2	124.8	128.1	48.2	74.6	72.4
Other expenses	164.3	175.0	173.5	68.4	89.3	94.9
Adjusted value added(a)	*2 360.6*	*2 954.0*	*2 492.2*	*993.3*	*1 191.1*	*1 278.2*
Less						
Wages, salaries and supplements	700.8	722.9	719.0	212.3	249.6	281.4
Gross operating surplus(a)	*1 659.8*	*2 231.1*	*1 773.2*	*781.0*	*941.5*	*996.7*
Less						
Interest paid	443.3	384.7	403.5	184.0	186.9	173.9
Plus						
Interest, land rent received	71.1	63.7	73.8	33.1	37.0	39.2
Cash operating surplus(c)	**1 350.6**	**1 399.1**	**1 453.0**	**735.5**	**720.2**	**779.3**
Net capital expenditure on vehicles, machinery and equipment	495.4	463.0	478.4	223.4	283.4	298.9
Net capital expenditure on buildings, structures and other developments	91.2	172.1	132.5	39.8	60.2	25.2
Total net capital expenditure	**586.6**	**635.2**	**610.8**	**263.2**	**343.6**	**324.1**
Value of land, buildings and other structures	24 499.9	22 623.1	22 473.3	8 778.4	10 038.0	9 482.0
Value of motor vehicles, machinery and equipment	3 941.9	3 915.6	3 833.0	1 844.4	1 962.6	2 025.7
Value of financial assets	1 850.5	2 207.5	2 429.1	932.5	1 095.7	900.9
Value of livestock at 30 June	5 158.3	5 610.7	5 771.5	1 001.5	1 182.6	1 111.1
Total value of assets	**35 450.6**	**34 356.9**	**34 801.6**	**12 556.8**	**14 278.9**	**13 576.4**
Less						
Amounts owing to banks (including off-shore borrowings)	3 706.5	3 780.7	4 674.7	1 547.5	1 497.4	1 779.7
Amounts owing to pastoral and insurance companies etc.	342.3	292.1	*215.2	70.9	90.4	*49.8
Finance leasing	278.3	411.0	376.5	66.1	77.5	*158.1
Loans under hire-purchase and other instalment credit	163.4	185.4	223.1	45.6	144.1	139.6
Other amounts owing	1 112.4	1 191.3	960.7	356.6	334.2	*134.7
Gross indebtedness	*5 606.8*	*5 864.6*	*6 658.7*	*2 088.3*	*2 148.0*	*2 332.1*
Net indebtedness	*3 756.3*	*3 657.1*	*4 229.6*	*1 155.8*	*1 052.3*	*1 431.2*
Net worth	**29 843.8**	**28 492.2**	**28 142.9**	**10 468.5**	**12 130.8**	**11 244.3**

(a) Includes an estimate for the change in value of livestock.

(b) Refer to Explanatory Notes paragraph 16.

(c) Excludes any estimate for the change in value of livestock.

4.15 FARM BUSINESS FINANCES, Aggregates—Years ended 30 June *continued*

	WESTERN AUSTRALIA			TASMANIA		
	1997	*1998*	*1999*	*1997*	*1998*	*1999*
Items	$m	$m	$m	$m	$m	$m
Sales from crops	2 365.2	2 649.8	2 471.2	290.4	231.8	236.1
Sales from livestock	609.5	642.2	659.8	139.2	148.3	154.8
Sales from livestock products	731.7	698.2	616.9	172.2	207.9	189.6
Rent and leasing revenue	31.5	38.6	36.0	17.9	14.9	*11.0
Other miscellaneous revenue	346.8	407.4	398.8	82.3	123.3	84.8
Turnover	**4 084.7**	**4 436.2**	**4 182.7**	**701.8**	**726.3**	**676.4**
Less						
Marketing expenses	447.4	404.8	394.9	45.8	43.6	44.6
Purchases of livestock	135.6	157.6	119.4	37.0	38.9	34.9
Payments for seed	45.8	55.8	50.0	17.8	14.5	11.9
Payments for fodder	100.6	98.9	85.8	15.0	21.8	17.2
Payments for fertiliser	424.2	508.7	499.0	51.7	53.1	51.4
Payments for crop and pasture chemicals	266.0	281.7	333.6	14.1	16.7	13.2
Payments for veterinary supplies and services	45.0	43.1	40.1	9.6	12.8	13.3
Payments for electricity	31.8	33.4	39.2	18.0	15.3	12.9
Payments for fuel	178.3	212.3	199.8	28.5	32.4	26.6
Water and drainage charges	10.4	9.5	11.2	0.9	0.6	*0.7
Payments to contractors	171.2	208.2	190.5	25.1	37.8	40.3
Repairs and maintenance	258.3	329.3	303.9	48.8	53.3	49.5
Rent and leasing expenses	44.3	71.2	106.5	14.7	10.9	15.1
Other selected expenses	282.5	202.8	229.5	70.4	57.8	46.7
Purchases and selected expenses	*2 441.4*	*2 617.2*	*2 603.5*	*397.6*	*409.7*	*378.2*
Value added(a)	**1 439.1**	**1 862.0**	**1 557.9**	**319.6**	**304.2**	**321.6**
Industry value added(a)(b)	1 148.1	1 540.4	1 246.7	275.4	230.9	290.6
Less						
Rates and taxes	62.9	61.2	62.0	11.8	14.9	10.9
Insurance payments	72.8	107.3	103.9	13.7	18.0	15.2
Other expenses	105.3	126.8	140.8	21.4	21.2	18.7
Adjusted value added(a)	*1 198.0*	*1 566.7*	*1 251.1*	*272.7*	*250.1*	*276.9*
Less						
Wages, salaries and supplements	282.2	287.8	295.4	104.6	109.3	84.5
Gross operating surplus(a)	*915.7*	*1 278.9*	*955.7*	*168.1*	*140.8*	*192.4*
Less						
Interest paid	230.9	244.9	256.5	51.1	53.2	41.9
Plus						
Interest, land rent received	65.4	58.8	53.0	13.0	8.8	9.7
Cash operating surplus(c)	**954.2**	**1 049.3**	**769.2**	**113.7**	**108.5**	**135.1**
Net capital expenditure on vehicles, machinery and equipment	383.3	477.8	386.6	64.4	53.4	35.8
Net capital expenditure on buildings, structures and other developments	66.9	93.7	*38.5	16.9	14.4	*3.1
Total net capital expenditure	**450.2**	**571.5**	**425.1**	**81.3**	**67.8**	**38.9**
Value of land, buildings and other structures	13 979.0	14 974.9	15 827.8	2 222.9	2 496.2	2 108.3
Value of motor vehicles, machinery and equipment	2 625.8	3 125.5	2 796.5	422.9	409.6	357.2
Value of financial assets	1 521.4	1 707.7	1 856.6	177.9	212.4	231.3
Value of livestock at 30 June	1 621.1	1 626.3	1 615.7	332.3	364.8	360.3
Total value of assets	**19 747.3**	**21 434.4**	**22 214.3**	**3 156.1**	**3 482.9**	**3 079.7**
Less						
Amounts owing to banks (including off-shore borrowings)	1 889.4	2 198.8	2 155.9	272.4	340.3	302.1
Amounts owing to pastoral and insurance companies etc.	156.3	154.5	*209.6	134.5	93.0	74.5
Finance leasing	72.0	137.9	111.6	14.8	18.7	22.7
Loans under hire-purchase and other instalment credit	211.0	357.6	393.4	5.8	19.6	*14.1
Other amounts owing	682.2	785.3	910.6	148.6	129.8	103.2
Gross indebtedness	*3 013.9*	*3 637.8*	*3 870.0*	*576.7*	*602.7*	*569.0*
Net indebtedness	*1 492.4*	*1 930.1*	*2 013.4*	*398.8*	*390.3*	*337.7*
Net worth	**16 733.4**	**17 796.6**	**18 344.2**	**2 579.3**	**2 880.2**	**2 510.7**

(a) Includes an estimate for the change in value of livestock.

(b) Refer to Explanatory Notes paragraph 16.

(c) Excludes any estimate for the change in value of livestock.

4.16 FARM BUSINESS FINANCES, Averages—Years ended 30 June

	AUSTRALIA		
	1997	*1998*	*1999*
Items	$'000	$'000	$'000
Sales from crops	128.0	129.4	132.3
Sales from livestock	56.2	56.8	62.2
Sales from livestock products	50.9	53.3	48.6
Rent and leasing revenue	2.2	2.5	2.5
Other miscellaneous revenue	18.3	19.8	23.6
Turnover	**255.5**	**261.8**	**269.3**
Less			
Marketing expenses	20.1	18.8	18.9
Purchases of livestock	13.2	12.0	13.2
Payments for seed	3.6	3.8	4.6
Payments for fodder	13.4	14.5	12.8
Payments for fertiliser	16.4	17.4	17.7
Payments for crop and pasture chemicals	10.8	10.9	12.8
Payments for veterinary supplies and services	3.4	3.4	3.5
Payments for electricity	3.1	3.1	2.9
Payments for fuel	11.3	r12.8	12.6
Water and drainage charges	2.0	2.0	2.0
Payments to contractors	12.5	13.4	14.6
Repairs and maintenance	16.7	19.5	20.4
Rent and leasing expenses	4.5	4.3	5.9
Other selected expenses	16.9	12.4	13.4
Purchases and selected expenses	*147.9*	*148.4*	*155.2*
Value added(a)	**101.7**	**115.4**	**118.8**
Industry value added(a)(b)	89.3	100.1	105.3
Less			
Rates and taxes	4.5	4.4	4.6
Insurance payments	4.6	6.3	6.5
Other expenses	6.8	7.4	8.3
Adjusted value added(a)	*85.8*	*97.3*	*99.4*
Less			
Wages salaries and supplements	23.7	24.3	27.6
Gross operating surplus(a)	*62.1*	*73.0*	*71.8*
Less			
Interest paid	16.2	15.3	16.1
Plus			
Interest, land rent received	3.9	3.0	3.3
Cash operating surplus(c)	**55.6**	**58.4**	**53.9**
Net capital expenditure on vehicles, machinery and equipment	19.6	19.7	20.9
Net capital expenditure on buildings, structures and other developments	3.7	5.4	4.2
Total net capital expenditure	**23.4**	**25.2**	**25.1**
Value of land, buildings and other structures	913.2	927.2	964.5
Value of motor vehicles, machinery and equipment	151.9	163.3	161.1
Value of financial assets	80.0	88.8	96.5
Value of livestock at 30 June	147.4	147.8	152.7
Total value of assets	**1 292.4**	**1 327.1**	**1 389.4**
Less			
Amounts owing to banks (including off-shore borrowings)	131.4	135.0	158.9
Amounts owing to pastoral and insurance companies etc.	12.6	11.6	11.0
Finance leasing	7.0	10.5	11.0
Loans under hire-purchase and other instalment credit	6.7	11.4	14.5
Other amounts owing	34.9	38.7	32.7
Gross indebtedness	*192.8*	*207.5*	*237.0*
Net indebtedness	*112.8*	*118.7*	*140.5*
Net worth	**1 099.6**	**1 119.6**	**1 152.4**

(a) Includes an estimate for the change in value of livestock.

(b) Refer to Explanatory Notes paragraph 16.

(c) Excludes any estimate for the change in value of livestock.

4.16 FARM BUSINESS FINANCES, Averages—Years ended 30 June *continued*

	NEW SOUTH WALES			VICTORIA		
	1997	*1998*	*1999*	*1997*	*1998*	*1999*
Items	$'000	$'000	$'000	$'000	$'000	$'000
Sales from crops	125.0	126.2	131.7	70.7	66.4	73.3
Sales from livestock	60.3	56.9	64.5	37.3	34.5	35.7
Sales from livestock products	47.8	55.9	41.7	77.1	74.2	74.4
Rent and leasing revenue	2.5	2.1	2.5	0.9	1.9	2.1
Other miscellaneous revenue	16.2	18.1	19.6	10.5	12.1	17.0
Turnover	**252.0**	**259.1**	**260.0**	**196.5**	**189.1**	**202.5**
Less						
Marketing expenses	19.2	18.2	17.2	14.6	13.2	14.9
Purchases of livestock	16.7	12.6	15.4	7.4	5.4	7.3
Payments for seed	2.9	3.6	4.1	3.0	2.9	4.2
Payments for fodder	11.8	14.6	11.6	16.1	16.4	14.9
Payments for fertiliser	14.1	14.2	14.6	12.7	12.6	12.8
Payments for crop and pasture chemicals	11.0	11.6	14.6	5.4	4.8	5.5
Payments for veterinary supplies and services	3.6	3.5	3.2	3.9	3.7	4.4
Payments for electricity	2.7	3.1	2.7	2.9	2.7	2.7
Payments for fuel	12.0	13.3	12.8	7.4	8.8	8.3
Water and drainage charges	2.0	2.0	2.0	2.7	3.0	2.6
Payments to contractors	16.3	14.9	18.3	5.8	7.5	7.8
Repairs and maintenance	15.2	19.5	20.5	12.7	14.2	14.4
Rent and leasing expenses	4.6	4.2	5.3	5.5	4.4	5.0
Other selected expenses	17.5	12.9	12.0	14.0	8.1	10.3
Purchases and selected expenses	*149.5*	*148.1*	*154.4*	*114.1*	*107.7*	*114.9*
Value added(a)	**100.5**	**106.3**	**115.3**	**78.8**	**71.8**	**92.4**
Industry value added(a)(b)	89.3	90.3	102.3	70.7	62.4	84.0
Less						
Rates and taxes	5.3	5.2	5.6	2.8	3.1	3.4
Insurance payments	5.5	7.6	7.7	2.9	4.1	4.5
Other expenses	7.1	7.4	8.4	5.2	4.9	6.1
Adjusted value added(a)	*82.6*	*86.1*	*93.6*	*67.9*	*59.7*	*78.4*
Less						
Wages salaries and supplements	22.3	22.3	26.4	18.9	17.7	24.5
Gross operating surplus(a)	*60.4*	*63.7*	*67.2*	*49.0*	*42.0*	*53.9*
Less						
Interest paid	16.2	15.0	16.0	11.4	10.4	11.0
Plus						
Interest, land rent received	5.4	3.3	3.2	2.3	1.7	2.6
Cash operating surplus(c)	**51.5**	**56.5**	**44.0**	**43.4**	**42.8**	**40.3**
Net capital expenditure on vehicles, machinery and equipment	14.6	16.5	19.2	17.5	10.9	14.2
Net capital expenditure on buildings, structures and other developments	2.2	3.5	4.9	3.7	4.2	*3.6
Total net capital expenditure	**16.8**	**19.9**	**24.1**	**21.2**	**15.1**	**17.9**
Value of land, buildings and other structures	957.8	955.3	964.7	666.1	670.8	766.5
Value of motor vehicles, machinery and equipment	142.5	155.1	150.9	107.9	111.7	114.2
Value of financial assets	89.2	91.8	91.4	42.9	46.5	64.0
Value of livestock at 30 June	129.0	119.1	125.6	121.8	104.6	108.2
Total value of assets	**1 318.5**	**1 321.3**	**1 360.5**	**938.7**	**933.5**	**1 058.5**
Less						
Amounts owing to banks (including off-shore borrowings)	140.1	138.3	166.9	81.9	80.1	90.2
Amounts owing to pastoral and insurance companies etc.	3.7	5.5	*7.6	18.1	15.0	13.2
Finance leasing	7.2	10.7	10.7	3.3	4.9	5.5
Loans under hire-purchase and other instalment credit	4.4	10.3	12.0	5.7	6.8	13.7
Other amounts owing	29.1	29.7	23.4	18.8	25.1	20.0
Gross indebtedness	*185.1*	*195.3*	*233.1*	*127.9*	*132.1*	*147.0*
Net indebtedness	*96.0*	*103.5*	*141.7*	*85.0*	*85.6*	*83.0*
Net worth	**1 133.3**	**1 126.0**	**1 127.4**	**810.9**	**801.4**	**911.5**

(a) Includes an estimate for the change in value of livestock.

(b) Refer to Explanatory Notes paragraph 16.

(c) Excludes any estimate for the change in value of livestock.

4.16 FARM BUSINESS FINANCES, Averages—Years ended 30 June *continued*

	QUEENSLAND			SOUTH AUSTRALIA		
	1997	*1998*	*1999*	*1997*	*1998*	*1999*
Items	$'000	$'000	$'000	$'000	$'000	$'000
Sales from crops	159.9	160.6	155.3	132.6	132.6	151.0
Sales from livestock	77.2	84.6	104.4	39.7	45.0	39.6
Sales from livestock products	22.6	26.3	28.1	38.4	35.2	31.7
Rent and leasing revenue	2.6	3.4	3.0	1.5	1.8	1.7
Other miscellaneous revenue	25.5	21.5	32.2	11.4	16.1	17.2
Turnover	**287.9**	**296.4**	**322.9**	**223.6**	**230.8**	**241.2**
Less						
Marketing expenses	19.6	19.5	17.8	17.2	14.9	17.7
Purchases of livestock	17.0	19.0	22.7	7.1	7.9	6.8
Payments for seed	4.5	4.6	6.4	3.9	3.2	3.5
Payments for fodder	17.4	18.4	18.4	9.0	8.8	7.2
Payments for fertiliser	14.0	13.3	14.1	14.7	16.9	16.6
Payments for crop and pasture chemicals	10.6	11.0	12.1	11.7	11.0	12.4
Payments for veterinary supplies and services	2.7	2.9	3.0	2.4	2.7	2.3
Payments for electricity	3.6	3.5	3.1	2.8	2.9	2.7
Payments for fuel	13.8	14.0	14.8	9.3	12.2	12.4
Water and drainage charges	1.4	1.5	1.3	3.0	2.2	2.8
Payments to contractors	17.3	18.1	20.9	7.1	9.5	7.7
Repairs and maintenance	21.8	21.8	25.3	13.6	17.2	18.1
Rent and leasing expenses	3.1	3.4	5.7	5.1	4.2	5.9
Other selected expenses	15.7	13.3	15.5	12.9	10.0	9.6
Purchases and selected expenses	*162.5*	*164.4*	*181.2*	*119.8*	*123.6*	*125.7*
Value added(a)	**122.4**	**155.4**	**141.1**	**95.1**	**112.4**	**122.2**
Industry value added(a)(b)	109.0	141.6	127.4	86.6	98.3	112.5
Less						
Rates and taxes	5.3	4.5	5.1	4.0	3.8	3.5
Insurance payments	4.6	5.8	6.2	4.0	6.0	5.9
Other expenses	7.3	8.1	8.4	5.6	7.2	7.8
Adjusted value added(a)	*105.2*	*137.0*	*121.3*	*81.5*	*95.4*	*104.9*
Less						
Wages salaries and supplements	31.2	33.5	35.0	17.4	20.0	23.1
Gross operating surplus(a)	*74.0*	*103.5*	*86.3*	*64.1*	*75.4*	*81.8*
Less						
Interest paid	19.8	17.8	19.6	15.1	15.0	14.3
Plus						
Interest, land rent received	3.2	3.0	3.6	2.7	3.0	3.2
Cash operating surplus(c)	**60.2**	**64.9**	**70.7**	**60.4**	**57.7**	**64.0**
Net capital expenditure on vehicles, machinery and equipment	22.1	21.5	23.3	18.3	22.7	24.5
Net capital expenditure on buildings, structures and other developments	4.1	8.0	6.4	3.3	4.8	2.1
Total net capital expenditure	**26.2**	**29.5**	**29.7**	**21.6**	**27.5**	**26.6**
Value of land, buildings and other structures	1 092.3	1 049.3	1 093.7	720.5	803.9	778.2
Value of motor vehicles, machinery and equipment	175.7	181.6	186.5	151.4	157.2	166.2
Value of financial assets	82.5	102.4	118.2	76.5	87.7	73.9
Value of livestock at 30 June	230.0	260.2	280.9	82.2	94.7	91.2
Total value of assets	**1 580.5**	**1 593.5**	**1 693.7**	**1 030.6**	**1 143.5**	**1 114.2**
Less						
Amounts owing to banks (including off-shore borrowings)	165.2	175.4	227.5	127.0	119.9	146.1
Amounts owing to pastoral and insurance companies etc.	15.3	13.6	*10.5	5.8	7.2	*4.1
Finance leasing	12.4	19.1	18.3	5.4	6.2	*13.0
Loans under hire-purchase and other instalment credit	7.3	8.6	10.9	3.7	11.5	11.5
Other amounts owing	49.6	55.3	46.8	29.3	26.8	*11.1
Gross indebtedness	*250.0*	*272.0*	*324.1*	*171.4*	*172.0*	*191.4*
Net indebtedness	*167.5*	*169.6*	*205.8*	*94.9*	*84.3*	*117.5*
Net worth	**1 330.5**	**1 321.5**	**1 369.6**	**859.2**	**971.5**	**922.8**

(a) Includes an estimate for the change in value of livestock.

(b) Refer to Explanatory Notes paragraph 16.

(c) Excludes any estimate for the change in value of livestock.

4.16 FARM BUSINESS FINANCES, Averages—Years ended 30 June *continued*

	WESTERN AUSTRALIA			TASMANIA		
	1997	*1998*	*1999*	*1997*	*1998*	*1999*
Items	$'000	$'000	$'000	$'000	$'000	$'000
Sales from crops	214.1	242.4	227.9	95.4	82.8	85.3
Sales from livestock	55.2	58.7	60.8	45.7	53.0	55.9
Sales from livestock products	66.2	63.9	56.9	56.6	74.3	68.5
Rent and leasing revenue	2.9	3.5	3.3	5.9	5.3	*4.0
Other miscellaneous revenue	31.4	37.3	36.8	27.0	44.1	30.6
Turnover	**369.7**	**405.8**	**385.7**	**230.6**	**259.6**	**244.4**
Less						
Marketing expenses	40.5	37.0	36.4	15.1	15.6	16.1
Purchases of livestock	12.3	14.4	11.0	12.2	13.9	12.6
Payments for seed	4.1	5.1	4.6	5.9	5.2	4.3
Payments for fodder	9.1	9.0	7.9	4.9	7.8	6.2
Payments for fertiliser	38.4	46.5	46.0	17.0	19.0	18.6
Payments for crop and pasture chemicals	24.1	25.8	30.8	4.6	6.0	4.8
Payments for veterinary supplies and services	4.1	3.9	3.7	3.2	4.6	4.8
Payments for electricity	2.9	3.1	3.6	5.9	5.5	4.7
Payments for fuel	16.1	19.4	18.4	9.4	11.6	9.6
Water and drainage charges	0.9	0.9	1.0	0.3	0.2	*0.2
Payments to contractors	15.5	19.0	17.6	8.3	13.5	14.5
Repairs and maintenance	23.4	30.1	28.0	16.0	19.1	17.9
Rent and leasing expenses	4.0	6.5	9.8	4.8	3.9	5.4
Other selected expenses	25.6	18.5	21.2	23.1	20.7	16.9
Purchases and selected expenses	*221.0*	*239.4*	*240.1*	*130.7*	*146.4*	*136.6*
Value added(a)	**130.2**	**170.3**	**143.7**	**105.0**	**108.7**	**116.2**
Industry value added(a)(b)	103.9	140.9	115.0	90.5	82.5	105.0
Less						
Rates and taxes	5.7	5.6	5.7	3.9	5.3	3.9
Insurance payments	6.6	9.8	9.6	4.5	6.4	5.5
Other expenses	9.5	11.6	13.0	7.0	7.6	6.8
Adjusted value added(a)	*108.4*	*143.3*	*115.4*	*89.6*	*89.4*	*100.0*
Less						
Wages salaries and supplements	25.5	26.3	27.2	34.4	39.1	30.5
Gross operating surplus(a)	*82.9*	*117.0*	*88.1*	*55.2*	*50.3*	*69.5*
Less						
Interest paid	20.9	22.4	23.6	16.8	19.0	15.1
Plus						
Interest, land rent received	5.9	5.4	4.9	4.3	3.1	3.5
Cash operating surplus(c)	**86.4**	**96.0**	**70.9**	**37.4**	**38.8**	**48.8**
Net capital expenditure on vehicles, machinery and equipment	34.7	43.7	35.7	21.2	19.1	12.9
Net capital expenditure on buildings, structures and other developments	6.1	8.6	*3.5	5.5	5.1	*1.1
Total net capital expenditure	**40.7**	**52.3**	**39.2**	**26.7**	**24.2**	**14.1**
Value of land, buildings and other structures	1 265.2	1 369.8	1 459.6	730.5	892.1	761.7
Value of motor vehicles, machinery and equipment	237.6	285.9	257.9	139.0	146.4	129.1
Value of financial assets	137.7	156.2	171.2	58.5	75.9	83.5
Value of livestock at 30 June	146.7	148.8	149.0	109.2	130.4	130.2
Total value of assets	**1 787.2**	**1 960.7**	**2 048.5**	**1 037.2**	**1 244.8**	**1 112.6**
Less						
Amounts owing to banks (including off-shore borrowings)	171.0	201.1	198.8	89.5	121.6	109.1
Amounts owing to pastoral and insurance companies etc.	14.1	14.1	*19.3	44.2	33.2	26.9
Finance leasing	6.5	12.6	10.3	4.9	6.7	8.2
Loans under hire-purchase and other instalment credit	19.1	32.7	36.3	1.9	7.0	*5.1
Other amounts owing	61.7	71.8	84.0	48.8	46.4	37.3
Gross indebtedness	*272.8*	*332.8*	*356.9*	*189.5*	*215.4*	*205.5*
Net indebtedness	*135.1*	*176.6*	*185.7*	*131.1*	*139.5*	*122.0*
Net worth	**1 514.5**	**1 627.9**	**1 691.6**	**847.6**	**1 029.4**	**907.1**

(a) Includes an estimate for the change in value of livestock.

(b) Refer to Explanatory Notes paragraph 16.

(c) Excludes any estimate for the change in value of livestock.

4.17 FARM BUSINESS FINANCES, By Industry—Years ended 30 June

	AGGREGATES			AVERAGES		
	1997	*1998*	*1999*	*1997*	*1998*	*1999*
Items	$m	$m	$m	$'000	$'000	$'000
FRUIT (0114–0119)						
Sales from crops	1 839.8	1 942.9	2 307.4	179.9	190.6	229.0
Sales from livestock	28.2	29.4	*43.4	2.8	2.9	*4.3
Sales from livestock products	15.6	7.8	*5.2	1.5	0.8	*0.5
Turnover	2 015.6	2 144.6	2 588.5	197.0	210.3	256.8
Purchases and selected expenses	996.6	952.3	1 109.4	97.4	93.4	110.1
Value added(a)	1 013.9	1 190.6	1 473.7	99.1	116.8	146.2
Industry value added(a)(b)	931.3	1 083.3	1 442.9	91.0	106.3	143.2
Adjusted value added(a)	896.9	1 039.4	1 295.9	87.7	101.9	128.6
Gross operating surplus	509.5	606.2	784.6	49.8	59.4	77.9
Interest paid	91.4	108.1	113.9	8.9	10.6	11.3
Cash operating surplus(c)	444.4	518.0	701.6	43.4	50.8	69.6
Total net capital expenditure	159.4	194.1	297.1	15.6	19.0	29.5
Total value of assets	7 171.4	8 307.5	9 026.7	701.1	814.8	895.7
Gross indebtedness	1 037.4	1 371.7	1 976.0	101.4	134.5	196.1
Net indebtedness	221.3	557.2	**529.0	21.6	54.6	**52.5
Net worth	6 134.1	6 935.8	7 050.7	599.7	680.2	699.6
VEGETABLES (0113)						
Sales from crops	1 346.1	1 317.2	1 497.1	339.6	335.2	396.9
Sales from livestock	102.4	118.2	69.3	25.8	30.1	18.4
Sales from livestock products	21.8	46.0	*21.1	5.5	11.7	*5.6
Turnover	1 610.8	1 613.4	1 749.2	406.3	410.6	463.7
Purchases and selected expenses	907.3	930.3	996.9	228.9	236.8	264.3
Value added(a)	690.9	681.6	752.0	174.3	173.5	199.4
Industry value added(a)(b)	639.6	586.2	656.5	161.4	149.2	174.0
Adjusted value added(a)	621.1	599.3	674.4	156.7	152.5	178.8
Gross operating surplus	381.7	302.0	367.4	96.3	76.9	97.4
Interest paid	70.9	68.5	45.2	17.9	17.4	12.0
Cash operating surplus(c)	338.2	242.3	334.0	85.3	61.7	88.6
Total net capital expenditure	121.0	108.4	147.7	30.5	27.6	39.2
Total value of assets	4 715.8	4 880.5	4 152.3	1 189.7	1 242.2	1 100.8
Gross indebtedness	903.8	854.0	702.1	228.0	217.4	186.1
Net indebtedness	582.4	545.6	*282.2	146.9	138.9	*74.8
Net worth	3 812.0	4 026.5	3 450.2	961.7	1 024.8	914.7
GRAIN (0121)						
Sales from crops	4 555.1	4 174.0	3 488.8	326.6	343.8	252.0
Sales from livestock	536.7	413.8	429.4	38.5	34.1	31.0
Sales from livestock products	267.8	204.8	203.5	19.2	16.9	14.7
Turnover	5 768.3	5 171.5	4 517.7	413.6	426.0	326.4
Purchases and selected expenses	3 222.1	2 837.7	2 726.8	231.0	233.7	197.0
Value added(a)	2 442.9	2 279.9	1 861.3	175.2	187.8	134.5
Industry value added(a)(b)	2 196.5	2 024.9	1 633.6	157.5	166.8	118.0
Adjusted value added(a)	2 132.0	1 960.8	1 533.0	152.9	161.5	110.7
Gross operating surplus	1 890.8	1 748.6	1 304.5	135.6	144.0	94.2
Interest paid	347.7	269.2	251.1	24.9	22.2	18.1
Cash operating surplus(c)	1 727.4	1 574.1	992.9	123.9	129.7	71.7
Total net capital expenditure	634.2	666.4	635.2	45.5	54.9	45.9
Total value of assets	22 174.7	20 838.5	21 163.2	1 589.9	1 716.4	1 528.9
Gross indebtedness	4 062.0	3 667.6	3 874.8	291.2	302.1	279.9
Net indebtedness	2 507.2	2 363.7	2 780.6	179.8	194.7	200.9
Net worth	18 112.7	17 171.0	17 288.4	1 298.7	1 414.3	1 249.0

(a) Includes an estimate for the change in value of livestock.

(b) Refer to Explanatory Notes paragraph 16.

(c) Excludes any estimate for the change in value of livestock.

4.17 FARM BUSINESS FINANCES, By Industry—Years ended 30 June *continued*

	AGGREGATES			AVERAGES		
	1997	*1998*	*1999*	*1997*	*1998*	*1999*
Items	$m	$m	$m	$'000	$'000	$'000
GRAIN–SHEEP/BEEF (0122)						
Sales from crops	2 162.6	2 241.3	2 275.8	113.1	121.1	123.9
Sales from livestock	1 076.4	947.1	1 071.2	56.3	51.2	58.3
Sales from livestock products	726.0	789.4	639.3	38.0	42.7	34.8
Turnover	4 276.9	4 390.0	4 340.7	223.6	237.2	236.4
Purchases and selected expenses	2 624.7	2 607.2	2 716.3	137.2	140.9	147.9
Value added(a)	1 546.9	1 689.7	1 703.3	80.9	91.3	92.8
Industry value added(a)(b)	1 280.1	1 375.5	1 460.5	66.9	74.3	79.5
Adjusted value added(a)	1 244.3	1 338.4	1 333.7	65.1	72.3	72.6
Gross operating surplus	986.5	1 072.4	1 010.5	51.6	57.9	55.0
Interest paid	274.3	281.7	327.0	14.3	15.2	17.8
Cash operating surplus(c)	860.9	923.3	661.0	45.0	49.9	36.0
Total net capital expenditure	461.3	481.2	416.4	24.1	26.0	22.7
Total value of assets	23 216.1	24 087.2	25 893.0	1 213.9	1 301.4	1 410.0
Gross indebtedness	2 974.8	3 518.8	4 531.5	155.5	190.1	246.8
Net indebtedness	1 939.7	2 341.9	3 233.6	101.4	126.5	176.1
Net worth	20 241.3	20 568.5	21 361.5	1 058.4	1 111.3	1 163.2
SHEEP–BEEF CATTLE (0123)						
Sales from crops	32.1	24.6	**69.8	4.2	3.7	**10.3
Sales from livestock	607.2	633.4	663.7	80.0	96.3	97.5
Sales from livestock products	369.7	393.4	298.6	48.7	59.8	43.9
Turnover	1 075.3	1 135.9	1 134.9	141.7	172.7	166.7
Purchases and selected expenses	623.6	663.7	664.1	82.2	100.9	97.5
Value added(a)	429.8	400.7	636.9	56.6	60.9	93.6
Industry value added(a)(b)	365.2	317.8	547.8	48.1	48.3	80.5
Adjusted value added(a)	331.7	288.5	517.7	43.7	43.9	76.0
Gross operating surplus	209.0	179.9	402.7	27.5	27.4	59.2
Interest paid	98.9	83.7	84.2	13.0	12.7	12.4
Cash operating surplus(c)	187.9	188.7	180.2	24.8	28.7	26.5
Total net capital expenditure	49.9	88.6	77.9	6.6	13.5	11.4
Total value of assets	11 478.4	10 321.6	11 306.0	1 512.3	1 569.6	1 660.7
Gross indebtedness	1 122.4	1 217.8	1 259.6	147.9	185.2	185.0
Net indebtedness	428.7	577.0	*643.1	56.5	87.7	*94.5
Net worth	10 356.0	9 103.8	10 046.4	1 364.4	1 384.4	1 475.7
SHEEP (0124)						
Sales from crops	138.7	113.3	252.4	11.4	9.6	22.5
Sales from livestock	398.4	432.3	477.0	32.8	36.6	42.5
Sales from livestock products	881.7	879.5	676.3	72.6	74.4	60.3
Turnover	1 577.4	1 563.8	1 526.6	129.9	132.4	136.1
Purchases and selected expenses	855.7	898.4	914.5	70.5	76.0	81.6
Value added(a)	785.3	532.7	649.5	64.7	45.1	57.9
Industry value added(a)(b)	690.9	423.5	538.3	56.9	35.8	48.0
Adjusted value added(a)	643.5	378.3	480.4	53.0	32.0	42.8
Gross operating surplus	488.8	244.5	328.8	40.2	20.7	29.3
Interest paid	129.7	111.9	139.8	10.7	9.5	12.5
Cash operating surplus(c)	330.1	291.7	*169.8	27.2	24.7	*15.1
Total net capital expenditure	108.3	119.0	74.1	8.9	10.1	6.6
Total value of assets	12 608.0	12 219.7	12 991.7	1 038.0	1 034.3	1 158.6
Gross indebtedness	1 555.1	1 535.4	1 643.3	128.0	130.0	146.6
Net indebtedness	839.3	942.6	1 010.3	69.1	79.8	90.1
Net worth	11 052.9	10 684.3	11 348.4	910.0	904.4	1 012.1

(a) Includes an estimate for the change in value of livestock.

(b) Refer to Explanatory Notes paragraph 16.

(c) Excludes any estimate for the change in value of livestock.

4.17 FARM BUSINESS FINANCES, By Industry—Years ended 30 June *continued*

	AGGREGATES			AVERAGES		
	1997	*1998*	*1999*	*1997*	*1998*	*1999*
Items	$m	$m	$m	$'000	$'000	$'000
BEEF CATTLE (0125)						
Sales from crops	192.6	81.6	86.1	13.7	5.5	6.3
Sales from livestock	2 068.1	2 191.2	2 472.6	146.8	148.7	181.2
Sales from livestock products	29.9	19.1	**63.2	2.1	1.3	**4.6
Turnover	2 570.1	2 573.4	2 980.9	182.4	174.7	218.5
Purchases and selected expenses	1 676.3	1 664.0	1 782.2	119.0	113.0	130.6
Value added(a)	518.6	1 548.2	1 289.7	36.8	105.1	94.5
Industry value added(a)(b)	330.3	1 339.3	*1078.1	23.4	90.9	*79.0
Adjusted value added(a)	298.7	1 337.3	*1066.1	21.2	90.8	*78.1
Gross operating surplus	72.2	1 095.0	*808.9	5.1	74.3	*59.3
Interest paid	240.1	214.5	208.9	17.0	14.6	15.3
Cash operating surplus(c)	278.8	289.4	568.9	19.8	19.6	41.7
Total net capital expenditure	162.1	219.4	250.3	11.5	14.9	18.3
Total value of assets	23 426.8	23 768.7	23 083.3	1 663.0	1 613.4	1 691.7
Gross indebtedness	3 053.6	3 164.0	3 010.5	216.8	214.8	220.6
Net indebtedness	1 822.3	1 521.2	1 378.8	129.4	103.3	101.0
Net worth	20 373.2	20 604.7	20 072.8	1 446.2	1 398.6	1 471.1
DAIRY CATTLE (0130)						
Sales from crops	62.1	58.7	*71.9	4.9	4.5	*5.7
Sales from livestock	243.3	294.0	295.0	19.3	22.4	23.5
Sales from livestock products	2 675.7	2 647.0	2 742.6	212.0	201.4	218.1
Turnover	3 069.5	3 136.8	3 268.1	243.2	238.7	259.9
Purchases and selected expenses	1 877.9	1 856.4	1 881.9	148.8	141.3	149.6
Value added(a)	1 076.1	1 228.3	1 418.7	85.3	93.5	112.8
Industry value added(a)(b)	970.8	1 109.9	1 283.3	76.9	84.5	102.0
Adjusted value added(a)	933.0	1 075.2	1 251.7	73.9	81.8	99.5
Gross operating surplus	735.1	905.2	1 069.0	58.3	68.9	85.0
Interest paid	223.9	213.7	214.8	17.7	16.3	17.1
Cash operating surplus(c)	669.9	793.0	856.6	53.1	60.3	68.1
Total net capital expenditure	383.2	235.9	222.6	30.4	18.0	17.7
Total value of assets	15 575.6	16 714.9	16 513.7	1 234.3	1 271.9	1 313.1
Gross indebtedness	2 446.1	2 537.2	2 449.2	193.8	193.1	194.8
Net indebtedness	1 575.0	1 412.5	1 627.3	124.8	107.5	129.4
Net worth	13 129.5	14 177.7	14 064.5	1 040.5	1 078.8	1 118.4
POULTRY FOR EGGS (0142)						
Sales from crops	n.p.	8.2	9.7	n.p.	18.8	23.8
Sales from livestock	n.p.	45.0	50.2	n.p.	102.7	123.6
Sales from livestock products	n.p.	395.8	253.0	n.p.	903.7	623.2
Turnover	n.p.	476.8	328.3	n.p.	1 088.7	808.6
Purchases and selected expenses	n.p.	331.0	249.0	n.p.	755.6	613.4
Value added(a)	n.p.	145.0	87.9	n.p.	331.1	216.5
Industry value added(a)(b)	n.p.	130.2	72.4	n.p.	297.3	178.4
Adjusted value added(a)	n.p.	124.9	70.0	n.p.	285.2	172.5
Gross operating surplus	n.p.	71.0	*31.4	n.p.	162.1	*77.3
Interest paid	n.p.	12.8	10.8	n.p.	29.3	26.5
Cash operating surplus(c)	n.p.	60.6	**13.3	n.p.	138.3	**32.8
Total net capital expenditure	n.p.	20.3	*17.7	n.p.	46.3	*43.6
Total value of assets	n.p.	607.1	607.8	n.p.	1 386.1	1 497.1
Gross indebtedness	n.p.	199.0	193.9	n.p.	454.4	477.5
Net indebtedness	n.p.	117.0	86.8	n.p.	267.1	213.8
Net worth	n.p.	408.1	414.0	n.p.	931.7	1 019.6

(a) Includes an estimate for the change in value of livestock.

(b) Refer to Explanatory Notes paragraph 16.

(c) Excludes any estimate for the change in value of livestock.

4.17 FARM BUSINESS FINANCES, By Industry—Years ended 30 June *continued*

	AGGREGATES			AVERAGES		
	1997	*1998*	*1999*	*1997*	*1998*	*1999*
Items	$m	$m	$m	$'000	$'000	$'000
PIGS (0151)						
Sales from crops	26.5	33.3	*32.9	26.7	31.7	*34.8
Sales from livestock	628.2	549.4	601.3	634.5	522.3	637.0
Sales from livestock products	15.4	6.5	*12.3	15.6	6.2	*13.0
Turnover	706.8	624.0	705.2	714.0	593.1	747.0
Purchases and selected expenses	474.8	464.3	470.6	479.6	441.3	498.5
Value added(a)	271.9	144.9	233.8	274.7	137.8	247.6
Industry value added(a)(b)	250.0	119.5	202.2	252.5	113.6	214.2
Adjusted value added(a)	242.6	114.6	202.0	245.0	108.9	214.0
Gross operating surplus	174.1	45.6	128.6	175.9	43.4	136.2
Interest paid	15.3	20.3	23.3	15.5	19.3	24.7
Cash operating surplus(c)	123.0	42.5	*107.6	124.2	40.4	*114.0
Total net capital expenditure	46.6	35.4	27.8	47.1	33.6	29.5
Total value of assets	1 390.9	1 379.8	1 344.2	1 404.9	1 311.6	1 423.9
Gross indebtedness	246.3	284.3	279.5	248.8	270.2	296.0
Net indebtedness	138.3	190.4	213.8	139.7	181.0	226.5
Net worth	1 144.6	1 095.6	1 064.7	1 156.1	1 041.4	1 127.9
SUGAR (0161)						
Sales from crops	1 150.4	1 124.4	1 023.5	238.9	231.8	224.7
Sales from livestock	16.6	17.3	*13.5	3.4	3.6	*3.0
Sales from livestock products	—	—	—	—	—	—
Turnover	1 264.9	1 262.2	1 267.9	262.7	260.3	278.4
Purchases and selected expenses	636.6	603.7	628.9	132.2	124.5	138.1
Value added(a)	620.0	672.2	637.4	128.7	138.6	140.0
Industry value added(a)(b)	590.5	612.4	575.4	122.6	126.3	126.3
Adjusted value added(a)	557.4	601.2	547.7	115.7	124.0	120.3
Gross operating surplus	419.6	484.0	425.2	87.1	99.8	93.4
Interest paid	60.3	48.4	73.8	12.5	10.0	16.2
Cash operating surplus(c)	381.4	430.4	380.9	79.2	88.7	83.6
Total net capital expenditure	127.6	129.6	*133.4	26.5	26.7	*29.3
Total value of assets	6 362.0	5 848.1	6 250.9	1 321.0	1 205.8	1 372.6
Gross indebtedness	877.2	824.1	1 443.1	182.1	169.9	316.9
Net indebtedness	551.0	489.2	*899.4	114.4	100.9	*197.5
Net worth	5 484.8	5 023.9	4 807.7	1 138.9	1 035.9	1 055.7
COTTON (0162)						
Sales from crops	1 293.5	1 481.3	1 394.4	1 614.9	1 479.8	1 398.6
Sales from livestock	59.6	76.7	64.8	74.4	76.6	65.0
Sales from livestock products	14.1	19.2	*13.7	17.6	19.2	*13.7
Turnover	1 466.0	1 658.7	1 633.4	1 830.2	1 657.0	1 638.3
Purchases and selected expenses	927.4	944.0	1 061.4	1 157.8	943.0	1 064.6
Value added(a)	527.4	701.6	581.3	658.5	700.9	583.0
Industry value added(a)(b)	463.5	634.1	521.4	578.7	633.5	523.0
Adjusted value added(a)	447.6	611.3	486.2	558.8	610.7	487.6
Gross operating surplus	315.1	485.2	329.6	393.4	484.7	330.6
Interest paid	103.0	90.0	85.6	128.6	89.9	85.9
Cash operating surplus(c)	232.2	423.6	248.1	289.9	423.2	248.9
Total net capital expenditure	132.7	179.3	174.9	165.7	179.2	175.5
Total value of assets	4 157.6	4 690.8	5 311.0	5 190.5	4 686.1	5 327.0
Gross indebtedness	1 405.1	1 455.0	1 935.9	1 754.2	1 453.5	1 941.7
Net indebtedness	937.1	741.7	1 374.4	1 169.9	741.0	1 378.6
Net worth	2 752.5	3 235.8	3 375.1	3 436.3	3 232.6	3 385.2

(a) Includes an estimate for the change in value of livestock.

(b) Refer to Explanatory Notes paragraph 16.

(c) Excludes any estimate for the change in value of livestock.

4.17 FARM BUSINESS FINANCES, By Industry—Years ended 30 June *continued*

	AGGREGATES			AVERAGES		
	1997	*1998*	*1999*	*1997*	*1998*	*1999*
Items	$m	$m	$m	$'000	$'000	$'000
OTHER AGRICULTURE (0111–0112, 0141, 0152–0159, 0169)(a)						
Sales from crops	781.8	892.4	1 054.6	134.2	151.8	198.6
Sales from livestock	199.8	174.2	122.0	34.3	29.6	23.0
Sales from livestock products	385.6	147.9	*57.9	66.2	25.2	*10.9
Turnover	1 720.8	1 549.0	1 565.4	295.4	263.5	294.8
Purchases and selected expenses	869.3	719.3	706.7	149.2	122.4	133.1
Value added(b)	873.6	819.1	855.9	150.0	139.3	161.2
Industry value added(b)(c)	772.5	677.2	782.9	132.6	115.2	147.4
Adjusted value added(b)	754.2	675.8	732.3	129.5	115.0	137.9
Gross operating surplus	405.7	368.5	367.9	69.6	62.7	69.3
Interest paid	64.2	72.1	*66.8	11.0	12.3	*12.6
Cash operating surplus(d)	332.0	314.1	314.1	57.0	53.4	59.2
Total net capital expenditure	94.3	147.1	*97.8	16.2	25.0	*18.4
Total value of assets	4 890.1	4 706.8	4 778.6	839.4	800.6	899.9
Gross indebtedness	780.2	1 001.9	995.8	133.9	170.4	187.5
Net indebtedness	427.5	576.1	*346.7	73.4	98.0	*65.3
Net worth	4 109.8	3 704.9	3 782.8	705.4	630.2	712.4
AGRICULTURE ALL INDUSTRIES						
Sales from crops	13 581.2	13 493.1	13 564.3	128.0	129.4	132.3
Sales from livestock	5 964.7	5 922.0	6 373.4	56.2	56.8	62.2
Sales from livestock products	5 403.3	5 556.5	4 986.5	50.9	53.3	48.6
Turnover	27 122.3	27 300.1	27 606.6	255.5	261.8	269.3
Purchases and selected expenses	15 692.3	15 472.4	15 908.7	147.9	148.4	155.2
Value added(b)	10 797.4	12 034.4	12 181.4	101.7	115.4	118.8
Industry value added(b)(c)	9 481.1	10 433.7	10 795.2	89.3	100.1	105.3
Adjusted value added(b)	9 103.2	10 145.0	10 191.0	85.8	97.3	99.4
Gross operating surplus	6 588.3	7 608.1	7 359.1	62.1	73.0	71.8
Interest paid	1 719.9	1 595.1	1 645.3	16.2	15.3	16.1
Cash operating surplus(d)	5 906.3	6 091.7	5 529.1	55.6	58.4	53.9
Total net capital expenditure	2 480.7	2 624.7	2 573.1	23.4	25.2	25.1
Total value of assets	137 167.4	138 371.3	142 422.4	1 292.4	1 327.1	1 389.4
Gross indebtedness	20 464.2	21 630.8	24 295.4	192.8	207.5	237.0
Net indebtedness	11 970.0	12 376.0	14 406.0	112.8	118.7	140.5
Net worth	116 703.3	116 740.5	118 127.0	1 099.6	1 119.6	1 152.4

(a) Refer to Explanatory Notes paragraph 10.

(b) Includes an estimate for the change in value of livestock.

(c) Refer to Explanatory Notes paragraph 16.

(d) Excludes any estimate for the change in value of livestock.

4.18 FARM BUSINESSES, By Size of Turnover—Years ended 30 June

Size of turnover	*1997*	*1998*	*1999*
	NUMBER OF FARM BUSINESSES		
	no.	no.	no.
<$50,000	20 352	22 463	20 029
$50,000–$99,999	21 366	20 232	18 718
$100,000–$149,999	13 822	13 254	15 047
$150,000–$199,999	11 975	11 550	11 159
$200,000–$249,999	9 701	6 695	8 036
$250,000–$299,999	6 046	5 031	5 308
$300,000–$499,999	10 951	r13 399	12 563
$500,000–$999,999	8 344	8 192	8 164
$1,000,000–$1,999,999	2 777	2 533	2 651
$2 million and over	799	917	833
All ranges	**106 134**	**104 267**	**102 510**
	TOTAL TURNOVER		
	$m	$m	$m
<$50,000	618.6	620.9	607.2
$50,000–$99,999	1 609.0	1 562.6	1 440.5
$100,000–$149,999	1 787.3	1 666.2	1 887.2
$150,000–$199,999	2 170.9	2 064.9	1 993.9
$200,000–$249,999	2 184.8	1 514.8	1 830.6
$250,000–$299,999	1 699.8	1 398.2	1 470.9
$300,000–$499,999	4 197.2	5 077.0	4 862.9
$500,000–$999,999	5 556.9	5 638.4	5 542.7
$1,000,000–$1,999,999	3 412.5	3 269.8	3 504.9
$2 million and over	3 885.3	4 487.2	4 465.8
All ranges	**27 122.3**	**27 300.1**	**27 606.6**
	TOTAL CASH OPERATING SURPLUS(a)		
	$m	$m	$m
<$50,000	–10.3	–51.8	**–27.3
$50,000–$99,999	320.0	343.3	235.1
$100,000–$149,999	391.9	411.3	*255.6
$150,000–$199,999	532.6	458.2	448.5
$200,000–$249,999	591.8	350.4	439.6
$250,000–$299,999	422.0	448.9	301.2
$300,000–$499,999	999.7	1 291.2	1 118.9
$500,000–$999,999	1 294.0	1 309.5	1 235.9
$1,000,000–$1,999,999	736.1	697.3	784.3
$2 million and over	628.5	833.5	737.3
All ranges	**5 906.3**	**6 091.7**	**5 529.1**

(a) Excludes any estimate for the change in value of livestock.

4.18 FARM BUSINESSES, By Size of Turnover—Years ended 30 June *continued*

Size of turnover	*1997*	*1998*	*1999*
	TOTAL GROSS INDEBTEDNESS		
	$m	$m	$m
<$50,000	858.5	860.9	755.2
$50,000–$99,999	1 239.8	1 366.5	1 488.6
$100,000–$149,999	1 483.0	1 277.1	1 815.7
$150,000–$199,999	1 759.7	1 581.8	1 727.0
$200,000–$249,999	1 522.6	1 340.8	1 606.2
$250,000–$299,999	1 187.2	1 135.1	1 088.5
$300,000–$499,999	3 062.4	3 925.3	4 351.9
$500,000–$999,999	4 296.0	4 858.6	4 506.3
$1,000,000–$1,999,999	2 496.8	2 178.7	3 411.0
$2 million and over	2 558.2	3 106.1	3 544.9
All ranges	**20 464.2**	**21 630.8**	**24 295.4**
	PROFIT MARGIN(a)		
	%	%	%
<$50,000	–1.7	–8.3	–4.5
$50,000–$99,999	19.9	22.0	16.3
$100,000–$149,999	21.9	24.7	13.5
$150,000–$199,999	24.5	22.2	22.5
$200,000–$249,999	27.1	23.1	24.0
$250,000–$299,999	24.8	32.1	20.5
$300,000–$499,999	23.8	25.4	23.0
$500,000–$999,999	23.3	23.2	22.3
$1,000,000–$1,999,999	21.6	21.3	22.4
$2 million and over	16.2	18.6	16.5
All ranges	**21.8**	**22.3**	**20.0**

(a) Excludes any estimate for the change in value of livestock.

4.19 FARM BUSINESS PERFORMANCE MEASUREMENT RATIOS(a)

	NSW(b)	Vic.	Qld	SA	WA	Tas.	Aust.(c)
Profit margin (%)							
1988–89	21.1	26.9	24.5	32.5	31.5	24.8	25.8
1989–90	21.0	23.7	23.1	33.3	27.3	23.1	24.4
1990–91	14.2	17.1	21.8	17.1	19.7	16.7	17.8
1991–92	13.0	19.6	16.6	24.0	13.8	14.4	16.7
1992–93	15.7	24.3	21.5	22.3	21.5	14.7	20.3
1993–94	18.8	21.8	19.8	24.0	22.6	16.1	20.4
1994–95	14.4	21.6	22.5	24.2	24.8	17.1	20.6
1995–96	18.9	23.3	24.3	33.4	29.0	15.8	24.1
1996–97	20.4	22.1	20.9	27.0	23.4	16.2	21.8
1997–98	21.8	22.6	21.9	25.0	23.7	14.9	22.3
1998–99	16.9	19.9	21.9	26.5	18.4	20.0	20.0
Return on assets (%)							
1988–89	3.8	4.5	4.2	5.8	7.1	4.6	4.7
1989–90	3.8	4.2	4.2	6.8	5.8	4.5	4.6
1990–91	2.4	2.7	3.9	2.7	3.9	2.9	3.1
1991–92	2.0	3.2	2.8	4.7	2.7	2.7	2.9
1992–93	2.5	4.6	3.9	4.1	4.5	2.9	3.7
1993–94	3.4	4.1	3.8	4.5	4.9	3.3	3.9
1994–95	2.5	4.2	4.6	5.2	5.6	3.7	4.1
1995–96	3.8	5.0	4.5	8.0	7.1	3.9	5.0
1996–97	4.0	4.6	3.9	5.8	4.9	3.6	4.4
1997–98	4.2	4.6	4.0	5.4	5.1	3.3	4.4
1998–99	3.3	4.0	4.2	5.6	3.5	4.1	3.9
Return on net worth (%)							
1988–89	4.2	4.9	4.8	6.5	8.0	5.2	5.3
1989–90	4.4	4.7	4.8	7.6	6.7	5.1	5.2
1990–91	2.8	3.0	4.5	3.1	4.6	3.4	3.6
1991–92	2.4	3.6	3.2	5.4	3.2	3.3	3.3
1992–93	2.9	5.2	4.5	4.8	5.2	3.5	4.3
1993–94	4.0	4.6	4.4	5.3	5.8	4.0	4.5
1994–95	2.9	4.8	5.4	6.0	6.7	4.5	4.7
1995–96	4.4	5.7	5.3	9.4	8.7	4.8	5.9
1996–97	4.7	5.2	4.6	6.9	5.8	4.3	5.1
1997–98	4.9	5.3	4.8	6.4	6.1	4.0	5.2
1998–99	3.9	4.7	5.1	6.7	4.3	5.0	4.7
Return on farm operating costs (%)							
1988–89	26.1	35.7	31.2	45.7	43.9	32.3	33.6
1989–90	25.7	29.9	28.9	47.1	35.7	28.8	31.0
1990–91	16.1	19.9	26.8	19.7	23.7	19.1	20.9
1991–92	14.6	23.8	19.4	30.4	15.7	16.3	19.5
1992–93	18.3	31.4	26.8	27.7	26.7	16.9	25.0
1993–94	22.8	27.3	24.2	30.9	28.6	18.8	25.2
1994–95	16.5	27.0	28.5	31.5	32.3	20.3	25.4
1995–96	22.7	29.4	31.3	48.3	39.7	18.3	30.7
1996–97	24.7	27.2	25.9	35.7	29.5	18.6	26.9
1997–98	27.2	28.4	27.4	32.4	30.0	17.2	28.0
1998–99	19.9	24.0	27.4	34.7	21.8	24.2	24.3
Debt to asset ratio							
1988–89	8.7	11.4	8.7	9.0	9.0	9.7	9.2
1989–90	7.3	8.8	8.1	8.6	6.7	7.3	7.8
1990–91	7.6	8.8	7.7	7.2	6.2	6.5	7.6
1991–92	7.1	9.0	7.0	7.2	7.1	5.3	7.3
1992–93	7.1	8.5	7.2	7.3	6.4	6.1	7.2
1993–94	7.9	8.9	6.6	6.9	6.2	6.0	7.3
1994–95	7.2	7.6	6.4	7.0	5.4	5.2	6.7
1995–96	6.7	8.6	6.6	6.8	5.6	6.0	6.8
1996–97	7.1	7.3	6.3	6.0	6.6	5.5	6.7
1997–98	6.8	7.1	5.9	6.6	5.9	5.8	6.4
1998–99	5.8	7.2	5.2	5.8	5.7	5.4	5.9

(a) Refer to paragraphs 5–7 and 15 of the Explanatory Notes. (b) Includes the Australian Capital Territory. (c) Includes the Northern Territory.

4.19 FARM BUSINESS PERFORMANCE MEASUREMENT RATIOS(a) *continued*

	NSW(b)	Vic.	Qld	SA	WA	Tas.	Aust.(c)
Turnover to debt ratio							
1988–89	0.62	0.54	0.68	0.62	0.52	0.55	0.60
1989–90	0.69	0.56	0.66	0.56	0.61	0.62	0.63
1990–91	0.78	0.72	0.71	0.81	0.78	0.83	0.75
1991–92	0.88	0.69	0.81	0.71	0.76	0.91	0.78
1992–93	0.87	0.61	0.77	0.74	0.71	0.90	0.75
1993–94	0.72	0.61	0.75	0.75	0.73	0.80	0.72
1994–95	0.76	0.62	0.76	0.68	0.77	0.83	0.73
1995–96	0.72	0.58	0.83	0.60	0.74	0.72	0.71
1996–97	0.73	0.61	0.83	0.72	0.80	0.79	0.74
1997–98	0.75	0.68	0.90	0.73	0.75	0.81	0.77
1998–99	0.83	0.69	0.94	0.76	0.90	0.87	0.80
Interest coverage ratio							
1988–89	3.2	4.6	3.8	4.6	5.7	4.2	4.1
1989–90	3.0	3.4	3.1	4.4	4.0	3.2	3.4
1990–91	2.2	2.6	3.2	2.4	2.9	2.5	2.7
1991–92	2.1	3.3	2.7	3.9	2.6	2.3	2.7
1992–93	2.9	4.3	3.9	3.9	4.2	2.7	3.7
1993–94	3.9	4.9	4.2	5.2	5.0	3.6	4.4
1994–95	3.0	4.4	4.8	4.8	5.0	3.5	4.2
1995–96	3.8	5.2	4.6	6.4	6.4	3.2	4.9
1996–97	4.2	4.8	4.0	5.0	5.1	3.2	4.4
1997–98	4.8	5.1	4.6	4.9	5.3	3.0	4.8
1998–99	3.8	4.7	4.6	5.5	4.0	4.2	4.4
Interest paid as a proportion of turnover (%)							
1988–89	9.4	7.6	8.7	9.0	6.6	7.7	8.3
1989–90	10.8	10.1	10.8	9.7	9.0	10.6	10.2
1990–91	12.2	10.6	9.8	11.9	10.2	11.2	10.8
1991–92	12.2	8.7	9.5	8.1	8.4	11.1	9.8
1992–93	8.2	7.4	7.4	7.7	6.6	8.7	7.5
1993–94	6.4	5.6	6.3	5.7	5.6	6.2	6.0
1994–95	7.1	6.3	6.0	6.4	6.3	6.7	6.4
1995–96	6.7	5.5	6.8	6.2	5.4	7.1	6.2
1996–97	6.4	5.8	6.9	6.8	5.7	7.3	6.3
1997–98	5.8	5.5	6.0	6.5	5.5	7.3	5.8
1998–99	6.2	5.4	6.1	5.9	6.1	6.2	6.0
Farm operating costs as a proportion of turnover (%)							
1988–89	80.8	75.5	78.4	71.1	71.8	76.9	76.8
1989–90	81.9	79.3	80.0	70.6	76.6	80.0	78.8
1990–91	88.5	85.9	81.2	87.0	83.2	87.2	85.2
1991–92	89.3	82.5	85.7	78.8	88.1	87.9	85.6
1992–93	85.9	77.5	80.0	80.4	80.5	87.0	81.4
1993–94	82.5	79.8	81.7	77.7	79.0	85.3	81.0
1994–95	87.3	79.8	78.9	76.9	76.8	84.4	80.9
1995–96	83.5	79.3	77.7	69.1	73.2	86.4	78.3
1996–97	82.9	81.2	80.9	75.7	79.1	87.1	81.0
1997–98	80.3	79.7	79.8	77.1	78.8	87.1	79.8
1998–99	85.1	82.9	80.0	76.4	84.2	82.7	82.3

(a) Refer to paragraphs 5–7 and 15 of the Explanatory Notes.

(b) Includes the Australian Capital Territory.

(c) Includes the Norhthern Territory.

4.20 REAL ESTIMATES(a) (Base Year 1997–98)

	Cash operating surplus	*Real cash operating surplus*	*Net worth*	*Real net worth*
	$m	$m	$m	$m
1998–99				
New South Wales(b)	1 276.9	1 255.8	32 691.1	32 152.1
Victoria	1 088.4	1 077.7	24 591.4	24 349.8
Queensland	1 453.0	1 437.8	28 142.9	27 848.3
South Australia	779.3	767.8	11 244.3	11 078.8
Western Australia	769.2	759.0	18 344.2	18 101.4
Tasmania	135.1	133.6	2 510.7	2 482.5
Australia(c)				
1989–90	5 330.6	6 191.2	98 239.0	114 098.7
1990–91	3 142.8	3 492.0	92 768.3	103 075.9
1991–92	3 095.0	3 356.8	93 598.4	101 516.7
1992–93	4 083.2	4 330.0	95 868.5	101 663.3
1993–94	4 433.3	4 627.7	100 679.0	105 092.9
1994–95	4 835.7	5 016.3	103 930.7	107 811.9
1995–96	6 429.3	6 547.1	113 494.4	115 574.7
1996–97	5 906.3	5 978.0	116 703.3	118 120.7
1997–98	6 091.7	6 091.7	116 740.5	116 740.5
1998–99	5 529.1	5 458.1	118 127.0	116 611.1

(a) Refer to paragraphs 26–28 of the Explanatory Notes.

(b) Includes the Australian Capital Territory.

(c) Includes the Northern Territory.

CHAPTER 5 LAND MANAGEMENT

LAND USE

The estimate of the area of land used for agricultural activity in 1998–99 was 454 million hectares or 59% of Australia's land mass. Queensland had the largest estimate of land area used for agriculture, with 140 million hectares, or 31% of the national total and was followed by Western Australia with an estimate of 113 million hectares, or 25% of the national total.

The estimate of the area planted to crops increased by 8% to 23.3 million hectares in 1998–99, while the estimate of the area devoted to sown pastures and grasses fell slightly to 22.5 million hectares.

5.1 LAND USE, Area—Years ended 31 March

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*	*Aust.*
	'000 ha	'000 ha	'000 ha	'000 ha	'000 ha	'000 ha	'000 ha	'000 ha	'000 ha
					CROPS(a)				
1997	5 589	2 552	2 685	3 278	6 950	73	5	—	21 132
1998	5 592	2 565	r2 684	3 290	7 328	78	4	—	r21 541
1999	6 173	2 749	3 014	3 648	7 597	76	7	—	23 264
					PASTURES AND GRASSES				
1997	4 436	3 945	3 219	2 214	4 542	633	37	13	19 039
1998	5 263	4 639	r4 298	2 595	5 220	710	41	13	r22 778
1999	5 588	4 739	4 004	2 491	4 902	743	41	13	22 523
					AGRICULTURAL LAND(b)				
1997	60 901	12 745	149 560	56 219	112 482	1 920	68 319	49	462 196
1998	60 333	12 691	148 186	57 516	115 771	1 914	67 324	50	463 786
1999	59 284	12 790	140 310	59 385	113 099	1 928	66 885	49	453 729
					NON-AGRICULTURAL LAND(c)(d)				
1997	19 163	9 997	23 505	42 129	140 506	4 920	66 594	187	307 007
1998	19 731	10 051	24 879	40 832	137 217	4 926	67 589	186	305 417
1999	20 780	9 952	32 755	38 963	139 889	4 912	68 028	187	315 474
					TOTAL LAND(d)				
1999	**80 064**	**22 742**	**173 065**	**98 348**	**252 988**	**6 840**	**134 913**	**236**	**769 203**

(a) Excludes crops harvested for hay and seed.

(b) Total area of establishments with EVAO of $5,000 or more.

(c) 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, mangrove swamps, etc. as well as establishments not included in the scope of the ACS.

(d) Total area for Australia includes Jervis Bay Territory.

NOTE: Agricultural land is generally divided into cropped land, land sown to pastures and grasses and a broad balance comprising grazing land, land lying idle or under fallow, etc.

IRRIGATION

The total area of land irrigated in 1998–99 was estimated to be 2.3 million hectares, or less than 1% of the total land used for agriculture. The most intensively irrigated crops were rice, grapevines and cotton with 100%, 88% and 84%, respectively, of their growing areas recorded as being irrigated.

Most of the irrigated land is located within the confines of the Murray–Darling Basin, which covers parts of New South Wales, Victoria, Queensland and South Australia.

5.2 AREA OF CROPS AND PASTURES IRRIGATED—Years ended 31 March

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
	'000 ha	'000 ha	'000 ha	'000 ha	'000 ha	'000 ha	'000 ha	'000 ha	'000 ha	'000 ha	'000 ha
Pastures (native or sown)											
Annual	(a)	(a)	534	199	267	27	18	**12	10	—	—
Perennial	(a)	(a)	452	115	251	21	41	5	19	—	—
Total pastures	*934*	*1 048*	*986*	*314*	*518*	*48*	*59*	*17*	*29*	—	—
Cereals											
Rice	(a)	(a)	148	148	**—	—	—	—	(a)	—	—
Other cereals											
Winter	(a)	(a)	168	131	15	17	3	*—	2	—	—
Summer	(a)	(a)	50	32	*2	13	*1	1	—	—	—
Total cereals	*336*	*378*	*366*	*311*	*17*	*30*	*4*	*1*	*2*	—	—
Vegetables for human consumption	89	103	97	16	21	26	11	8	15	—	—
Fruit (including nuts)	82	96	94	23	22	23	15	6	3	2	—
Grapevines	70	88	108	25	32	1	45	5	—	—	—
Sugar cane for crushing	173	201	156	**—	(a)	153	(a)	3	(a)	—	(a)
Cotton	(a)	(a)	375	256	**—	117	—	—	(a)	—	—
All other crops	372	450	77	29	9	20	7	2	9	—	—
Total area irrigated	**2 057**	**2 365**	**2 251**	**974**	**619**	**417**	**137**	**42**	**58**	**3**	**—**

(a) Data not collected.

GROUND PREPARATION METHODS

Information on ground preparation methods is currently collected only in Victoria. The 1998–99 season saw a continuation of the changes seen in the previous season.

The use of one or two cultivations immediately prior to sowing more than doubled (up from 705,000 hectares or 35% of the total land cultivated for broadacre crops in 1997–98 to 1.6 million hectares or 64% of the total land cultivated in 1998–99) while the use of multiple (more than two) cultivations well in advance of sowing fell to less than half of the previous season (down from 962,000 hectares or 48% of the total land cultivated in 1997–98 to 473,000 hectares or 19% of the total land cultivated in 1998–99).

The area prepared using zero-tillage increased from 350,000 hectares in 1997–98, to 400,000 hectares in 1998–99.

The treatment of stubble prior to planting in Victoria for the 1998–99 season followed the pattern of change of the previous season. There was a continuation of a move to ploughing-in (up from 442,000 hectares or 29% of the total area of stubble in 1997–98 to

GROUND PREPARATION METHODS *continued*

555,000 hectares or 33% of the total area of stubble in 1998–99) and a move away from all other methods. Stubble removed by burning fell from 21% to 19% of the total area of stubble; baling, heavy grazing, or fire harrowing fell from 19% to 18% of the total area of stubble while mulching fell from 17% to 15% of the total area of stubble. Stubble retention fell from 15% to 14% of the total area of stubble.

The preparation of fallow land for the 1999–2000 season in Victoria saw a further move toward the use of cultivation-based methods and a reduction in the use of complete chemical knockdown. In December 1999 there were 633,000 hectares of fallow land prepared using cultivation-based methods (equating to 65% of the total fallow) while in December 1998 there were 558,000 hectares, or 61% of the total fallow.

5.3 GROUND PREPARATION METHODS, VICTORIA—Years ended 31 March

	1997	*1998*	*1999*
	'000 ha	'000 ha	'000 ha
CULTIVATION FOR BROADACRE CROPS			
More than two cultivations using discs, tines, ploughs, etc.	(a)	962	473
One or two cultivations immediately prior to sowing	674	705	1 577
No cultivation (apart from actual sowing operation)	297	350	400
Total area prepared for sowing of broadacre crops	(a)	2 017	2 450
TREATMENT OF CROP AND PASTURE STUBBLE			
Stubble removed by burning (excluding fire harrowing)	365	330	326
Stubble removed by baling, heavy grazing or fire harrowing	208	287	311
Stubble ploughed into the soil	294	442	555
Stubble was mulched	222	258	249
Stubble was left intact	239	232	242
METHOD OF PREPARATION OF FALLOW LAND			
Pasture topping	191	186	173
Complete chemical fallow using knockdown herbicide	202	178	162
Cultivation (with or without herbicide)	380	558	633

(a) Data not collected.

CHAPTER 6 CROPS AND PASTURES

OVERVIEW

Within the cropping sector, production of wheat, grain sorghum, oats and canola increased over the 1998–99 period, while production of barley fell.

WHEAT

The total area of wheat planted increased 11% to a record 11.5 million hectares in 1998–99. All States recorded increased plantings with Western Australia having the largest area planted (4.5 million hectares) followed by New South Wales (3.2 million hectares). Of the major growing States, South Australia recorded the largest increase in plantings, up 22% (323,000 hectares) to 1.8 million hectares.

Production of wheat increased by 12% to 21.5 million tonnes in 1998–99. This was just below the record 22.9 million tonnes produced in 1996–97. Production increased in all States except Victoria, which fell by 3% to 1.5 million tonnes. Western Australia was the main producer of wheat with 8.2 million tonnes, followed by New South Wales with 6.6 million tonnes. New South Wales recorded the biggest increase in production, up 657,000 tonnes (11%), followed by South Australia which recorded an increase of 621,000 tonnes (23%) to 3.3 million tonnes.

6.1 WHEAT PRODUCTION AND AREA

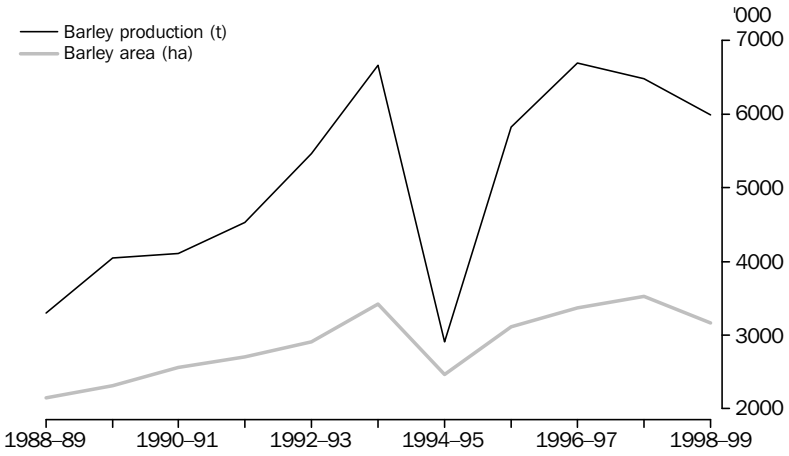
BARLEY

The total area of barley planted fell by 10% to 3.2 million hectares in 1998–99. Plantings were down in all States except Queensland. The largest plantings were in South Australia with 975,000 hectares (down 4% or 42,000 hectares) and Western Australia with 811,000 hectares (down 22% or 225,000 hectares).

Production of barley fell by 8% to 6.0 million tonnes in 1998–99. Production was down in all States except South Australia and Queensland. South Australia was the largest producer of barley, with production steady at 2.1 million tonnes. Western Australia was the second largest producer of barley but its crop of 1.5 million tonnes in 1998–99 was down 457,000 tonnes (24%) on 1997–98.

BARLEY *continued*

6.2 BARLEY PRODUCTION AND AREA



GRAIN SORGHUM

Production of grain sorghum increased by 75% to a record 1.9 million tonnes in 1998–99. While grain sorghum is only grown in significant quantities in Queensland and New South Wales, in 1998–99 it was the third biggest cereal crop (in terms of production) in Australia.

Production increased as a result of improved yields in Queensland and as a result of both increased yields and plantings in New South Wales.

6.3 GRAIN SORGHUM PRODUCTION AND AREA

OATS

Production of oats increased by 10% to 1.8 million tonnes in 1998–99 despite a fall in production of 22% in Western Australia. The increase was largely a result of higher yields and plantings in New South Wales and Victoria.

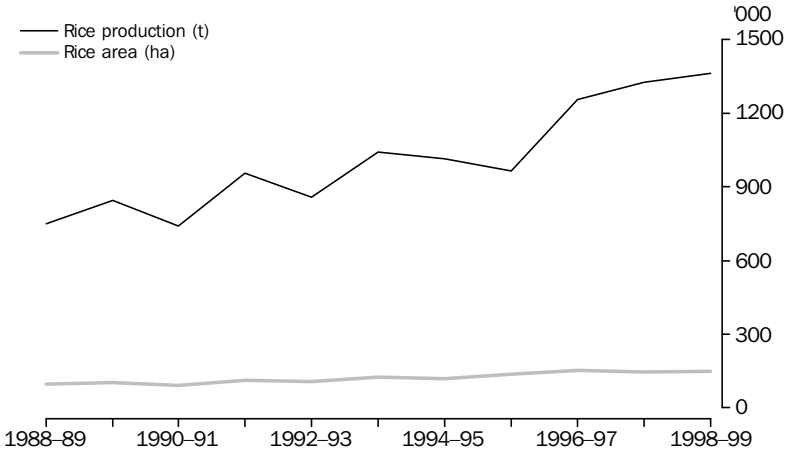
OATS *continued*

6.4 OATS PRODUCTION AND AREA

RICE

The total area of rice planted increased slightly to a record 148,000 hectares in 1998–99. An increase in average yield to 9.2 tonnes per hectare (up from 9.0 tonnes per hectare in 1997–98) saw total rice production increase by 3% to 1.4 million tonnes in 1998–99. New South Wales was the main rice producing State with more than 99% of total Australian production.

6.5 RICE PRODUCTION AND AREA



LUPINS

The total area of lupins planted for grain remained steady at 1.4 million hectares in 1998–99. Western Australia was the main growing State with 84% of the total area planted.

The production of lupins for grain increased by 9% to 1.7 million tonnes in 1998–99 as a result of better yields, up from 1.1 tonnes per hectare in 1997–98 to 1.2 tonnes per hectare in 1998–99.

LUPINS *continued*

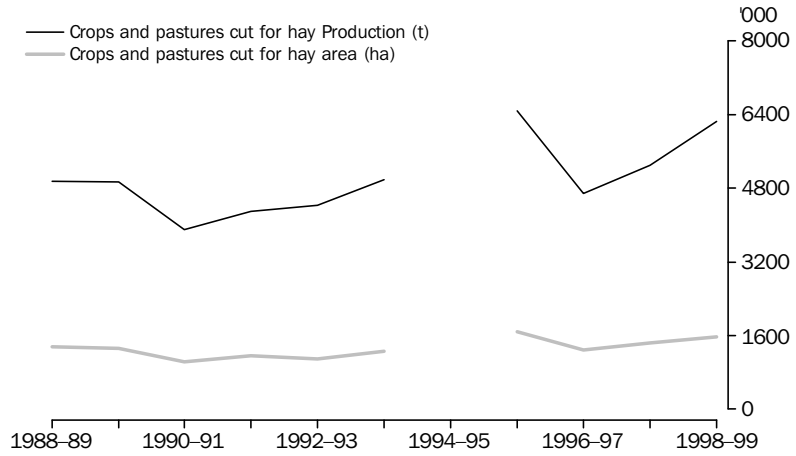
6.6 LUPINS PRODUCTION AND AREA

CROPS AND PASTURES CUT FOR HAY

The total area of crops and pastures cut for hay increased by 10% to 1.6 million hectares in 1998–99. The area of pastures cut for hay increased by 14% to 1.1 million hectares and the area of crops cut for hay increased by 2% to 0.5 million hectares.

The total production of hay from crops and pastures increased by 18% to 6.2 million tonnes in 1998–99. The production of hay from pastures increased by 21% to 4.3 million tonnes and the production of hay from crops increased by 12% to 2.0 million tonnes.

6.7 CROPS AND PASTURES CUT FOR HAY, PRODUCTION AND AREA(a)



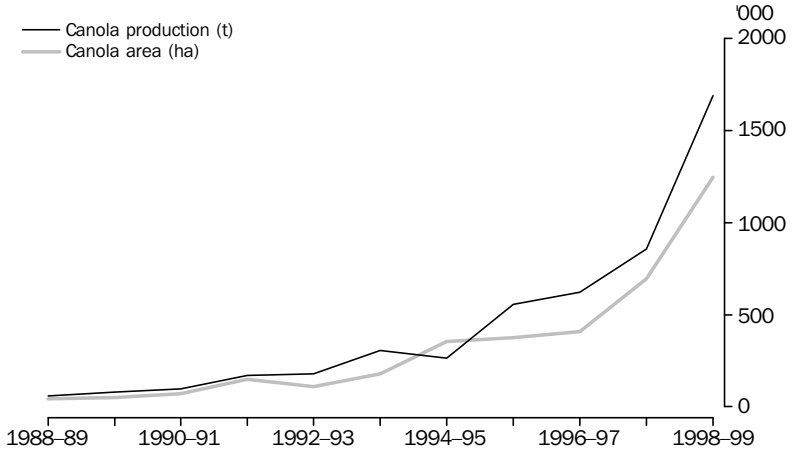
(a) Data not collected in 1994–95.

CANOLA

Canola production nearly doubled in 1998–99 (up by 98% to a record 1.7 million tonnes) as a result of increased plantings (up by 79% to 1.2 million hectares) and better yields in most producing States. The greatest increases were in Western Australia with plantings up by 116% to 536,000 hectares and production up by 128% to 615,000 tonnes.

CANOLA *continued*

6.8 CANOLA PRODUCTION AND AREA



SUGAR CANE

The total area of sugar cane planted fell by 3% to 402,000 hectares in 1998–99. Queensland was the main sugar cane growing State and although area planted was down by 4% to 379,000 hectares it still represented 94% of the total area planted. Plantings of sugar cane in New South Wales increased by 5% to 20,000 hectares.

The production of sugar cane for crushing fell by 3% to 38.5 million tonnes in 1998–99 as a result of lower production in Queensland (down by 3% to 35.6 million tonnes). In contrast, production of sugar cane for crushing increased in New South Wales by 6% to 2.6 million tonnes.

6.9 SUGAR CANE PRODUCTION

COTTON LINT

The total area of cotton planted increased by 17% to 446,000 hectares in 1998–99. New South Wales was the main cotton growing State with area planted up by 20% to 292,000 hectares. Queensland was the other main cotton growing State with area planted up by 12% to 154,000 hectares.

COTTON LINT *continued*

The production of cotton lint increased by 12% to 634,000 tonnes in 1998–99. A 3% fall in cotton lint production in New South Wales (down from 405,000 tonnes in 1997–98 to 393,000 tonnes in 1998–99) was more than offset by a 52% increase in cotton lint production in Queensland (up from 159,000 tonnes in 1997–98 to 241,000 tonnes in 1998–99).

6.10 COTTON LINT PRODUCTION AND AREA

6.11 PRINCIPAL CROPS, Production—Years ended 31 March

	AUSTRALIA	1999								
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Cereal for grain											
Barley											
Production ('000 t)	6 696	6 482	5 987	1 247	870	320	2 051	1 469	30	—	—
Area ('000 ha)	3 366	3 521	3 167	638	568	163	975	811	11	—	—
Yield (t/ha)	2.0	1.8	1.9	2.0	1.5	2.0	2.1	1.8	2.7	—	—
Grain sorghum											
Production ('000 t)	1 425	1 081	1 891	822	**2	1 059	—	*6	—	2	—
Area ('000 ha)	544	507	587	216	**1	367	—	*2	—	1	—
Yield (t/ha)	2.6	2.1	3.2	3.8	1.9	2.9	—	3.0	—	1.7	—
Maize											
Production ('000 t)	398	272	338	186	3	145	**—	*4	—	1	—
Area ('000 ha)	67	57	64	27	1	37	**—	*—	—	—	—
Yield (t/ha)	6.0	4.7	5.2	7.0	5.0	3.9	13.3	7.7	17.0	3.1	—
Oats											
Production ('000 t)	1 653	1 634	1 798	669	458	15	178	463	14	—	—
Area ('000 ha)	1 052	937	909	354	188	18	112	228	8	—	—
Yield (t/ha)	1.6	1.7	2.0	1.9	2.4	0.8	1.6	2.0	1.8	—	1.8
Rice											
Production ('000 t)	1 255	1 324	1 362	1 357	5	—	—	—	—	—	—
Area ('000 ha)	152	147	148	148	1	—	—	—	—	—	—
Yield (t/ha)	8.2	9.0	9.2	9.2	7.2	—	—	—	—	—	—
Triticale											
Production ('000 t)	674	633	707	324	180	*4	147	43	10	—	—
Area ('000 ha)	346	366	386	143	111	1	99	29	2	—	—
Yield (t/ha)	1.9	1.7	1.8	2.3	1.6	2.9	1.5	1.5	3.9	—	—
Wheat											
Production ('000 t)	22 925	19 227	21 465	6 563	1 462	1 941	3 310	8 170	18	—	—
Area ('000 ha)	10 936	10 441	11 543	3 174	949	1 139	1 762	4 515	4	—	—
Yield (t/ha)	2.1	1.8	1.9	2.1	1.5	1.7	1.9	1.8	4.4	—	—
Legumes											
Lupins for grain											
Production ('000 t)	1 522	1 561	1 696	175	46	**—	102	1 372	1	—	—
Area ('000 ha)	1 260	1 425	1 406	106	42	**—	79	1 180	—	—	—
Yield (t/ha)	1.2	1.1	1.2	1.7	1.1	**2.8	1.3	1.2	2.7	—	—
Field peas for grain											
Production ('000 t)	454	316	370	28	93	*—	208	40	1	—	—
Area ('000 ha)	336	366	369	24	149	*2	145	49	1	—	—
Yield (t/ha)	1.4	0.9	1.0	1.2	0.6	0.3	1.4	0.8	1.7	—	—
Crops cut for hay											
Cereal crops for hay											
Production ('000 t)	1 220	1 567	1 827	410	362	86	418	539	10	1	—
Area ('000 ha)	326	401	425	97	93	20	100	112	2	—	—
Yield (t/ha)	3.7	3.9	4.3	4.2	3.9	4.4	4.2	4.8	4.6	3.6	4.8
Non-cereal crops for hay											
Production ('000 t)	109	170	126	29	31	21	18	*17	4	5	—
Area ('000 ha)	36	59	45	7	18	6	6	*5	1	1	—
Yield (t/ha)	3.0	2.9	2.8	4.1	1.8	3.7	2.9	3.2	4.7	3.6	—

6.11 PRINCIPAL CROPS, Production—Years ended 31 March *continued*

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Oilseeds											
Canola											
Production ('000 t)	623	855	1 690	623	257	*1	193	615	1	—	—
Area ('000 ha)	408	698	1 247	372	205	*1	132	536	1	—	—
Yield (t/ha)	1.5	1.2	1.4	1.7	1.3	1.1	1.5	1.1	1.4	—	—
Total oilseeds											
Production ('000 t)	*864*	*1 005*	*2 039*	*793*	*268*	*166*	*196*	*615*	*1*	—	—
Area ('000 ha)	*622*	*839*	*1 538*	*496*	*222*	*145*	*136*	*537*	*1*	—	—
Yield (t/ha)	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Other crops											
Sugar cane cut for crushing											
Production ('000 t)	38 633	39 531	38 534	2 555	(a)	35 587	(a)	392	(a)	(a)	(a)
Area ('000 ha)	390	415	402	20	(a)	379	(a)	3	(a)	(a)	(a)
Yield (t/ha)	99.0	95.2	95.9	126.0	. .	93.9	. .	135.5	. .	. .	. .
Cotton lint											
Production ('000 t)	560	564	634	393	(a)	241	(a)	—	(a)	(a)	—
Area ('000 ha)	378	381	446	292	(a)	154	(a)	—	(a)	(a)	—
Yield (t/ha)	1.5	1.5	1.4	1.3	. .	1.6	. .	0.7	. .	. .	—
Peanuts (in shell)											
Production ('000 t)	47	32	47	*2	—	45	—	—	—	—	—
Area ('000 ha)	24	19	21	**1	—	20	—	—	—	—	—
Yield (t/ha)	2.0	1.7	2.2	3.5	—	2.2	—	—	—	1.8	—
Tobacco											
Production ('000 t)	9	8	7	—	3	4	—	—	—	—	—
Area ('000 ha)	3	3	3	—	2	2	—	—	—	—	—
Yield (t/ha)	2.6	2.6	2.2	—	2.0	2.4	—	—	—	—	—
Pastures and grasses cut for hay											
Lucerne											
Production ('000 t)	897	863	933	406	199	196	86	16	11	19	1
Area ('000 ha)	184	179	192	92	42	23	26	2	2	4	—
Yield (t/ha)	4.9	4.8	4.9	4.4	4.8	8.5	3.3	6.7	5.2	4.7	5.2
Other											
Production ('000 t)	2 461	2 695	3 358	527	1 925	47	242	365	239	11	1
Area ('000 ha)	738	789	906	152	513	11	73	96	55	5	—
Yield (t/ha)	3.3	3.4	3.7	3.5	3.7	4.3	3.3	3.8	4.4	2.2	4.7
Total cut for hay											
Production ('000 t)	*3 358*	*3 558*	*4 291*	*933*	*2 124*	*243*	*328*	*381*	*250*	*30*	*2*
Area ('000 ha)	*922*	*967*	*1 098*	*245*	*555*	*34*	*99*	*98*	*57*	*9*	—
Yield (t/ha)	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Pasture seed											
Production ('000 t)	25	27	30	4	12	1	10	1	2	—	—
Area ('000 ha)	100	112	113	18	25	**25	34	8	2	1	—
Yield (t/ha)	0.3	0.2	0.3	0.2	0.5	*—	0.3	0.2	1.0	0.3	—

(a) Data not collected.

CHAPTER 7 HORTICULTURE

OVERVIEW

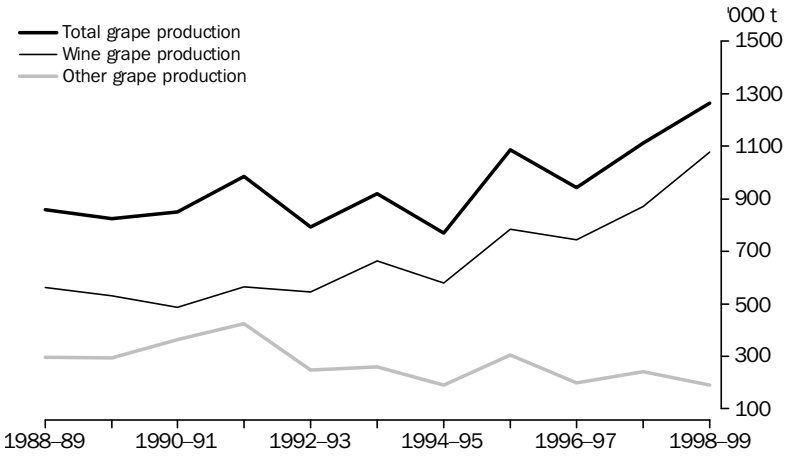
The 1998–99 season saw increased production for most major fruit and vegetable crops.

FRUIT

Grapes

Improvements to the ABS' register of businesses resulted in a better coverage of grape growing establishments for the 1998–99 survey. As a result, the number of viticulture businesses surveyed increased to better reflect the output of the industry. The difference between the 1997–98 estimates and the 1998–99 estimates includes a change associated with the increased coverage and a change associated with the units previously surveyed. Analysis of the data shows that there was a 25% increase in the area of grape vines reported in 1998–99, up to a record 123,000 hectares. The increase in plantings consisted of a 12% increase from units previously surveyed and a 13% increase from improved coverage. The amount of grapes produced in 1998–99 rose by 14% to a record 1.3 million tonnes. The increase in production consisted of a 5% increase from units previously surveyed and a 9% increase from improved coverage.

7.1 GRAPE PRODUCTION



Apples

Australian apple production increased by 8% to 334,000 tonnes in 1998–99. This growth was attributed to increased production in Tasmania (up 33% to 62,300 tonnes), Victoria (up 14% to 107,000 tonnes) and Western Australia (up 24% to 42,200 tonnes). However it was partially offset by decreased production in New South Wales (down 12% to 68,200 tonnes).

Apple tree numbers increased 2% to 6.0 million trees and followed the decade-long trend of increased plantings.

Apples *continued*

7.2 APPLE PRODUCTION

Oranges

Australian orange production fell by 11% to 446,000 tonnes in 1998–99. This fall was largely a result of reduced production in the main orange producing States of New South Wales (down 17% to 182,000 tonnes) and South Australia (down 8% to 165,000 tonnes).

7.3 ORANGE PRODUCTION

Bananas

The area planted to bananas increased by 9% to 11,400 hectares in 1998–99. This increase was attributed to continued planting in Queensland (up 16% to 7,900 hectares) which more than offset a decrease in the area of bananas planted in New South Wales (down 7% to 2,900 hectares).

Australian banana production rose slightly to 225,000 tonnes in 1998–99. Increased production was recorded in Queensland (up 5% or 8,900 tonnes to 175,000 tonnes) while production decreased 14% in New South Wales to 34,400 tonnes.

Bananas *continued*

7.4 BANANA PRODUCTION

Pears

Australian pear production increased by 3% to 157,000 tonnes in 1998–99. This increase was attributed to higher production in Victoria which is the main producing State with 87% of total production.

The estimated number of pear trees was up slightly to 1.4 million trees in 1998–99. An increase in tree numbers in South Australia and Western Australia was offset by a slight drop in tree numbers in Victoria.

7.5 PEAR PRODUCTION

Mangoes

Australian mango production decreased by 28% to 26,400 tonnes in 1998–99. This decrease was attributed to lower production in Queensland as a result of poor seasonal conditions which included heavy rains and flooding. Despite the poorer season Queensland remained the main producing State with 78% of total production (20,500 tonnes).

Mangoes *continued*

The estimated number of mango trees was up by 4% to 850,000 trees in 1998–99. An increase in tree numbers in New South Wales, Western Australia and the Northern Territory was offset by a small drop in tree numbers in Queensland.

7.6 MANGO PRODUCTION

Peaches

Australian peach production increased slightly to 66,000 tonnes in 1998–99. Production dropped slightly in Victoria (the main producing State with 60% of the national harvest or 39,800 tonnes) but increased in New South Wales (the second main producing State with 23% of the national harvest or 15,100 tonnes). Production in Victoria was significantly higher than New South Wales due to much better average yields per tree with Victorian growers reporting an average of 75.0 kg/tree and New South Wales growers reporting an average of 23.8 kg/tree.

The estimated number of peach trees was up slightly to 1.5 million trees in 1998–99. The estimated number of peach trees increased in New South Wales (up 29% to 633,000 trees) but fell in Victoria (down 15% to 531,000 trees). These changes saw New South Wales overtake Victoria as the State having the largest number of peach trees in Australia.

7.7 PEACH PRODUCTION

Apricots

Australian apricot production increased by 8% to 21,500 tonnes in 1998–99. Decreased production in South Australia (the main producing State with 48% of the national harvest or 10,400 tonnes) was more than offset by increased production in Victoria (the second biggest producing State with 45% of the national harvest or 9,600 tonnes).

The estimated number of apricot trees fell slightly to 565,000 trees in 1998–99. South Australia had the most trees with an estimated number of 294,000 trees or 52% of the national total.

7.8 APRICOT PRODUCTION

VEGETABLES

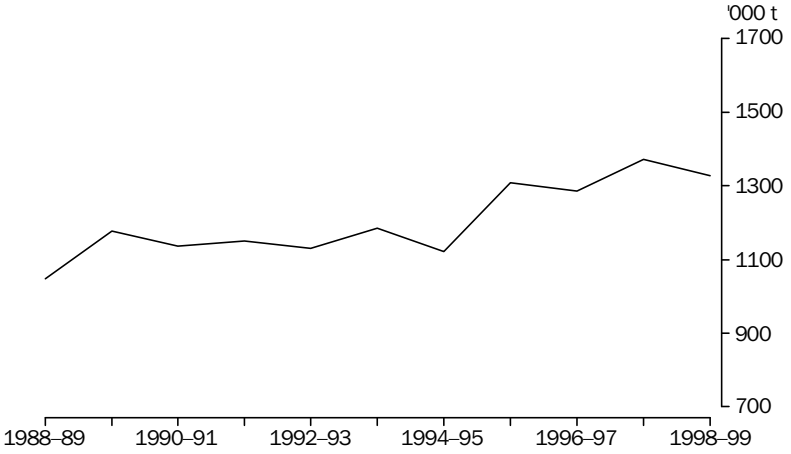
Potatoes

The total area planted to potatoes fell by 3% to 41,300 hectares in 1998–99. The main decreases were recorded in Tasmania (down 9% to 7,600 hectares) and Western Australia (down 15% to 2,700 hectares). Small increases in area planted were recorded in New South Wales and Victoria.

Australian potato production fell by 3% to 1.3 million tonnes during 1998–99. This decrease was mainly a result of significant falls in production in Tasmania (down 12% to 327,000 tonnes) and Western Australia (down 15% to 109,000 tonnes). Increases were recorded in Victoria (up 8% to 319,000 tonnes) and New South Wales (up 11% to 162,000 tonnes).

Potatoes *continued*

7.9 POTATO PRODUCTION



Onions

The area planted to onions in Australia fell by 5% to 5,400 hectares in 1998–99. This occurred as a result of significant drops in areas planted in South Australia (down 17% to 1,200 hectares) and Victoria (down 19% to 530 hectares).

Onion production rose slightly in 1998–99 despite the fall in area planted. Significant increases in production in New South Wales (up 37% to 41,100 tonnes) and Tasmania (up 16% to 60,500 tonnes) more than offset a 17% decrease in South Australia (down 12,700 tonnes to 61,500 tonnes) and a 14% decrease in Victoria (down 2,500 tonnes to 15,600 tonnes).

7.10 ONION PRODUCTION

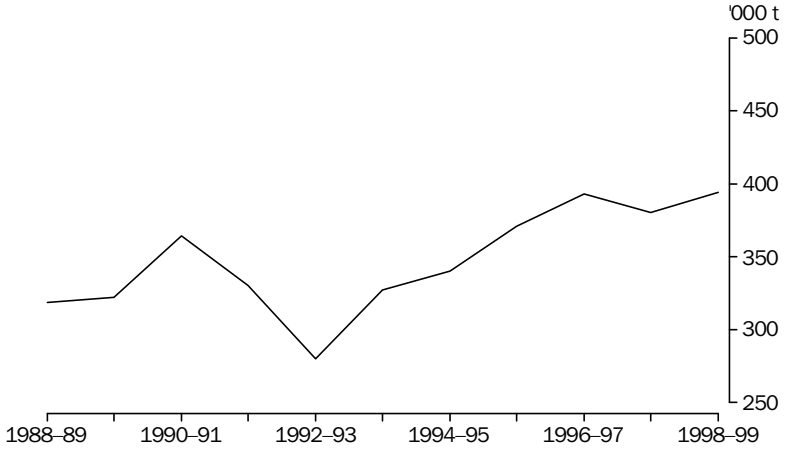
Tomatoes

The area planted to tomatoes in Australia increased by 7% to 8,500 hectares in 1998–99. This occurred mainly as a result of increased plantings in Victoria.

Australia's tomato harvest of 394,000 tonnes in 1998–99 was an increase of 4% over the previous year. Victoria was the main producing State accounting for 57% (225,000 tonnes) of the national harvest.

Tomatoes *continued*

7.11 TOMATO PRODUCTION

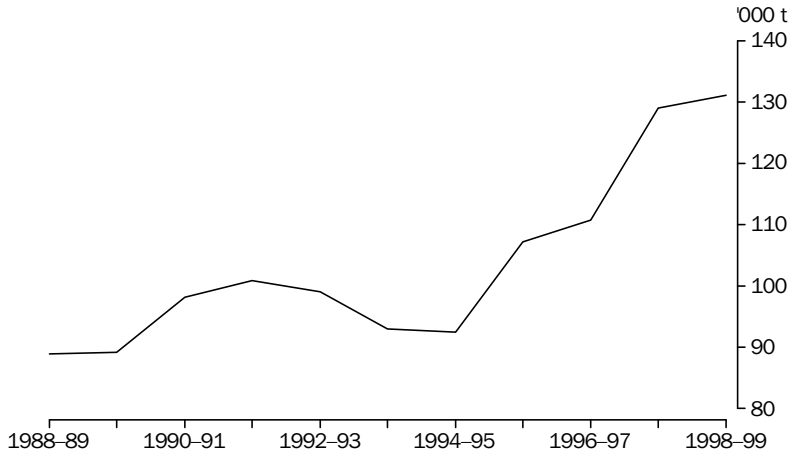


Lettuces

The area planted to lettuces increased by 8% to 6,200 hectares in 1998–99. Plantings rose in Victoria (up 12% to 2,800 hectares) and New South Wales (up 32% to 1,200 hectares) but fell in Queensland (down 9% to 1,400 hectares).

Lettuce production increased 2% over the previous year to 131,000 tonnes in 1998–99. Queensland and Victoria were the main producing States with production estimated at 41,900 tonnes and 40,200 tonnes respectively.

7.12 LETTUCE PRODUCTION



Pumpkins

The area planted to pumpkins increased by 27% to 7,500 hectares in 1998–99. This occurred mainly as a result of increased plantings in the main growing States of Queensland (up 21% to 3,800 hectares) and New South Wales (up 83% to 2,100 hectares).

Pumpkins *continued*

Pumpkin production increased 3% over the previous year to 87,600 tonnes in 1998–99. Increased production in Queensland (up 8% to 37,600 tonnes) and New South Wales (up 13% to 22,100 tonnes) was offset by a fall in Western Australia (down 24% to 13,900 tonnes). Lower average yields of 11.6 tonnes per hectare in 1998–99, as opposed to 14.3 tonnes per hectare in 1997–98, meant that the percentage rise in production was not as great as the percentage rise in area planted.

7.13 PUMPKIN PRODUCTION

7.14 FRUIT AND NUTS, Production(a)—Years ended 31 March

	AUSTRALIA		1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Citrus											
Oranges											
Production (t)	522 622	499 784	445 840	181 821	72 069	20 174	164 936	6 839	—	—	—
Trees ('000)	6 736	6 667	6 400	3 210	1 036	215	1 760	179	—	—	—
Yield (kg/tree)	77.6	75.0	69.7	56.6	69.6	93.8	93.7	38.1	—	—	—
Lemons and limes											
Production (t)	32 991	28 709	29 294	6 251	4 001	7 178	10 225	*1 607	—	31	—
Trees ('000)	389	407	389	127	57	94	89	*20	—	2	—
Yield (kg/tree)	84.9	70.5	75.2	49.3	69.9	76.1	115.1	80.3	—	14.9	—
Mandarins											
Production (t)	72 937	62 568	78 258	5 589	*7 096	52 876	11 205	1 492	—	—	—
Trees ('000)	1 074	1 090	1 175	139	131	701	161	43	—	—	—
Yield (kg/tree)	67.9	57.4	66.6	40.2	54.4	75.4	69.7	34.5	—	—	—
Pome											
Apples											
Production (t)	353 069	308 856	334 353	68 175	107 291	29 232	25 161	42 219	62 271	(b)	4
Trees ('000)	5 656	5 845	5 969	1 528	1 536	626	588	650	1 040	(b)	1
Yield (kg/tree)	62.4	52.8	56.0	44.6	69.9	46.7	42.8	65.0	59.9	. .	2.9
Pears (excl. Nashi)											
Production (t)	167 562	152 877	156 714	1 920	136 681	1 463	5 596	10 325	730	(b)	—
Trees ('000)	1 416	1 381	1 401	51	1 072	25	101	138	15	(b)	—
Yield (kg/tree)	118.3	110.7	111.9	38.0	127.5	57.8	55.7	74.7	50.2	. .	47.5
Stone											
Apricots											
Production (t)	25 920	19 881	21 483	**720	*9 624	*311	10 361	255	**212	—	—
Trees ('000)	629	569	565	*25	*182	35	294	13	*16	—	—
Yield (kg/tree)	41.2	35.0	38.0	28.5	53.0	*8.9	35.2	20.3	13.1	—	—
Cherries											
Production (t)	6 683	6 985	6 020	2 845	*1 907	**8	923	85	252	—	—
Trees ('000)	625	645	735	436	130	**4	112	*16	36	—	—
Yield (kg/tree)	10.7	10.8	8.2	6.5	14.7	*1.9	8.2	5.2	*6.9	—	—
Nectarines											
Production (t)	21 887	22 757	27 423	11 794	8 801	2 891	1 414	2 453	*70	—	—
Trees ('000)	850	915	963	413	236	165	35	109	**6	—	—
Yield (kg/tree)	25.7	24.9	28.5	28.6	37.3	17.6	40.5	22.5	**11.3	—	—
Olives											
Production (t)	642	763	*2 404	**17	362	**3	**1 943	**79	—	—	—
Trees ('000)	87	112	117	**3	47	**1	*60	**6	—	—	—
Yield (kg/tree)	7.4	6.8	*20.6	**5.3	7.7	**3.3	**32.5	13.3	—	—	—
Peaches											
Production (t)	72 099	64 807	66 036	15 082	39 837	3 617	5 531	1 933	*36	—	—
Trees ('000)	1 475	1 498	1 509	633	531	190	70	85	**—	—	—
Yield (kg/tree)	48.9	43.3	43.8	23.8	75.0	19.1	79.0	*22.7	n.p.	—	—
Plums and prunes											
Production (t)	25 187	26 355	22 665	8 680	5 753	1 468	2 571	4 187	**5	—	—
Trees ('000)	931	1 015	1 024	415	199	147	83	180	**—	—	—
Yield (kg/tree)	27.0	26.0	22.1	20.9	28.9	10.0	30.9	23.3	*14.3	—	—

(a) Number of trees and yield based on trees six years and over.

(b) Data not collected.

7.14 FRUIT AND NUTS, Production(a)—Years ended 31 March *continued*

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Other orchard n.e.i.											
Avocados											
Production (t)	20 072	20 174	24 311	3 678	*2 238	15 235	244	2 916	—	—	—
Trees ('000)	440	458	522	90	*51	295	17	*69	—	—	—
Yield (kg/tree)	45.6	44.1	46.6	40.8	44.0	51.7	14.2	42.1	—	—	—
Mangoes											
Production (t)	32 403	36 567	26 372	**278	(b)	20 451	*—	*2 426	(b)	3 217	—
Trees ('000)	671	815	850	*54	(b)	646	—	*58	(b)	93	—
Yield (kg/tree)	48.3	44.9	31.0	5.2	. .	31.7	—	42.1	. .	34.7	—
Nuts											
Almonds (kernel)											
Production (t)	5 893	6 880	8 971	*329	4 820	—	3 822	—	—	—	—
Trees ('000)	947	937	1 069	*31	414	—	625	—	—	—	—
Yield (kg/tree)	6.2	7.3	8.4	10.8	11.7	—	6.1	—	—	—	—
Macadamia											
Production (t)	16 053	20 336	18 949	11 275	—	7 673	—	**1	—	—	—
Trees ('000)	1 846	2 441	2 455	1 433	—	1 021	—	1	—	—	—
Yield (kg/tree)	8.7	8.3	7.7	7.9	—	7.5	—	**0.9	—	—	—
Kiwifruit											
Production (t)	3 381	3 850	3 197	*1 078	1 050	**370	**158	542	—	—	—
Area (ha)	481	442	322	121	132	*31	**18	*20	—	—	—
Yield (t/ha)	7.0	8.7	9.9	8.9	8.0	11.7	8.8	26.7	—	—	—
Blueberries											
Production (t)	594	1 276	1 526	1 331	*124	—	—	—	**70	—	—
Area (ha)	307	400	*371	*335	*20	—	—	—	**16	—	—
Yield (t/ha)	1.9	3.2	4.1	4.0	6.2	—	—	—	4.3	—	—
Strawberries											
Production (t)	11 242	13 434	14 201	*186	5 210	3 725	1 764	*3 165	151	—	—
Area (ha)	701	720	701	*24	256	215	68	113	*24	—	2
Yield (t/ha)	16.0	18.7	20.3	7.9	20.4	17.4	25.8	28.1	6.3	—	—
Tropical											
Bananas											
Production (t)	199 581	222 957	225 167	34 406	(b)	174 530	(b)	10 431	(b)	5 799	—
Area (ha)	9 589	10 478	11 405	2 856	(b)	7 897	(b)	390	(b)	261	—
Yield (t/ha)	20.8	21.3	19.7	12.0	. .	22.1	. .	26.7	. .	22.2	—
Papaw											
Production (t)	6 108	5 394	7 058	**6	(b)	6 811	(b)	*241	(b)	—	(b)
Area (ha)	321	325	298	**5	(b)	277	(b)	15	(b)	—	(b)
Yield (t/ha)	19.0	16.6	23.7	1.0	. .	24.6	. .	15.9	. .	—	. .
Pineapples											
Production (t)	122 981	123 004	131 383	**9	(b)	131 374	(b)	—	(b)	—	(b)
Area (ha)	2 668	2 762	2 821	**1	(b)	2 820	(b)	—	(b)	—	(b)
Yield (t/ha)	46.1	44.5	46.6	10.0	. .	46.6	. .	—	. .	—	. .

(a) Number of trees and yield based on trees six years and over.

(b) Data not collected.

7.15 GRAPES(a)(b), Production—Years ended 31 March

	AUSTRALIA		1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
AREA OF VINES AT HARVEST (ha)											
Bearing	72 119	78 090	95 301	22 525	26 149	1 378	40 188	4 453	460	133	16
Not yet bearing: planted or grafted prior to collection year	9 615	9 532	11 566	2 684	2 641	130	5 177	770	143	9	13
Not yet bearing: planted or grafted during collection year	8 063	10 989	16 048	3 535	3 510	230	7 185	1 489	68	22	9
Total area of vines	**89 797**	**98 612**	**122 915**	**28 744**	**32 299**	**1 739**	**52 551**	**6 712**	**671**	**164**	**37**
GRAPE PRODUCTION (fresh weight)(t)											
Winemaking	743 382	870 627	1 076 207	270 236	277 869	1 264	491 621	32 067	3 121	15	13
Drying	136 435	176 570	119 438	19 137	96 788	—	2 764	749	—	—	—
Table and other	63 296	64 972	69 891	14 128	42 391	5 586	2 149	3 531	—	2 106	—
Total production	**943 113**	**1 112 170**	**1 265 536**	**303 501**	**417 048**	**6 850**	**496 534**	**36 347**	**3 121**	**2 121**	**13**
Yield (t/ha)(c)	13.1	14.2	13.3	13.5	15.9	5.0	12.4	8.2	6.8	15.9	0.9

(a) Improvements to the ABS' register of businesses resulted in a better coverage of grape growing establishments for the 1998–99 survey. The difference between the 1997–98 estimates and the 1998–99 estimates includes a change associated with the increased coverage and a change associated with the units previously surveyed.

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

(c) Yield represents the quantity of grapes produced per hectare of bearing vines.

7.16 VEGETABLES, Production—Years ended 31 March

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Asparagus											
Production (t)	7 884	7 595	8 878	901	6 475	1 277	120	*26	9	69	—
Area (ha)	2 139	2 005	2 143	274	1 344	435	24	*11	3	53	—
Yield (t/ha)	3.7	3.8	4.1	3.3	4.8	2.9	5.0	2.4	3.0	1.3	—
Beans, French and runner											
Production (t)	37 609	35 562	30 380	*627	2 148	13 898	*28	**1 796	11 868	16	—
Area (ha)	7 899	6 623	5 917	339	671	3 023	*16	**500	1 362	6	—
Yield (t/ha)	4.8	5.4	5.1	*1.8	3.2	4.6	1.7	3.6	8.7	2.7	—
Beetroot											
Production (t)	29 304	32 502	29 682	696	*421	28 285	*114	*165	**1	—	—
Area (ha)	894	879	908	20	*38	837	*4	*9	**—	—	—
Yield (t/ha)	32.8	37.0	32.7	34.0	11.0	33.8	27.9	19.1	**5.0	—	—
Broccoli											
Production (t)	40 546	39 847	39 389	2 364	21 410	7 511	*1 202	2 179	4 723	—	—
Area (ha)	6 961	7 334	6 353	535	3 545	1 210	*169	317	576	—	—
Yield (t/ha)	5.8	5.4	6.2	4.4	6.0	6.2	7.1	6.9	8.2	—	—
Cabbages											
Production (t)	60 367	58 076	53 171	10 721	18 019	13 240	4 391	5 388	1 347	65	—
Area (ha)	1 885	1 798	1 671	422	553	349	135	154	53	4	—
Yield (t/ha)	32.0	32.3	31.8	25.4	32.6	38.0	32.4	34.9	25.3	16.3	—
Capsicum, chillies and peppers											
Production (t)	32 221	30 518	41 262	1 585	2 404	34 715	*1 094	1 410	**2	52	—
Area (ha)	1 875	1 800	2 281	157	146	1 753	*106	110	*—	9	—
Yield (t/ha)	17.2	17.0	18.1	10.1	16.5	19.8	10.4	12.8	*6.2	6.0	—
Carrots											
Production (t)	257 405	266 531	256 608	19 378	96 492	20 335	27 105	56 738	36 561	—	—
Area (ha)	7 046	7 152	6 514	706	2 347	954	573	1 321	613	—	—
Yield (t/ha)	36.5	37.3	39.4	27.4	41.1	21.3	47.3	43.0	59.6	—	—
Cauliflowers											
Production (t)	64 391	64 779	73 432	*11 908	16 306	14 997	4 315	21 046	4 861	—	—
Area (ha)	3 997	4 065	4 202	*697	1 100	614	181	1 306	304	—	—
Yield (t/ha)	16.1	15.9	17.5	17.1	14.8	24.4	23.9	16.1	16.0	—	—
Celery											
Production (t)	44 873	44 746	43 208	—	21 787	10 018	*5 281	5 553	569	—	—
Area (ha)	953	1 139	920	—	499	213	*53	141	15	—	—
Yield (t/ha)	47.1	39.3	47.0	—	43.7	47.1	100.3	39.5	37.4	—	—
Cucumbers											
Production (t)	15 876	16 025	17 920	5 475	571	7 334	*2 932	1 373	209	27	—
Area (ha)	1 002	1 037	1 138	561	15	377	107	73	2	2	—
Yield (t/ha)	15.9	15.5	15.7	9.8	37.0	19.5	**27.3	18.8	*87.0	14.8	—
Green Peas											
Processing											
Production (t)	42 207	34 191	29 578	—	—	*721	—	**729	28 129	—	—
Area (ha)	8 737	6 643	5 510	—	—	*149	—	*313	5 049	—	—
Yield (t/ha)	4.8	5.1	5.4	—	—	4.8	—	2.3	5.6	—	—
Sold in pod											
Production (t)	1 380	810	654	*199	*215	*206	*23	**2	9	—	—
Area (ha)	580	371	*651	**396	*162	*75	*14	**2	2	—	—
Yield (t/ha)	2.4	2.2	*1.0	**0.5	1.3	2.7	1.7	**1.1	5.4	—	—

7.16 VEGETABLES, Production—Years ended 31 March *continued*

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Lettuces											
Production (t)	110 834	129 149	131 140	27 706	40 247	41 878	6 603	12 730	1 844	132	—
Area (ha)	4 731	5 714	6 176	*1 223	2 793	1 384	246	406	112	10	—
Yield (t/ha)	23.4	22.6	21.2	22.6	14.4	30.3	26.8	31.3	16.4	13.2	—
Marrow, squash and zucchini											
Production (t)	13 442	18 722	19 882	1 631	*1 071	15 416	139	*1 071	533	21	—
Area (ha)	2 006	2 683	2 891	*341	129	*2 169	*24	*155	72	2	—
Yield (t/ha)	6.7	7.0	6.9	*4.8	8.3	7.1	5.9	6.9	7.4	13.8	—
Melons											
Water											
Production (t)	86 658	80 857	66 346	7 375	2 513	40 142	*518	14 614	—	1 183	—
Area (ha)	4 346	3 984	4 175	513	84	2 833	*24	665	—	55	—
Yield (t/ha)	19.9	20.3	15.9	14.4	29.9	14.2	21.4	22.0	—	21.5	—
Rock and cantaloupe											
Production (t)	71 873	85 115	101 045	21 470	8 413	54 581	2 792	12 900	—	889	—
Area (ha)	3 162	3 500	5 353	1 013	462	2 815	111	884	—	68	—
Yield (t/ha)	22.7	24.3	18.9	21.2	18.2	19.4	25.1	14.6	—	13.1	—
Mushrooms											
Production (t)	35 485	38 895	(a)37 568	*12 483	15 047	6 944	2 449	n.p.	645	—	—
Area (ha)	145	150	(a)132	*42	60	20	9	n.p.	1	—	—
Yield (t/ha)	244.1	260.0	274.9	296.9	252.5	354.0	260.5	n.p.	496.3	—	—
Onions, white and brown											
Production (t)	196 491	218 895	223 989	41 063	15 600	27 133	61 527	18 196	60 471	—	—
Area (ha)	4 756	5 634	5 351	1 276	533	892	1 225	366	1 060	—	—
Yield (t/ha)	41.3	38.8	41.9	32.2	29.3	30.4	50.2	49.7	57.1	—	—
Parsnips											
Production (t)	10 263	8 684	10 170	700	7 378	**6	*473	1 075	538	—	—
Area (ha)	464	400	450	38	288	**1	*23	74	26	—	—
Yield (t/ha)	22.1	21.7	22.6	18.5	25.6	**4.0	20.2	14.5	20.9	—	—
Potatoes											
Production (t)	1 286 130	1 371 606	1 326 765	162 098	319 228	108 091	300 969	108 896	327 482	—	—
Area (ha)	41 083	42 558	41 298	6 884	10 502	4 803	8 812	2 685	7 611	—	—
Yield (t/ha)	31.3	32.2	32.1	23.5	30.4	22.5	34.2	40.6	43.0	—	—
Pumpkins											
Production (t)	87 086	84 848	87 589	22 082	*6 173	37 634	5 143	13 921	2 211	425	—
Area (ha)	6 289	5 929	7 543	2 058	*398	3 848	244	855	98	42	—
Yield (t/ha)	13.8	14.3	11.6	10.7	15.5	9.8	21.1	16.3	22.5	10.3	—
Sweet corn											
Production (t)	64 785	77 670	57 172	36 649	3 880	13 322	782	2 477	62	—	—
Area (ha)	5 434	5 579	4 505	2 228	457	1 459	83	263	15	—	—
Yield (t/ha)	11.9	13.9	12.7	16.5	8.5	9.1	9.4	9.4	4.0	—	—
Tomatoes											
Production (t)	393 117	380 130	394 371	61 282	225 233	88 425	*4 130	14 361	903	2	35
Area (ha)	8 830	8 023	8 549	1 482	3 291	3 296	*146	323	8	—	3
Yield (t/ha)	44.5	47.4	46.1	41.4	68.4	26.8	28.3	44.5	113.5	20.0	12.1
Total area of vegetables (ha)	**129 749**	**130 601**	**130 220**	**21 940**	**31 283**	**35 312**	**12 752**	**11324**	**17349**	**256**	**4**

(a) Excludes establishments in Western Australia.

CHAPTER 8 LIVESTOCK AND LIVESTOCK PRODUCTS .....

OVERVIEW

Total cattle numbers fell by 1% to 26.6 million head. This was a result of a 2% fall in meat cattle numbers, which was partially offset by a 5% rise in milk cattle numbers. The total sheep flock fell by 2% to 115 million head.

8.1 LIVESTOCK—Years ended 31 March

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000
Meat cattle	23 736	23 776	23 358	5 846	2 180	10 444	1 006	1 817	491	1 566	9
Milk cattle(a)	2 958	3 076	3 220	445	1 945	304	177	114	233	1	—
Sheep and lambs	120 228	117 491	115 456	40 583	20 994	10 556	13 065	26 378	3 801	—	80
Pigs	2 555	2 768	2 626	778	521	621	406	277	22	2	—
Deer	152	166	127	30	35	14	22	17	9	—	—
Chickens											
For meat production(b)	67 373	75 504	77 863	38 822	15 732	13 334	4 749	5 119	n.p.	107	—
For egg production	14 059	14 036	13 609	4 011	4 028	2 709	771	1 628	198	143	120

(a) Excluding house cows.

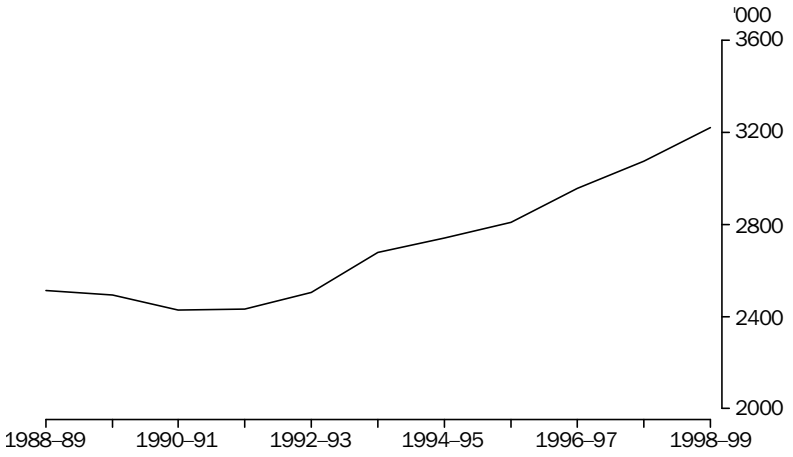
(b) Excludes some establishments in Tasmania.

MILK CATTLE

Milk cattle numbers increased by 5% to 3.2 million at 31 March 1999, continuing the trend experienced in recent years. The Victorian dairy herd grew by 6% to 1.9 million head at 31 March 1999, and represented 60% of the total Australian herd.

The number of establishments reporting dairy cattle fell by 2% to 15,300 at 31 March 1999. The number of establishments was down in all States except Tasmania which increased slightly.

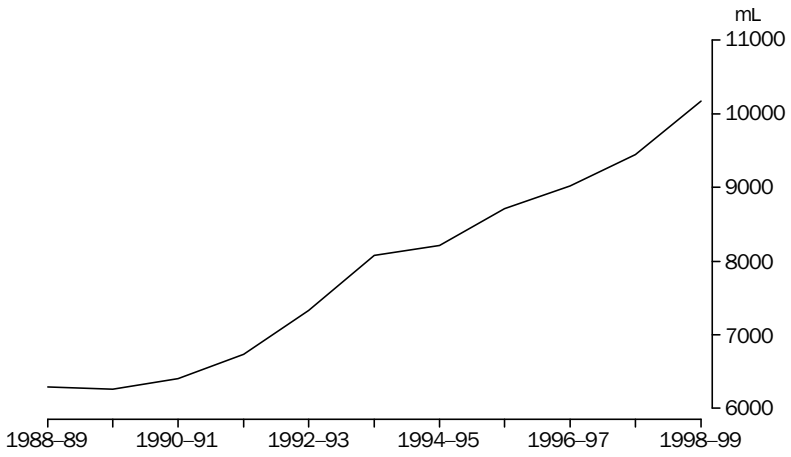
8.2 MILK CATTLE ON HOLDING



MILK CATTLE *continued*

Milk production rose by 8% during 1998–99 to a record 10.2 billion litres. Victoria was the main producing State with production up 9% to 6.4 billion litres.

8.3 MILK PRODUCTION

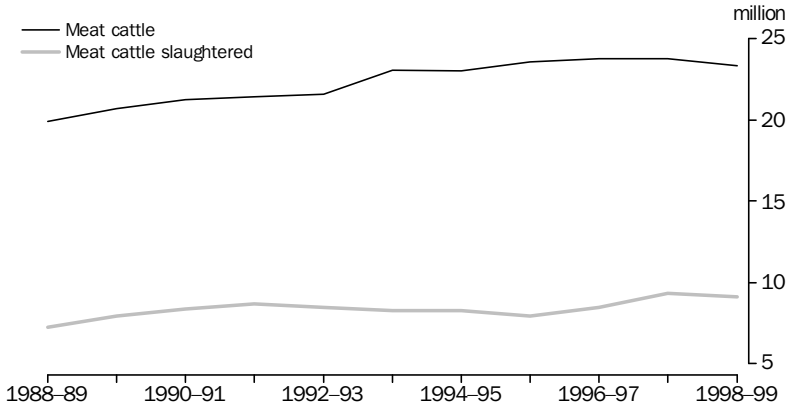


MEAT CATTLE

At 31 March 1999 there were 23.4 million meat cattle and calves in Australia which was 2% (418,000 head) less than at 31 March 1998. There were decreases in herd sizes recorded in all States, with Victoria recording the biggest drop, down 5% to 2.2 million head.

The number of establishments reporting meat cattle fell 2% from 77,300 at 31 March 1998 to 75,900 at 31 March 1999. Drops in numbers of establishments with meat cattle were seen in all States except Western Australia which remained steady.

8.4 MEAT CATTLE ON HOLDING AND SLAUGHTERINGS(a)



(a) Includes calves.

The number of cattle and calves slaughtered in the year ended 30 June 1999 fell by 2% to 9.1 million. Despite falling slaughter numbers production of beef and veal rose 3% to 2.0 million tonnes in the year ended 30 June 1999.

MEAT CATTLE *continued*

8.5 LIVE CATTLE EXPORTS(a)—Years ended 30 June

	1997	*1998*	*1999*
Number ('000)	863.8	691.6	713.0
Gross weight ('000 t)	313.9	254.4	264.7
Gross value ($'000)	427 721	333 098	342 667
Unit value ($)(b)	495.16	481.63	480.60

(a) Excludes cattle for breeding.

(b) Obtained by dividing the gross value by the number of cattle exported.

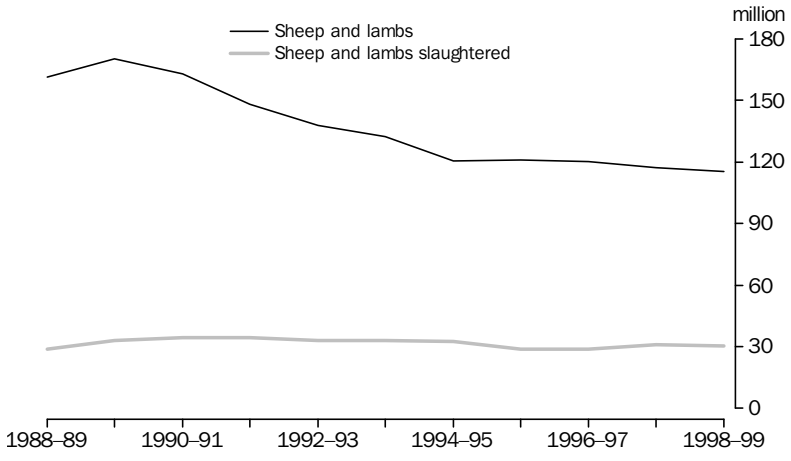
SHEEP AND LAMBS

Sheep and lamb numbers fell by 2% (2.0 million head) to 115 million head at 31 March 1999, with all States recording decreases. The biggest falls in sheep and lamb numbers were recorded in Western Australia, down 4% to 26.4 million head and in Queensland also down 4% to 10.6 million.

The number of ewes mated during 1998–99 fell by 3% to 49.9 million head. Falls were experienced in all States except Victoria which increased by 2% to 8.9 million. Despite fewer matings, the number of lambs marked remained steady at 40.1 million. Decreased numbers of lambs marked in New South Wales and Tasmania were offset by increases in the other States.

The number of establishments reporting sheep and lambs fell by 3% to 52,900 at 31 March 1999, with all States experiencing a decline in numbers.

8.6 SHEEP AND LAMBS ON HOLDING AND SLAUGHTERINGS



The number of sheep and lambs slaughtered in the year ended 30 June 1999 fell by 3% to 30.5 million. The number of sheep slaughtered fell by 12% to 14.4 million and was exceeded by the number of lambs slaughtered which increased by 7% to 16.1 million. Despite falling numbers of sheep and lambs slaughtered the production of mutton and lamb remained steady, with a 9% fall in mutton production (down 31,000 tonnes to 302,000 tonnes) being offset by a 10% rise in lamb production (up 28,000 tonnes to 312,000 tonnes).

SHEEP AND LAMBS *continued*

8.7 LIVE SHEEP EXPORTS(a)—Years ended 30 June

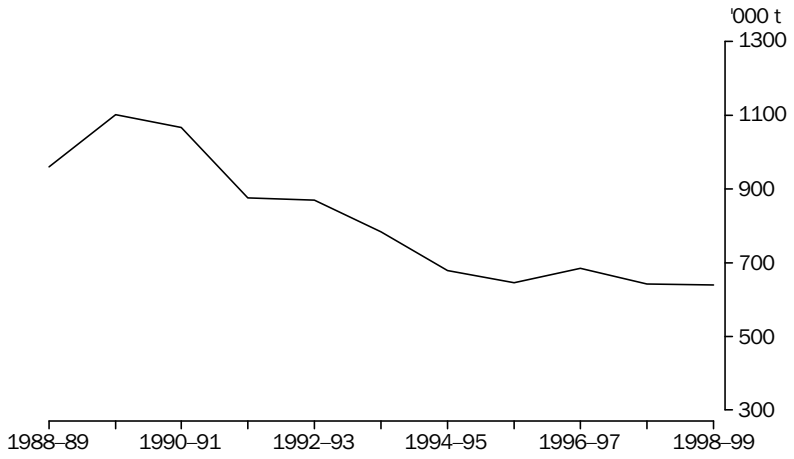
	1997	*1998*	*1999*
Number ('000)	5 237.2	4 961.1	4 958.7
Gross weight ('000 t)	269.8	256.0	254.9
Gross value ($'000)	189 944	193 266	181 671
Unit value ($)(b)	36.27	38.96	36.64

(a) Excludes sheep for breeding.

(b) Obtained by dividing the gross value by the number of sheep exported.

The total shorn wool production of 640,000 tonnes for the year ended 30 June 1999 was the same as for the previous year. New South Wales remained the main wool producer with 28% of total production, followed by Victoria and Western Australia with 24% and 23% respectively.

8.8 SHORN WOOL PRODUCTION



PIGS

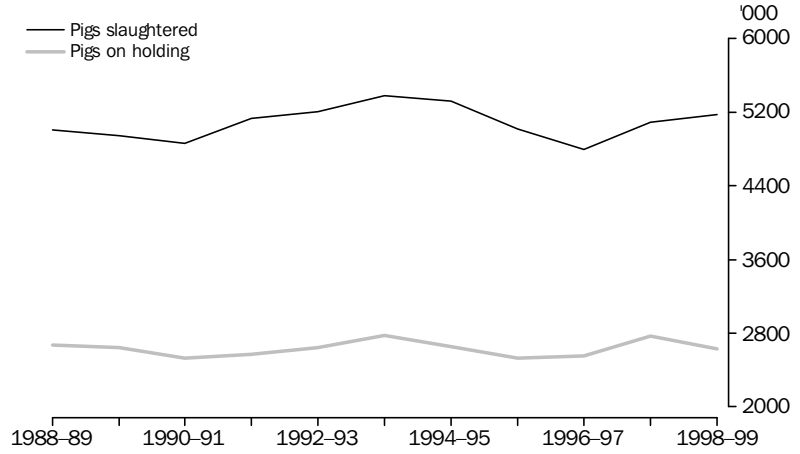
Pig numbers fell by 5%, to 2.6 million at 31 March 1999, partly reversing the increase experienced in the previous year. Pig numbers were down in all States except Victoria which remained steady. The main fall in pig numbers was in New South Wales, down 8% (71,000 head) to 778,000.

The number of establishments reporting pigs fell by 10% to 3,500 at 31 March 1999. Numbers of establishments were down in all States and this continued the trend that began in the mid 1990s.

The number of pigs slaughtered in the year ended 30 June 1999 increased by 2% to 5.2 million. In the same period pig meat production increased by 3% to 370,000 tonnes. Victoria remained the main producer of pig meat with 31% of total production, followed by New South Wales and Queensland with 26% and 23% respectively.

PIGS *continued*

8.9 PIG NUMBERS AND SLAUGHTERINGS

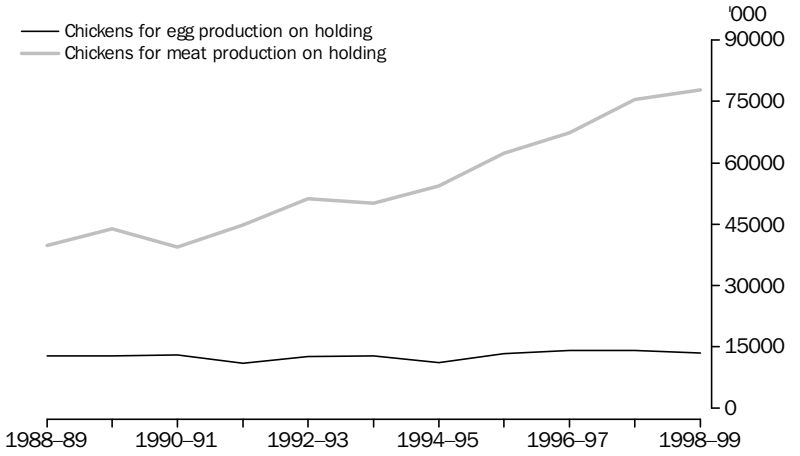


CHICKENS

Chickens for meat increased by 3% to a record 77.9 million birds at 31 March 1999. Significant increases in numbers were reported in Queensland, up 13% to 13.3 million and New South Wales, up 3% to 38.8 million. The Victorian flock decreased 5% to 15.7 million.

Chickens for egg production fell 3% to 13.6 million birds at 31 March 1999. Significant decreases in flock sizes were seen in New South Wales, down by 15% to 4.0 million birds and in South Australia, down by 23% to 771,000 birds. Partially offsetting these decreases were rises in bird numbers in Western Australia (up 26% to 1.6 million birds) and in Queensland (up 8% to 2.7 million birds).

8.10 CHICKEN NUMBERS



Egg production dropped marginally to 189 million dozen, with New South Wales falling by 8% to 64.9 million dozen, while Victoria recorded an increase of 8% to 54.1 million dozen.

BEEKEEPING

The production of honey and beeswax fell significantly as a result of a fall in the number of productive hives and a fall in average production per hive.

The number of productive hives fell 3% to 288,000 at 30 June 1999 but an increase in unproductive hives (up 23% to 80,000) saw the total number of hives increase by 2% to 368,000.

The production of honey fell by 14% to 18,900 tonnes in 1998–99. This was primarily a result of lower average yields per hive (down 11% from 74.0 kilograms per hive in 1997–98 to 65.5 kilograms per hive in 1998–99).

The number of beekeepers increased slightly to 980 at 30 June 1999, up from 968 at 30 June 1998. The number of beekeepers in New South Wales was up slightly, while numbers were down in Victoria and little changed in the other States.

8.11 HONEY PRODUCTION

8.12 LIVESTOCK SLAUGHTERINGS AND PRODUCTS—Years ended 30 June

	AUSTRALIA	1999								
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Livestock slaughterings(a)(b)											
Cattle ('000)	7 270	8 052	7 938	1 895	1 751	3 306	278	439	211	59	—
Calves ('000)	1 141	1 269	1 158	243	714	113	20	6	61	—	—
Sheep ('000)	14 340	16 299	14 393	5 583	3 080	1 334	2 018	1 938	440	—	—
Lambs ('000)	14 579	14 992	16 079	3 913	6 699	757	2 154	2 076	480	—	—
Pigs ('000)	4 796	5 091	5 176	1 347	1 573	1 132	466	569	81	8	—
Chickens ('000)(c)(d)	340 908	364 234	374 979	140 794	95 543	65 990	n.p.	n.p.	n.p.	n.p.	n.p.
Livestock products											
Meat(a)(e)											
Beef ('000 t)	1 772	1 911	1 973	438	399	905	62	105	53	11	—
Veal ('000 t)	38	44	38	16	14	6	—	—	1	—	—
Mutton ('000 t)	296	333	302	117	62	26	48	40	9	—	—
Lamb ('000 t)	270	284	312	77	128	14	44	39	9	—	—
Pig meat ('000 t)	336	358	370	97	115	84	31	38	5	—	—
Chicken meat ('000 t)(d)(f)	488	544	564	223	154	88	n.p.	n.p.	n.p.	n.p.	n.p.
Wool											
Shorn wool (incl. crutchings) (t)	685 017	640 717	639 895	181 712	155 113	51 874	89 451	145 515	16 232	—	—
Other wool (t)(g)	46 090	48 884	48 824	14 485	15 731	3 136	6 444	7 648	1 380	—	—
Total wool produced(t)	*731 107*	*689 601*	*688 719*	*196 197*	*170 844*	*55 010*	*95 895*	*153 163*	*17 612*	—	—
Whole milk (ML)(h)(i)	9 024	9 438	10 175	1 286	6 414	827	643	403	603	n.p.	n.p.
Eggs ('000 doz.)	177 409	190 135	189 432	64 887	54 101	29 462	11 258	18 980	3 851	1 935	4 958
Beekeeping											
Honey produced (t)	27 044	22 021	18 852	8 921	2 477	3 287	1 959	1 508	686	n.p.	n.p.
Beeswax produced (t)	492	470	376	179	49	65	42	32	9	n.p.	n.p.

(a) Source: *Livestock Products, Australia* (Cat. no. 7215.0).

(b) Includes estimates of animals slaughtered on farms and by country butchers.

(c) Comprises broilers, fryers and roasters.

(d) Australian total excludes Tasmania, the Northern Territory and the Australian Capital Territory.

(e) Dressed carcass weight, excluding offal.

(f) Dressed weight of whole birds, pieces and giblets.

(g) Comprises dead and fellmongered wool.

(h) Source: Australian Dairy Corporation.

(i) Australian totals exclude Australian Capital Territory and interstate transfers.

8.13 CATTLE(a), By Type, and Number of Establishments—Years ended 31 March

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
CATTLE											
Milk cattle											
Cows in milk and dry ('000)	1 977	2 060	2 155	282	1 340	196	117	65	154	1	—
Other milk cattle ('000)	982	1 015	1 065	163	605	108	60	49	79	—	—
Total milk cattle and calves ('000)	*2 958*	*3 076*	*3 220*	*445*	*1 945*	*304*	*177*	*114*	*233*	*1*	—
Meat cattle											
Bulls used or intended for service ('000)	551	547	528	120	56	223	24	46	11	48	—
Calves under one year ('000)	6 029	6 026	5 740	1 689	604	2 254	289	468	149	284	3
Cows and heifers one year and over ('000)	11 879	11 783	11 621	2 859	1 054	5 071	514	948	224	946	5
Other cattle one year and over ('000)	5 278	5 420	5 469	1 178	466	2 895	179	355	107	288	1
Total meat cattle and calves ('000)	*23 736*	*23 776*	*23 358*	*5 846*	*2 180*	*10 444*	*1 006*	*1 817*	*491*	*1 566*	*9*
Total cattle and calves ('000)	**26 695**	**26 851**	**26 578**	**6 291**	**4 125**	**10 748**	**1 183**	**1 931**	**724**	**1 567**	**10**
Proportion of total herd											
Milk cattle (%)	11.1	11.5	12.1	7.1	47.2	2.8	15.0	5.9	32.2	0.1	3.3
Meat cattle (%)	88.9	88.5	87.9	92.9	52.8	97.2	85.0	94.1	67.8	99.9	96.7
NUMBER OF ESTABLISHMENTS WITH CATTLE											
Milk cattle											
Cows in milk and dry	14 191	14 126	14 002	2 204	7 728	1 976	825	474	793	1	1
Other milk cattle	14 005	13 875	13 758	2 162	7 657	1 886	773	453	823	1	2
Total milk cattle and calves	*15 484*	*15 531*	*15 271*	*2 532*	*8 276*	*2 169*	*885*	*505*	*900*	*1*	*2*
Meat cattle											
Bulls used or intended for service	62 881	60 054	58 448	21 202	12 434	14 931	3 809	3 888	1 940	195	49
Calves under one year	65 187	62 574	60 469	21 889	12 875	15 610	3 987	3 688	2 178	188	54
Cows and heifers one year and over	71 762	67 556	65 694	23 750	14 169	16 617	4 375	4 191	2 328	207	58
Other cattle one year and over	54 083	r50 012	49 251	16 450	10 547	14 187	2 769	3 142	1 936	185	35
Total meat cattle and calves	*81 942*	*77 252*	*75 905*	*26 365*	*17 640*	*18 682*	*5 072*	*4 962*	*2 903*	*214*	*67*
Total establishments	**88 788**	**84 469**	**83 173**	**27 533**	**22 048**	**19 476**	**5 461**	**5 062**	**3 311**	**215**	**67**

(a) Excluding house cows.

8.14 SHEEP, By Type, Lambing and Number of Establishments—Years ended 31 March

	AUSTRALIA		1999								
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
SHEEP											
Sheep and lambs											
Sheep ('000)	89 767	87 534	85 960	30 371	16 018	8 172	9 509	18 977	2 847	(a)	66
Lambs under one year ('000)	30 461	29 957	29 496	10 211	4 976	2 385	3 556	7 401	954	(a)	14
Total sheep and lambs ('000)	**120 228**	**117 491**	**115 456**	**40 583**	**20 994**	**10 556**	**13 065**	**26 378**	**3 801**	**—**	**80**
LAMBING											
Ewes actually mated ('000)(b)	51 291	51 350	49 882	17 201	8 912	3 779	6 238	12 258	1 469	(a)	25
Lambs marked ('000)	40 436	40 124	40 081	13 492	7 718	2 544	5 438	9 619	1 251	(a)	19
Proportion of lambs marked to ewes mated (%)	78.8	78.1	80.4	78.4	86.6	67.3	87.2	78.5	85.2	(a)	74.6
Ewes intended to be mated ('000)(c)	53 780	52 004	r52 062	18 361	9 645	3 664	6 470	12 339	1 551	(a)	32
NUMBER OF ESTABLISHMENTS WITH SHEEP											
Sheep and lambs											
Sheep	54 945	53 392	r51 802	r18 155	12 816	2 262	8 542	8 094	1 877	(a)	56
Lambs under one year	46 227	45 182	43 252	15 512	10 102	1 846	7 031	7 176	1 538	(a)	47
Total establishments	**56 083**	**54 717**	**52 934**	**18 574**	**13 162**	**2 269**	**8 740**	**8 217**	**1 916**	**—**	**56**

(a) Data not collected.

(b) Ewes mated to produce lambs marked in the season shown.

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

8.15 PIGS, By Type, and Number of Establishments—Years ended 31 March

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
				PIGS							
Pigs											
Boars ('000)	20	20	17	5	3	4	3	2	—	—	—
Breeding sows and gilts ('000)	303	320	309	89	69	68	48	32	3	—	—
Other pigs ('000)	2 232	2 429	2 301	684	448	549	355	243	19	2	—
Total pigs ('000)	**2 555**	**2 768**	**2 626**	**778**	**521**	**621**	**406**	**277**	**22**	**2**	**—**
				NUMBER OF ESTABLISHMENTS WITH PIGS							
Pigs											
Boars	3 203	3 193	2 806	714	360	669	556	442	62	3	—
Breeding sows and gilts	3 547	3 318	2 993	744	382	701	610	478	76	3	—
Other pigs	3 792	3 675	3 254	785	413	822	639	501	89	3	—
Total establishments	**4 003**	**3 859**	**3 461**	**829**	**458**	**837**	**691**	**543**	**99**	**3**	**—**

8.16 CHICKENS—Years ended 31 March

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Chickens											
For meat production ('000)(a)	67 373	75 504	77 863	38 822	15 732	13 334	4 749	5 119	n.p.	107	—
For egg production ('000)	14 059	14 036	13 609	4 011	4 028	2 709	771	1 628	198	143	120

(a) Excludes some establishments in Tasmania.

8.17 BEEKEEPING—Years ended 31 March

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Beekeepers (no.)	1 186	968	980	419	176	195	102	56	30	n.p.	n.p.
Beehives											
Productive ('000)(a)	381	297	288	121	53	46	38	18	12	n.p.	n.p.
Unproductive ('000)	85	65	80	26	16	24	5	5	3	n.p.	n.p.
Total ('000)	*466*	*362*	*368*	*147*	*69*	*71*	*43*	*23*	*15*	*n.p.*	*n.p.*
Honey											
Quantity produced (t)	27 044	22 021	18 852	8 921	2 477	3 287	1 959	1 508	686	n.p.	n.p.
Average production per productive beehive (kg)	71.0	74.0	65.5	73.9	46.9	70.7	51.9	85.1	58.6	n.p.	n.p.
Beeswax (t)	492	470	376	179	49	65	42	32	9	n.p.	n.p.

(a) Beehives from which honey is taken.

SPECIAL ARTICLE UNDERSTANDING AGRICULTURAL EXPORTS DATA

INTRODUCTION

The level of export trade fundamentally influences a nation's prosperity. In general, the more a country exports, the more prosperous it becomes, as exports bring external income into the country which otherwise would not be available. It has long been acknowledged that, if Australia's agricultural industry is to continue to expand and develop, export markets need to be established and maintained.

The Australian Bureau of Statistics (ABS) has had a long history of producing international trade statistics. These statistics are used by economic analysts and policy advisers to monitor, evaluate and forecast developments in Australia's external trade and the general level of economic well being. However, measuring the importance of this trade has, for the agricultural industry, become increasingly difficult and complex as the economy develops.

This article illustrates how different classifications, methodologies and assumptions can be used with the same body of data to provide quite different outcomes, depending on the perspectives from which users wish to view the data, and the purpose of the analysis. Like most economic statistics, agricultural export and production data are based on underlying assumptions to do with industry and commodity classifications and the ways in which markets and businesses function. In addition to this, the methodology used in collecting export data from customs records introduces its own set of limitations. All of these factors contribute to a rather complex situation which needs to be understood in order to extract meaningful data which meets the requirements of users.

BACKGROUND

For almost 200 years a proportion of Australia's agricultural output has been exported. This proportion has varied significantly depending on the availability of export markets, the level of production, the amount of government assistance provided and other factors influencing international trade. For example, during the early 1900s Australia exported approximately 70% of the total quantity of greasy wool produced and around 40% of the total quantity of wheat produced. In 1950, when the value of agricultural production was first measured on an industry basis, it was estimated that the Australian agriculture industry was exporting 75% of the value of its raw agricultural output.

In the early period of Australia's development, measurement of the importance of agricultural exports was relatively straightforward, in that most of the exports were in raw form, and could be easily identified and compared with agricultural production. However, as the Australian economy has developed, proportionally more agricultural output is exported in the form of processed or manufactured products, such as processed meat products, wine and woollen products.

BACKGROUND *continued*

In situations where agricultural production is directly exported as a raw product, i.e. it has not undergone any transformation or processing by a manufacturing industry, it is a relatively simple process to compare production quantities or values with export quantities or values for individual commodities, although in comparing values one needs to take account of the differences between the valuation basis for production (i.e. farm gate) and that for exports (i.e. free on board (f.o.b.)). Difficulties arise, however, for those agricultural commodities which have undergone some manufacturing process and are indirectly exported as part of the manufactured product. For example, how might analysts compare the value of grape production with the value of a transformed agricultural product such as wine? However, notwithstanding these difficulties, these indirect exports need to be considered along with direct exports when assessing the importance of trade to the agricultural industry.

Making comparisons between production and trade is further complicated by the variety of trade data available. ABS merchandise trade data can be manipulated and grouped in a number of ways, by both the ABS and external clients, depending on the use being made of the data. It is important that ABS clients fully understand the nature of published trade data.

It is also important to realise that the proportion of agricultural output exported can fluctuate significantly on a year to year basis due to weather conditions, and that exports in general can fluctuate significantly due to market access and the availability of stocks. This means that any comparison undertaken on a yearly basis needs to be treated with caution, and compared over a longer time period to obtain a clear picture of the situation. In this article the ABS is comparing data relating to the 1997–98 year. While merchandise trade data are available for more recent years, the most recent data that are required for deriving the value of agricultural output embedded in processed exports, using the input-output method described below, relate to the 1997–98 year.

A description of the classifications, definitions and terms used in this article is provided at the end of this article. Readers should refer to this description while reading this article.

AGRICULTURE TRADE STATISTICS

The ABS presents agriculture trade data in a variety of ways. These have been published in previous editions of the publication *Agriculture, Australia* (Cat. no. 7113.0) and ABS international trade publications, in particular *International Merchandise Trade, Australia* (Cat. no. 5422.0). Trade data relating to agriculture are also included in the ABS's balance of payments publications. Agriculture trade data are usually presented either on a commodity or industry basis. Commodity data relate to exports of a particular commodity, for example wheat, whereas industry data relate to exports originating from a particular industry, for example the grain growing industry or the beef cattle industry. The way in which we define these industries, and export commodities allocated to them, has implications for interpreting the data.

Agriculture trade statistics *continued*

All international merchandise exports data released by the ABS (using any of the two commodity classifications described at the end of this article) are subject to confidentiality restrictions. Where the release of export statistics would enable an individual or an organisation to be identified, and where that entity has requested that the data be suppressed, information cannot be published. Within the various classifications, all items that have confidentiality restrictions on commodity details are classified together to a dummy code. The most up to date (amended monthly) list of export commodities that contain some confidentiality restrictions can be obtained from the ABS web site *www.abs.gov.au*. (see Statistics, Publications, 54 International Trade, 5487.0 Appendix B: CCL and Explanatory Notes). Users should consult this list regularly prior to undertaking analysis of commodity trade data.

There are five basic approaches to presenting agricultural export data. These are:

- commodity based approach
- industry based approach
- balance of payments approach
- input-output approach
- embedded commodities approach

These approaches are discussed in detail below.

Commodity based data

For exports, the ABS uses the *Australian Harmonised Export Commodity Classification* (AHECC). The details and descriptions of the statistical codes of the AHECC are identified in the *Australian Harmonised Export Commodity Classification* (Cat. no. 1233.0).

Commodity based trade data are very useful for monitoring changes in levels of trade over time. For example, for a particular commodity, or group of commodities, monthly or yearly data can be compared to provide an accurate picture of changes in the levels of those commodities exported. However commodity based trade data alone cannot reliably be used to measure the proportion of agricultural output which is exported because some of the output is exported as a component of exported processed goods. For example a significant proportion of total wheat exported is in the form of flour contained in processed foods.

Commodity based data *continued*

The table below contains the value of agricultural output and exports for a number of agricultural commodities.

S1 VALUE OF SELECTED AGRICULTURAL COMMODITIES PRODUCED AND EXPORTED, 1997–98

	Agricultural production(a)	*Unprocessed exports(b)*
Commodity	$'000	$'000
Wool	2 753 936	(c)2 276 797
Cattle	(d)4 138 239	(e)352 348
Sheep	(d)1 066 217	(e)200 159
Pigs	(d)709 806	(e)1 065
Grapes	998 197	(f)82 438
Apples	272 720	37 961
Wheat	3 801 497	3 629 554
Canola	329 847	256 216
Cotton	(g)1 227 776	(h)1 454 282
Potatoes	493 149	9 984
Oats	223 269	30 305
Sugar cane	1 247 744	(i)3
Milk	2 816 977	(j)67 451

(a) Agricultural production is Gross Value of Agricultural Commodities Produced (GVACP), and is the value measured at the metropolitan market in each State and Territory. It is not the 'farm gate' value of production.

(b) Exports are valued on a free on board (f.o.b.) basis which includes the value of distribution and other costs incurred between the farm and the point of export.

(c) Exports of greasy wool, not carded or combed.

(d) The value of livestock at slaughtering and other disposals (including net exports of live animals).

(e) Exports of live animals. Does not include the export of carcasses and cuts of beef ($2.7 billion) and mutton/lamb ($653 million) and pig meat ($51.7 million) because these commodities are considered to be manufactured products.

(f) Does not include the export of wine ($874 million) because wine is considered to be a manufactured product.

(g) Lint and cotton seed.

(h) Cotton lint not carded or combed. Cotton lint contains some non-agricultural value added as a result of the ginning process.

(i) Contains $3,000 of exported sugar cane. Does not include the export of raw sugar ($1,159 million) because raw sugar is considered to be a manufactured product.

(j) Milk contains some non-agricultural value added as a result of the pasteurisation process undertaken prior to the sale of milk.

In analysing the above table, the following points should be noted:

- many commodities (e.g. wool) can draw on stocks accumulated in previous years which can distort yearly comparisons of exports and production.
- the value of unprocessed commodities only are shown (with the exception of cotton lint). This ignores any embedded agricultural output contained in processed goods, such as meat, sugar, canned fruit, processed wool, woollen products, wine etc. In other words, this table shows only direct exports of agricultural commodities.

Commodity based data *continued*

- the different valuation bases used for measuring production and exports. Value of production is the gross value received by the farmer at the market place, which in general is the metropolitan market in each State and Territory. Exports are valued at the point of export (f.o.b.) and, therefore, include any distributional and marketing costs incurred up until the point of export.

Industry based data

Export data are also available on an 'Industry of origin' basis. Industry of origin is a quite different concept from the standard industry basis on which most economic statistics are compiled and published. The *Australian and New Zealand Standard Industrial Classification* (ANZSIC) is the standard classification used by the ABS for the presentation and analysis of industry statistics. It provides a framework for classifying businesses to industries according to the predominant activities undertaken by a business.

The classification is used in international merchandise trade statistics to provide an indication only of the industry which is most likely to have produced the goods which are exported or imported. These data are compiled within the ABS by classifying international merchandise trade data according to the industry most likely to have produced the traded items. This is undertaken by allocating AHECC items to the ANZSIC industry which is considered likely to have ultimately produced the commodity. The allocation is sometimes necessarily arbitrary, for example the export of live cattle, regardless of the breed, is allocated to the ANZSIC Class 0125 'Beef cattle farming'. Any agricultural commodity that has undergone any form of processing is, under the ANZSIC classification system, coded to the manufacturing industry. Therefore while raw cows' milk production is classified to the Agricultural ANZSIC Class 0130 'Dairy cattle farming', the sale of pasteurised liquid whole milk would be classified to the Manufacturing ANZSIC Class 2121 'Milk and cream processing'.

In addition, any exported items that have confidentiality restrictions on the publication of value details are not classified to an Agriculture industry but are instead included in 'Other industries' along with other confidentialised items. In 1997–98, no exported commodity items that would be allocated to agriculture under the Industry of Origin classification had confidentiality restrictions, but that is not always the case.

The following table shows Industry of origin export data for the agricultural industry and production data produced by agricultural holdings classified to that industry. It should be noted that the production data shown for each Agricultural class relate to the total value of agricultural production for holdings that are primarily involved in the activity to which the class relates. For example a holding that is primarily involved in vegetable farming would be classified to the ANZSIC Class 0113, 'Vegetable growing'. The *value of production* data for that holding that is attributed to Class 0113 includes the value of all agricultural commodities produced by that holding, which may include commodities such as livestock, fruit and other non-vegetable crops. However, the *export data* for that holding would be classified on an 'Industry of origin' basis and any non-vegetable commodities exported from that holding would be classified to a different ANZSIC class.

Industry based data *continued*

S2 VALUE OF AGRICULTURAL COMMODITIES PRODUCED AND EXPORTED, BY INDUSTRY(a),1997–98

ANZSIC Industry Class	Description	*Agricultural production(b)* $'000	*Exports(c)* $'000
0111	Plant nurseries	506 866	5 624
0112	Cut flower and flower seed growing	150 830	24 325
0113	Vegetable growing	1 803 250	244 149
0114	Grape growing	917 041	82 438
0115	Apple and pear growing	448 910	62 267
0116	Stone fruit growing	154 176	24 479
0117	Kiwifruit growing	5 135	2 892
0119	Fruit growing n.e.c.	1 030 860	203 301
0121	Grain growing	4 845 010	4 556 510
0122	Grain-sheep and grain-beef cattle farming	4 069 771	—
0123	Sheep-beef cattle farming	1 168 076	—
0124	Sheep farming	1 663 012	2 476 956
0125	Beef cattle farming	2 576 120	352 348
0130	Dairy cattle farming	3 472 001	—
0141	Poultry for meat farming	1 045 567	1 156
0142	Poultry for eggs farming	386 942	2 524
0151	Pig farming	662 170	1 065
0152	Horse farming (d)	19 646	63 813
0153	Deer farming (d)	810	—
0159	Livestock farming n.e.c.	61 204	34 215
0161	Sugar cane growing	1 273 127	3
0162	Cotton growing	1 420 464	(e)—
0169	Crop and plant growing n.e.c.	330 960	93 770
01	**Total**	**28 011 946**	**8 231 835**

(a) A business value of production is classified to an industry based on the predominant activity of that business. Export data are classified to the most likely industry to have produced the commodity.

(b) Agricultural production is the Gross Value of Agricultural Commodities Produced (GVACP), and is the value measured at the metropolitan market in each State and Territory.

(c) Exports are valued on a free on board (f.o.b.) basis which includes the value of distribution and other costs incurred between the farm and the point of export.

(d) The sale of horses and deer are out of scope for VACP. The value of Class 0152 and Class 0153 is derived by valuing crops and other livestock sales for holdings allocated to the respective industries.

(e) The export of cotton lint is not classified to subdivision 01 Agriculture, but to subdivision 02 Services to Agriculture, Hunting and Trapping, Class 0211 'Cotton ginning'.

This table suffers from the same limitations as the data in table S1, in that a run-down of stocks can influence export levels and only direct agricultural exports are included. It is important to realise that the production and export data in both tables are derived from the same source, but that the second table is classified on the basis of industry rather than commodity.

Balance of payments data

The balance of payments (BOP) exports data are based on international trade statistics, adjusted where necessary for timing, coverage, classification and valuation in order to meet the change of ownership conventions and classification requirements contained in the international statistical standards for BOP statistics. For example, wool exported to stockpile abroad before being sold will be excluded from the BOP when shipped, but included when sold. The ABS publication *Balance of Payments and International Investment Position, Australia, Concepts, Sources and Methods 1998* (Cat. No. 5331.0) provides a detailed description of balance of payments methods.

The broadest level commodity breakdown for general merchandise goods credits (exports) shown in BOP is 'Rural' and 'Non-rural', followed by more detailed commodity dissections within those groupings. Allocation to these groupings is largely in terms of Section(s) or Division(s) of the SITC, as shown in the table below. This commodity breakdown was adopted by the ABS in the early 1960s in response to user demand.

S3 COMMODITY CLASSIFICATION OF RURAL MERCHANDISE EXPORTS ON A BALANCE OFPAYMENTS BASIS

Commodity	*SITC Rev 3 Division*
Rural	
Meat and meat preparations	01
Cereal grains and cereal preparations	04
Sugar, sugar preparations and honey	06
Wool and sheepskins	21*, 26*
Other rural	
Includes live animals, dairy and eggs, fish, crustacea and molluscs, vegetables and fruit, coffee, tea and spices, animal feed, tobacco, hides and skins, oilseeds, crude rubber, cork and wood, pulp and waste paper, textile fibres, animal and vegetable oils.	00, 02, 03, 05, 07, 08, 09, 12, 21*, 22, 23, 24, 25, 26*, 29, 41, 42, 43

NOTE: *part only. It should be noted that the two parts (21 and 26) identified above sum to completely cover these divisions.

The following table shows the value of rural exports, on a balance of payments basis.

S4 RURAL MERCHANDISE EXPORTS ON A BALANCE OF PAYMENTS BASIS(a), 1997–98

Description	$m
Rural goods(b)	
Meat and meat preparations	3 731
Cereal grains and cereal preparations	5 094
Wool and sheepskins	4 020
Other rural	9 285
Total	**22 130**

(a) Exports are valued on a free on board (f.o.b.) basis which includes the value of distribution and other costs incurred between the farm and the point of export.

(b) For confidentiality reasons, excludes sugar, sugar preparations and honey.

Balance of payments *data continued*

The classifications contained in 'rural' goods are broad, and attempt to provide an indication of those exports most closely associated with the agriculture, forestry and fishing industries. However, the classification is not suited to some forms of analysis and many individual items are classified differently from what might have been the case with a more detailed system. Users are warned that these limitations should be borne in mind when the estimates are used for analytical purposes. For example, while meat and meat preparations, cereal preparations, canned fruit salad and timber boards are all classified as 'rural goods', beverages (including wine) are excluded. This broad approach to defining 'rural goods', together with the different valuation basis used for valuing exports and for valuing production, is often not recognised when the estimates are used for analytical purposes, and the BOP data should not be used to directly compare the value of exports with the value of production of agricultural output.

Input-output based data

Input-output tables show the flow of inputs and outputs of each industry for a country's entire production system for a particular period. In doing this, input-output tables identify which goods and services are produced by each industry and how they are used (for example goods and services used in the production of more goods and services, or goods and services consumed by final consumers). The tables are based on the principle that the value of the output of each industry can be expressed as the sum of the values of all inputs to that industry, including any profits made. All export trade data used in input-output analysis undergo some transformation, including conversion from an f.o.b. to a basic prices basis (for agriculture, basic prices are those received at the 'farm gate'). This has the effect of removing transport and distribution margins, and product taxes from the export values so that the values are consistent with those received by producers. Similarly, agricultural output is also valued at basic prices in input-output tables.

Input-output tables are produced using the Input-Output Industry Classification (IOIC) and the Input-Output Product Classification (IOPC). These classifications have been specifically developed for the compilation and the application of Australian Input-Output tables. They are based on classifying commodities into industries for the purposes of measuring flows in the economy. Most categories align with those in the ANZSIC, and much of the production data which feeds into the input-output tables are sourced from ANZSIC based data collected by the ABS. However, because industry output for agriculture in the input-output tables is derived by classifying commodities to industries (rather than measuring output of businesses classified to a particular industry based on their main economic activity) it is not directly comparable to the industry production data produced by the ABS on an ANZSIC industry classification basis. However, it is consistent with the industry of origin basis used to classify exports by industry. Additional information on input-output tables can be found in *Australian National Accounts: Input-Output Tables* (Cat. No. 5209.0).

Value of exports from an industry

Input-output tables provide a means of tracing flows of goods and services step by step through the production process, and this information can be used to calculate the contribution made by various industries to the final value of a commodity. Because of this it is possible to derive the value of output of the agricultural industry embedded in products produced by other industries and, therefore, to derive the value of agriculture output contained in exports of these products. It also enables the value of distribution costs associated with the sale and export of commodities to be removed from the value of exports, so that production and exports can be compared on a consistent basis.

When the measure of output embedded in indirect exports is added to the measure of direct exports for a particular industry, with both being adjusted for distribution costs, a more complete picture of the value of output from that industry which is exported in a given period can be obtained.

The table below shows the value of production, the value of direct exports and the value of agricultural output embedded in indirect exports for agricultural (IOIC) industries.

S5 INPUT-OUTPUT APPROACH: VALUE(a) OF AGRICULTURAL OUTPUT PRODUCED AND EXPORTED, BY INDUSTRY, 1997–98

IOIC industry class	*Australian production(b)* $m	*Direct exports from the agricultural industry* $m	*% of production* %	*Agricultural output embedded in Indirect exports(c)* $m	*% of production* %	*Total exports of agricultural output* $m	*% of production* %
0101 Sheep	3 708	1 395	37.6	888	23.9	2 283	61.6
0102 Grains	6 267	4 043	64.5	1 305	20.8	5 348	85.3
0103 Beef cattle	3 783	312	8.3	1 906	50.4	2 218	58.6
0104 Dairy cattle	3 002	—	—	1 025	34.1	1 025	34.1
0105 Pigs	601	1	0.1	267	44.4	268	44.6
0106 Poultry	1 484	2	0.1	428	28.8	430	29.0
0107 Other agriculture	9 738	857	8.8	2 051	21.1	2 908	29.9
01 Total agriculture	**(d)28 583**	**6 610**	**23.1**	**7 871**	**27.5**	**(d)14 481**	**50.7**

(a) All values are at basic prices (i.e. farm gate) which remove distribution costs, including commodity taxes, associated with sale or export of the product.

(b) Includes the value of livestock used for breeding purposes. Also includes an estimate of the value of production by private households for own consumption.

(c) Estimated using total requirement coefficients contained in 1994–95 input-output tables, the latest published tables available.

(d) Derived by summing the components.

The table above shows that $7.9 billion of agricultural output is exported indirectly through the export of processed products. For example, much food, which is a basic output of agriculture, requires some processing before being exported. From this table, it can be seen that indirect exports from the beef cattle industry ($1.9 billion) are more than direct exports ($312 million). On the other hand, direct exports of grain ($4.0 billion) are more than indirect exports from the grains industry ($1.3 billion).

Value of exports from an industry *continued*

From table S5 it can be established that, using the input-output approach, the total value of agricultural production exported directly or indirectly in 1997–98 is $14.5 billion. It is important to realise that a number of factors, such as run-down of stocks, weather conditions and changes in the availability of export markets, make this a short period on which to make long term judgements on the overall level of agricultural output exported.

In addition, there are a number of basic assumptions which apply when analysing both direct and indirect exports estimates calculated using the input-output approach. These are:

- commodities exported from a particular industry consist of the same quality and content as those sold on the domestic market. For example, if the proportion of agricultural output embedded in an exported processed food product is significantly different to the average for that product, then any estimate of the value of agricultural output exported will be deficient to that extent.
- export prices are similar to domestic prices for the output of a particular industry. For example if prices paid for output which is indirectly exported are significantly higher than domestic prices, then the value of output exported indirectly would be under estimated.

Proportion of industry output exported

Estimating the proportion of total agricultural output which is exported adds further complexities.

The simplest approach would be to use the value of production shown in the previous table as the denominator. Doing so provides an estimate of approximately 51% for 1997–98 (a). However, for certain analyses it may be appropriate to deduct from the value of production the value of livestock produced for breeding purposes (on the basis that this production is not available for sale until it is slaughtered) and the value of commodities produced for own account consumption (on the basis that this production is not available to the market). If both of these adjustments are made then the proportion of agricultural output that is exported rises to approximately 56% under the input-output approach.

(a) This estimate has been calculated by not making any adjustments for agricultural output that is subsequently consumed within the agricultural industry. However, if such adjustments are made then a similar estimate is derived. This is because the reduction in the value of agricultural output is almost exactly offset by a proportional reduction in the value of indirect exports.

EMBEDDED COMMODITIES APPROACH

Under this approach, estimates of the volumes of agricultural commodities contained in indirect exports are derived using factors which show the percentage of raw product contained in various processed goods. These volumes are then added to the volumes of direct exports of agricultural commodities. The value of exports for any commodity is then derived by multiplying the gross unit value received by farmers for that commodity by the volume of product exported.

EMBEDDED COMMODITIES APPROACH *continued*

When this method is used, production estimates need to be adjusted to remove production used within the agriculture industry, in order to derive the denominator necessary to calculate the proportion of agricultural output that is exported. The denominator can also be adjusted to take account of the value of livestock produced for breeding purposes and commodities produced for own-account consumption. Using the embedded commodities approach, the Australian Bureau of Agricultural and Resource Economics (ABARE), has estimated that the proportion of agricultural output exported in 1997–98 was about 65%.

CONCLUSION

Analysis of agricultural commodity export data is not a straight forward exercise and some understanding of the concepts, classifications and methodology used is required in order to make meaningful judgements and comments. This is particularly true when commenting on the relationship between these data and agricultural production. It is important to understand the way in which export commodities are classified, the way they are valued, the methodologies that can be used to derive the total value of agricultural exports, and the effects that these can have on the measurement of direct and indirect exports for a particular industry.

This article shows the value of agricultural output finally exported is very much influenced by the value of embedded agricultural output included in processed exports. For example, table S5 shows that, using the input-output approach, the percentage of output of the beef cattle industry exported increases from 8% (direct exports), to 58% (direct and indirect). Equally importantly, this article shows that the assumptions used in defining agricultural output and exports, and the methodologies used to derive these estimates can also affect results, and users need to obtain a basic understanding of these methodologies in order to interpret the data effectively.

Given the variety of methodologies which are used to estimate exports and production, and the assumptions required to make use of these methodologies, any estimate of the proportion of agricultural output which is exported will only be an approximate value, and should not be interpreted as an exact result.

While this article presents some illustrative estimates in respect of 1997–98, as agricultural production and exports of agricultural commodities (both in direct and indirect forms) can vary from year to year, users are cautioned about making firm conclusions based on only one years data.

DEFINITIONS

Agricultural output

For the purpose of this paper agricultural output is defined as those raw commodities produced through the interaction of land, nutrients, water, and management, which have not undergone any further processing.

The value of output measured by the ABS in the series Gross Value of Agricultural Commodities Produced (GVACP) is calculated by valuing the production of the commodity at the wholesale price realised in the principal market place and therefore includes marketing costs, such as transport to the market place and brokers fees, commission charges etc. The value of output can also be measured on a local basis,

Agricultural output *continued*

which is calculated by deducting marketing costs from the gross value and is referred to as the Local Value of Agricultural Commodities Produced (LVACP).

In this article, agricultural output is also valued at 'basic prices', which is as close as possible to what is termed the 'farm gate' price, and is largely derived by removing the value of commodity taxes from LVACP. This measure is similar to LVACP less commodity taxes.

Direct and Indirect exports

For the purpose of this article, exports can be classified as being 'direct' or 'indirect'.

Direct exports

Direct exports of an *industry* can be described as exports of commodities that are produced by that industry. For example, direct exports of the agricultural industry comprise exports of commodities produced by that industry, such as wheat, rice, live cattle, etc.

Direct exports of a *commodity* can be described as exports of that particular commodity, in an unprocessed form. For example direct exports of wheat by the wheat industry, comprise exports of wheat in the form of grain without further processing.

Indirect exports

Indirect exports of an *industry* are those exports which are considered to be direct exports of a different industry, but which contain some inputs from the industry in question. For example, processed meats are considered to be direct exports of the meat and meat product manufacturing industry, but are indirect exports of the agricultural industry, to the extent that they contain agricultural output embedded in the product.

Similarly, indirect exports of a *commodity* are those commodities which have been embedded into a different commodity through a production process. For example, exported sausages are considered to be direct exports of sausages, but are indirect exports of meat and grains, to the extent that they contain meat and grain embedded in the product.

It is important to understand that direct exports can be compared directly with production (once adjustments are made for differences between the farm gate and f.o.b. prices), but the total value of indirect exports cannot. This is because indirect exports contain inputs additional to those provided by the industry or commodity in question, and these add to the value of the export. Therefore, to directly compare the value of exports of wine with the value of production of grapes, is invalid because most of the value contained in wine comes from the manufacturing process. For example it is invalid to say if the value of grape production is $x, the value of wine exported is $y, and the value of grapes exported is $z, then (y+z)/x is the proportion of grape production exported.

INTERNATIONAL MERCHANDISE TRADE DATA

ABS international merchandise trade data are the basic trade data collected and held by the ABS. They are sourced from the details of individual transactions submitted by exporters and importers, or their agents, to the Australian Customs Service (ACS). Export statistics are included in the month that the goods are shipped from Australia.

INTERNATIONAL MERCHANDISE TRADE DATA *continued*

Information collected by the ACS in relation to merchandise trade includes the value, detailed commodity classification, gross weight, country, overseas port and Australian port of loading or discharge. Exports use a free on board (f.o.b.) type value which includes the value of the good plus the value of outside packing (other than international containers used for containerised cargo) and related distributive services used up to and including loading the goods onto the carrier at the customs frontier of the exporting country.

While this trade information is collected for the vast majority of goods leaving Australia (with a value greater than $500), some goods are excluded for either conceptual or practical reasons, for example those temporarily bought to Australia for subsequent forwarding to a foreign destination, and low-value exports in parcel post.

Once these basic data are collected by the ABS the individual transactions are edited to ensure both accuracy of the data and consistency with international standards for merchandised trade statistics. On completion of the editing process the data are aggregated for inclusion in various ABS statistics.

The ABS presents these international merchandise trade statistics using a number of different classifications, enabling the data to be examined from different perspectives, depending on the requirements of the user. Data can be collated and presented on a 'commodity basis', an 'industry basis', or a 'broad economic category basis'. These classifications follow exactly, or are closely comparable with, the internationally recognised classifications developed by bodies such as the United Nations (UN) and the World Customs Organisation (WCO) and recommended in *International Merchandise Trade Statistics, Concepts and Definitions, Statistical Papers, series M, No 52, Rev 2 (1998)*.

The main classifications referred to in this article are described below.

CLASSIFICATIONS FOR MERCHANDISE EXPORTS STATISTICS

Commodity classifications

The *Harmonised System* (HS) is a detailed classification developed by the WCO and designed primarily for Customs purposes. It is used by most countries to record their trade with other countries and is the most detailed international commodity classification. In the HS, goods produced from the same material are grouped together, and within that group are ordered according to the degree of processing. As a general rule, goods are arranged in order of their degree of manufacture: raw materials, unworked products, semi-finished products, finished products. The HS is a 6-digit classification, with some 5,000 separate subheadings.

The HS classification groups commodities predominantly on the material the commodity is made from, with less regard as to where the material was derived from in terms of the source material. For example, much processed food appears in a number of unrelated (in a hierarchical sense) areas of the classification, depending on what it is made. For example while live animals, meat, and sausages could be viewed as progressively more processed versions of the live animal, there is limited hierarchical linkage between them in the HS. The hierarchy of the HS is orientated more towards the requirements of Customs administration activity.

Commodity classifications *continued*

For exports, the ABS adds 2 further digits to the HS classification to result in approximately 6,200 8-digit *Australian Harmonised Export Commodity Classification (AHECC) codes*. The details and descriptions of the statistical codes of the AHECC are identified in the *Australian Harmonised Export Commodity Classification* (Cat. no. 1233.0).

The Standard International Trade Classification (SITC) Revision 3 (SITC Rev 3) is the UN developed trade classification developed for statistical purposes. Employing the subheadings of the HS as building blocks, in consultation with experts from governments and interested international organisations, the United Nations Statistics Division produced the SITC, Rev 3 taking account of the need for continuity with the previous versions of SITC as well as the following considerations:

- the nature of the merchandise and the materials used in its production;
- the processing stage;
- market practices and the uses of the product;
- the importance of the commodity in terms of world trade; and
- technological changes.

At its most detailed level (5 digits) it consists of 3,120 codes.

The SITC groups products based on their level of processing, commencing with the raw product and continuing through progressively more processed forms of the raw product. For example all processed food appears further down in the hierarchy containing the original product from which the food was mainly derived. This results in processed products of animals remaining within, but further down, the hierarchy containing live animals. With this type of grouping, the SITC commodity codes are ideal for a broader assessment of commodity trading patterns and for comparative economic analysis. Categories in the SITC (Rev 3) are composed of one or more whole HS items.

Industry of origin commodity allocation

Trade statistics are currently published on an *industry of origin* basis. The statistics are compiled by allocating statistical codes from the HS to industry of origin based upon the primary activities of those industries with which they are primarily associated, i.e. the commodity codes are assigned to industry classes by matching the commodities to the defined primary activities of classes in the industry classification used. These are the industries most likely to have produced the traded items. All trade in a commodity is assigned to one industry class, the one that commodity is most likely to be produced by or 'originate' from, i.e. its 'industry of origin'.

Industry of origin is a quite different concept from the standard industry basis on which most economic statistics are compiled and published. Businesses usually undertake a range of activities and produce various outputs. They are classified to industry based on the primary activities of the class to which their main economic activity relates. The *Australian and New Zealand Standard Industrial Classification* (ANZSIC) is the standard classification used by the ABS for the presentation and analysis of industry statistics. It provides a framework for classifying businesses to industries according to the predominant activities undertaken by a business. ANZSIC is closely based on the UN's International Standard Industrial Classification Revision 3 (ISIC Rev 3). At its most

Industry of origin commodity allocation *continued*

detailed level ANZSIC contains 465 industry classes. The *Australian and New Zealand Standard Industrial Classification 1993* (Cat. No. 1292.0) provides guidelines to identify groups of businesses which carry out similar economic activities. The classification is used in international merchandise trade statistics to provide an indication only of the industry which is most likely to have produced the goods which are exported or imported.

It is important to realise that the term 'industry of origin' means the industry which produced the final commodity, and not the original industry from which the commodity was derived. For example wine exports are classified to manufacturing rather than agriculture.

Because of the limitations in allocating commodities to industries mentioned above, and the fact that processed commodities contain value added from upstream industries, the use of industry of origin statistics to measure the amount of trade undertaken by individual industries needs to be treated with caution. Information on the trade activity, particularly exports, of individual industries is therefore an area of substantial unmet demand. While some information is available from other sources, there are a range of methodological and coverage problems with the data and any attempt to reliably compare trade data with other statistical information produced on a standard industry basis needs to take this into consideration.

CHAPTER 9 TRADE

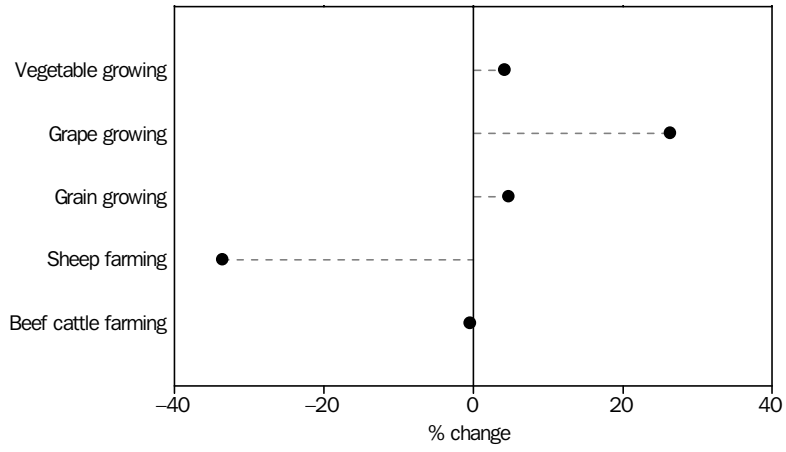
OVERVIEW

In 1998–99, the total value of exports of agricultural products (exports classified to ANZSIC Subdivision 01, Agriculture, as their industry of origin) fell by 7% to $7.7 billion, reaching the same level as 1995–96. Following a decline in the late 1980s, the contribution to total exports by agricultural products has remained relatively stable, with them accounting for 9% of the total goods exported in 1998–99.

9.1 TOTAL EXPORTS FROM AGRICULTURAL INDUSTRY

While exports from the grain growing sector, which accounted for 62% of total agricultural exports, increased by 5% to $4.8 billion, this was more than offset by a decrease of 34% in exports from the sheep farming sector (from $2.5 billion in 1997–98 to $1.6 billion in 1998–99). Increases in exports were recorded for a number of the smaller industries, such as the vegetable and grape growing industries, with increases of 4% and 26% respectively.

9.2 CHANGE IN VALUE OF EXPORTS—1997–98 to 1998–99



CROPS

In 1998–99, total wheat exports rose to 16.2 million tonnes, an increase of 7% over the previous year, however the value of wheat exported fell by 6% to $3.4 billion. Indonesia continued to provide the largest export market for wheat, importing 1.7 million tonnes, a decrease of 29% over the 1997–98 level.

Total barley exports rose by 68% in 1998–99 to 4.2 million tonnes. China was the largest export market for barley, importing 1.3 million tonnes, or 31% of total barley exports, with a value of $253 million.

In 1998–99, total exports of rice increased by 1% to 655,000 tonnes, while the value of rice exports rose by 3% to $409 million. The total quantity of canola exported rose 124% to 1.3 million tonnes, and its value also more than doubled to $558 million. China provided the largest export market for canola, importing 394,000 tonnes with a value of $164 million.

FRUIT

In 1998–99, total exports of apples fell by 30% to 24,800 tonnes. The value of apple exports decreased by 20% to $30.3 million. Malaysia continued to be the largest export market for apples, importing 7,910 tonnes. The total quantity of fresh and dried grapes exported rose by 8% to 42,400 tonnes in 1998–99. A 26% increase in value to $104 million was also recorded, reflecting improved export prices for grapes. Hong Kong provided the largest export market, importing 12,500 tonnes with a value of $28.9 million.

VEGETABLES

Exports of onions rose 15% to 57,400 tonnes in 1998–99, but the total value of onions exported decreased slightly to $28.4 million. Germany imported 9,890 tonnes of onions valued at $4.6 million. The quantity and value of carrots exported increased by 13% (to 60,300 tonnes) and 22% (to $43.2 million) respectively over the period.

LIVESTOCK

In 1998–99, the total number of live cattle exported (including exports for breeding purposes) was 730,000, a 1% increase over the previous year. The total value of cattle and calves exported remained steady at $351 million. The Philippines provided the largest export market for live cattle, importing 264,000 head of cattle, with a value of $118 million.

The number of live sheep exported (including exports for breeding purposes), decreased by 1% to 5.0 million. The value of live sheep exports fell by 6% to $188 million, reflecting a weakening in export prices for live sheep. Kuwait was the primary export market, accounting for 1.3 million or 26% of total live sheep exports.

WOOL

In 1998–99, total exports of greasy wool fell by 14% to 377,000 tonnes. The value of wool exported also fell, by 36% to $1.4 billion. China remained the largest export market for greasy wool, importing 104,000 tonnes, which was 28% of Australia's total greasy wool exports.

EXPORTS BY AGRICULTURAL ESTABLISHMENTS

The following table shows the value of exports of selected agricultural industries classified according to the Australian and New Zealand Standard Industrial Classification (ANZSIC).

9.3 EXPORTS BY INDUSTRY OF ORIGIN(a)(b)—Years ended 30 June

ANZSIC code	Description	1997 $'000	1998 $'000	1999 $'000
0111	Plant nurseries	5 758	5 624	5 308
0112	Cut flower and flower seed growing	26 025	24 325	23 772
0113	Vegetable growing	204 384	244 149	254 369
0114	Grape growing(c)	119 172	82 438	104 100
0115	Apple and pear growing	57 737	62 267	49 799
0116	Stone fruit growing	20 260	24 479	38 414
0117	Kiwi fruit growing	1 804	2 892	4 175
0119	Fruit growing n.e.c.	189 630	203 301	200 226
0121	Grain growing	5 380 831	r4 556 510	4 771 661
0124	Sheep farming(d)	2 377 867	2 476 956	1 644 431
0125	Beef cattle farming(d)	445 059	352 348	350 975
0141	Poultry farming (meat)(d)	494	1 156	1 120
0142	Poultry farming (eggs)	3 247	2 524	4 806
0151	Pig farming(d)	1 351	1 065	768
0152	Horse farming	42 827	63 813	62 648
0159	Livestock farming n.e.c.	35 612	34 215	30 937
0161	Sugar cane growing	164	3	39
0169	Crop and plant growing n.e.c.	78 312	r93 770	122 348
	Total Agriculture (ANZSIC Code 01)(d)	**8 990 536**	**r8 231 835**	**7 669 894**

(a) Refer to Explanatory Notes paragraphs 35–44.

(b) Excludes commodity data subject to a confidentiality restrictions.

(c) Excludes wine.

(d) Includes exports of live animals but excludes meat exports. Meat exports are classified to ANZSIC Subdivision 21 'Food, Beverage and Tobacco'.

SOURCE: ABS FASTTRACS Service, August 2000.

9.4 EXPORTS OF SELECTED COMMODITIES(a)(b)—Years ended 30 June

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Crops											
Barley											
Quantity ('000 t)	3 916.3	2 513.3	4 212.9	315.6	324.2	20.7	1 955.8	1 596.6	—	—	—
Value ($m)	815.0	544.5	698.0	63.5	59.7	3.6	310.8	260.4	—	—	—
Canola											
Quantity ('000 t)	283.4	r590.1	1 319.8	279.6	302.2	0.7	162.1	575.3	—	—	—
Value ($m)	r123.9	256.2	557.6	119.7	129.2	0.3	67.7	240.6	—	—	—
Cotton lint											
Quantity ('000 t)	505.0	593.4	646.7	404.3	3.0	239.5	—	—	—	—	—
Value ($m)	1 076.8	1 385.6	1 558.9	986.0	7.7	565.3	—	—	—	—	—
Grain sorghum											
Quantity ('000 t)	299.1	250.9	12.4	3.9	—	8.3	—	—	—	—	—
Value ($m)	70.5	49.8	2.6	0.7	—	1.8	—	—	—	—	—
Rice											
Quantity ('000 t)	r550.7	r647.2	655.2	636.2	18.8	—	—	—	—	—	—
Value ($m)	r312.8	r395.5	408.9	397.8	11.0	—	—	—	—	—	—
Wheat											
Quantity ('000 t)	18 238.6	r15 096.4	16 187.9	3 014.2	1 096.3	1 191.8	2 808.4	8 077.2	—	—	—
Value ($m)	4 301.4	3 629.5	3 398.5	638.9	229.3	269.3	567.8	1 693.1	—	—	—
Fruit											
Apples											
Quantity ('000 t)	24.8	35.4	24.8	1.9	2.0	1.1	0.7	4.9	14.1	—	—
Value ($m)	27.9	38.0	30.3	2.4	3.1	1.5	1.0	7.8	14.4	—	—
Grapes (fresh or dried)											
Quantity ('000 t)	r52.0	r39.3	42.4	2.9	35.3	0.5	2.8	0.8	—	—	—
Value ($m)	r119.1	r82.4	104.1	7.2	86.1	1.2	7.1	2.1	—	—	—
Pears (excluding Nashi)											
Quantity ('000 t)	23.6	19.4	14.2	0.2	12.1	0.1	—	1.7	—	—	—
Value ($m)	27.6	21.5	17.0	—	14.3	—	—	2.2	—	—	—
Oranges											
Quantity ('000 t)	r116.3	117.3	112.2	20.2	30.1	3.5	57.9	0.4	—	—	—
Value ($m)	108.8	110.4	119.2	22.8	33.8	4.1	57.9	0.6	—	—	—
Vegetables											
Potatoes											
Quantity ('000 t)	17.8	20.1	21.5	2.8	6.5	0.7	1.8	8.9	0.6	—	—
Value ($m)	7.4	7.9	9.2	1.1	2.7	—	1.0	3.5	—	—	—
Onions											
Quantity ('000 t)	37.0	49.9	57.4	3.3	1.0	1.3	1.9	0.3	49.5	—	—
Value ($m)	11.5	28.9	28.4	1.5	0.5	0.8	1.4	0.2	23.9	—	—
Carrots											
Quantity ('000 t)	r44.8	53.5	60.3	0.4	0.2	1.2	0.8	52.9	4.8	—	—
Value ($m)	r30.3	35.4	43.2	0.4	0.3	1.0	0.6	37.1	3.8	—	—
Cauliflower											
Quantity ('000 t)	r19.3	17.3	17.0	—	0.9	0.4	—	15.6	—	—	—
Value ($m)	25.2	22.5	23.0	—	1.4	0.6	—	21.0	—	—	—

(a) Refer to Explanatory Notes paragraphs 35–44.

(b) Excludes commodity data subject to confidentiality restrictions.

SOURCE: ABS FASTTRACS Service, August 2000.

9.4 EXPORTS OF SELECTED COMMODITIES(a)(b)—Years ended 30 June *continued*

	AUSTRALIA			1999							
	1997	*1998*	*1999*	*NSW*	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*ACT*
Livestock											
Live cattle for slaughter											
Quantity ('000)	863.8	(c)691.6	713.0	16.8	46.0	113.9	35.5	295.8	—	205.0	—
Value ($m)	427.7	(c)333.1	342.7	7.4	25.5	53.4	18.7	144.4	—	93.3	—
Live cattle for breeding											
Quantity ('000)	31.5	28.8	16.9	—	5.4	0.9	0.3	7.6	—	2.6	—
Value ($m)	17.3	18.3	8.3	—	2.8	0.7	0.2	3.5	—	1.1	—
Live sheep for slaughter											
Quantity ('000)	5 237.2	4 961.1	4 958.7	24.0	433.6	1.5	464.8	4 033.2	—	1.6	—
Value ($m)	189.9	193.3	181.7	0.8	15.6	0.1	16.2	148.9	—	0.1	—
Live sheep for breeding											
Quantity ('000)	61.7	148.1	74.1	—	0.9	—	0.2	73.1	—	—	—
Value ($m)	3.1	6.9	6.4	—	3.1	—	0.1	3.2	—	—	—
Wool											
Total greasy wool											
Quantity (t)	(c)497 271	(c)437 355	(c)376 554	99 688	123 708	18 845	38 004	93 028	3 281	—	—
Value ($m)	(c)2 169.8	(c)2 219.9	(c)1 430.5	423.7	479.5	62.2	128.2	320.9	16.1	—	—

(a) Refer to Explanatory Notes paragraphs 35–44.

(b) Excludes commodity data subject to confidentiality restrictions.

(c) Excludes re-exports.

SOURCE: ABS FASTTRACS Service, August 2000.

9.5 EXPORTS OF SELECTED COMMODITIES BY DESTINATION(a)(b)—Years ended 30 June

	1997		1998		1999	
	quantity (c)	*value* $'000	*quantity* (c)	*value* $'000	*quantity* (c)	*value* $'000
Barley						
China	n.p.	n.p.	677 348	173 260.7	1 320 265	253 169.5
Saudi Arabia	n.p.	n.p.	175 750	36 148.9	1 094 477	140 419.7
Japan	n.p.	n.p.	772 636	161 430.3	930 240	174 123.9
Canola						
China	n.p.	n.p.	132 659	57 151.3	393 785	163 923.8
Japan	204 650	89 615.0	230 329	101 511.3	293 188	126 152.0
Germany	n.p.	n.p.	69 298	29 232.3	160 489	69 017.5
Wheat						
Indonesia	2 334 347	n.p.	2 355 286	n.p.	1 673 492	n.p.
Iran	3 631 998	n.p.	486 040	n.p.	1 608 255	n.p.
Egypt	1 665 295	n.p.	619 220	n.p.	1 491 259	n.p.
Apples						
Malaysia	9 067	8 026.0	13 183	11 469.9	7 911	7 581.6
Singapore	5 806	5 904.8	7 504	7 384.6	4 381	4 408.3
Sri Lanka	840	727.6	2 824	2 319.7	2 806	2 706.8
Grapes						
Hong Kong (SAR of China)	5 387	14 395.1	10 639	19 554.7	12 469	28 856.4
Singapore	4 960	12 536.3	5 355	11 194.7	5 578	13 210.2
New Zealand	4 412	8 823.2	4 576	9 286.8	4 796	11 315.3
Oranges						
Hong Kong (SAR of China)	24 149	20 802.2	11 973	9 395.8	24 280	24 010.6
Malaysia	27 929	21 220.5	33 664	24 069.6	22 535	18 625.2
United States of America	10 962	18 046.7	21 658	32 952.3	22 132	34 814.0
Carrots						
Malaysia	19 887	13 063.4	22 181	14 339.7	23 273	15 967.9
Singapore	11 562	7 977.4	11 820	7 836.5	12 347	8 626.7
Hong Kong (SAR of China)	5 351	3 811.0	7 247	5 178.2	8 114	6 200.6
Onions						
Germany	9 736	2 495.8	8 066	4 632.6	9 887	4 633.4
United Kingdom	2 887	1 357.2	6 046	4 140.0	7 436	4 640.1
Japan	3 708	1 294.9	6 714	4 122.9	7 265	3 769.8
Live cattle						
Philippines	244 010	112 521.3	238 437	102 211.4	263 662	118 290.1
Egypt	40 507	20 385.3	47 055	23 582.8	188 915	100 183.4
Indonesia	465 377	237 106.1	159 602	75 632.7	94 617	39 520.1
Live sheep						
Kuwait	1 021 980	36 773.7	1 259 992	48 605.5	1 299 789	46 642.4
Jordan	842 468	30 929.2	664 126	24 727.6	1 109 019	39 210.7
United Arab Emirates	1 826 090	65 743.2	1 531 063	58 611.0	1 081 393	39 719.1
Wool (greasy)						
China	r121 989	r495 948.8	r103 017	r503 753.8	104 327	372 542.3
Italy	r84 183	r417 140.3	r81 850	r480 694.1	66 546	296 325.3
Taiwan	51 512	188 468.9	r32 695	r135 468.9	43 977	127 590.5

(a) Refer to Explanatory Notes paragraphs 35–44.

(b) Excludes commodity data subject to confidentiality restrictions.

(c) Unit of quantity for crop and horticultural commodities is tonnes. Unit of quantity for livestock is number.

SOURCE: ABS FASTTRACS Service, August 2000.

EXPLANATORY NOTES

INTRODUCTION

1 This publication contains detailed statistics on crops, livestock and livestock products and characteristics of farms. Also included are detailed statistics on the financial performance of agricultural businesses, the value of agricultural commodities produced (VACP) and summary data on trade.

SCOPE AND COVERAGE

2 Estimates of farm production are based on information obtained from the Agricultural Commodity Survey (ACS) conducted at 31 March 1999. Estimates of financial performance are derived from the 1998–99 Agricultural Finance Survey (AFS) conducted for the financial year ended 30 June 1999. VACP quantity data are collected from the ACS and other Australian Bureau of Statistics (ABS) collections with some information from external sources (e.g. Australian Dairy Corporation). Most price information is obtained from non-ABS sources such as marketing boards, marketing reports, wholesalers, brokers and auctioneers.

3 The scope of the 1998–99 ACS is establishments undertaking agricultural activity having an estimated value of agricultural operations (EVAO) of $5,000 or more. This is the same as the scope for Agricultural Censuses from 1993–94 to 1996–97 and the 1997–98 ACS. Prior to 1993–94 scope has varied. Details are available on request. The scope of the 1998–99 AFS is management units undertaking agricultural activity having an EVAO of $22,500 or more.

AGRICULTURAL ESTABLISHMENTS

4 For the Agricultural Commodity Survey, the concept of an establishment is the same as that used by the ABS for all industry statistics collections. The establishment is the smallest accounting unit of business within a State or Territory, controlling its productive activities and maintaining a specified range of detailed data enabling value added to be calculated. In general an establishment covers all operations at a physical location, but may consist of a group of locations provided they are within the same State or Territory. The majority of establishments operate at one location only.

MANAGEMENT UNITS

5 The management unit is the highest level accounting unit within a business, having regard for industry homogeneity, for which accounts are maintained; in nearly all cases it coincides with the legal entity owning the business (i.e. company, partnership, trust, sole operator, etc.). In the case of large diversified businesses, however, there may be more than one management unit, each coinciding with a 'Division' or 'line of business'. Management units which have a predominant activity in the agricultural sector are called farm businesses. Farm businesses which operate in more than one State are called 'multi-State farm businesses'.

6 From 1986–87 to 1992–93 inclusive, multi-State farm businesses contributed to Australian estimates but not to State level estimates. A methodology to apportion estimates for the multi-State management units to those States in which the management unit operated was developed and implemented from 1993–94 onwards.

MANAGEMENT UNITS *continued*

7 The method of apportioning multi-state management units utilises a combination of size measures available from the agricultural survey and direct collection of additional data from the multi-State management units.

INDUSTRY AND SIZE CLASSIFICATION

8 Since 1991–92, units in the Agricultural Census, ACS and the AFS have been classified according to the methodology described in *Australian and New Zealand Standard Industrial Classification (ANZSIC)* (Cat. no. 1292.0). Prior to 1991–92, establishments were classified according to the methodology described in the 1983 edition of the *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.

9 Industry value estimates, industry financial estimates and trade export estimates in this publication are presented in terms of ANZSIC.

10 Table 4.17 shows selected financial statistics for farm businesses by industry. From 1997–98, statistics for the poultry farming (eggs) industry (ANZSIC 0142) have been presented separately. From 1994–95 to 1996–97 the poultry industry was combined with 'Other Agriculture'. The poultry farming (meat) industry is still included in 'Other Agriculture'. From 1997–98 'Other Agriculture' comprises ANZSIC classes 0111–0112, 0141, 0152–0159 and 0169.

DATA ITEMS

11 The data items contained in this publication are comparable with those produced by the ABS for the mining, manufacturing and other industries of the economy. Data for all industries and comparisons between them are published in *Business Operations and Industry Performance*, *Australia* (Cat. no. 8140.0).

SAMPLE ERROR

12 The estimates in this publication are based on information obtained from a sample drawn from the total farm population in scope of the collections, and are subject to sampling variability; that is, they may differ from the figures that would have been produced if all farms or farm businesses had been included in the ACS or AFS respectively. One measure of the likely difference is given by the standard error (SE), which indicates the extent to which an estimate might have varied by chance because only a sample was taken. 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 or farm businesses had been included, and about nineteen chances in twenty that the difference will be less than two SEs.

13 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. Most published estimates have RSEs less than 5%. For some States with limited production of certain commodities, RSEs are greater than 25%. If an estimate is identified by a single asterisk (e.g. *2) the RSE lies between 25% and 50%. If an estimate is identified by a double asterisk (e.g. **1) the RSE is above 50%. Separate indication of the RSEs of all estimates is available on request .

14 Prior to 1997–98 the ACS was conducted as a census and therefore the estimates for that period are not subject to SEs.

CHANGES TO DEFINITIONS

15 From 1995–96, land rent paid and land rent received were no longer collected as separate items but were included in rent and leasing expenses and rent and leasing revenue. This has slightly affected the estimates of turnover, purchases, value added, adjusted value added and gross operating surplus. The effect on performance measures derived using these items is minimal.

16 Commencing with estimates for 1997–98, under new international standards, contribution to gross domestic product (GDP) by agricultural industries will be measured by the item 'industry value added' (IVA). Previously the corresponding contribution to GDP was measured by the item 'industry gross product (IGP). It should be noted that IVA is not the same item as 'value added'.

The relationship between IVA estimates and IGP estimates is:-

	IVA
less	selected indirect taxes (for agricultural industries, the main types are fringe benefit tax, payroll tax, land rates and land taxes)
equals	IGP

Some further conceptual differences exist between IGP and IVA (particularly in relation to income from and expenditure on royalties for intellectual property and computer software not capitalised by the business). However, taking these items into account would have virtually no effect on the estimates of IVA in this publication and no attempt has been made to measure them for agricultural industries.

COMPARISON WITH AUSTRALIAN NATIONAL ACCOUNTS

17 At present, some differences exist between the income and expenditure estimates incorporated in the National Accounts and those included in this publication.

18 The National Accounts estimates measure the income accruing from production after allowing for related expenditures, while the estimates in this publication have been based on items generally reported on a cash basis. For instance, in the case of a farm business receiving payment in the current year for a previous year's production, the National Accounts would include the value of the transaction in the previous year while the AFS would include it in the current year.

19 The AFS measures the total sales of livestock by farm businesses (i.e. whether for slaughter, fattening or breeding), whereas the National Accounts measure only the value of the stock sold for slaughter. Consequently, purchases of livestock are included in the AFS estimates of expenses but are not reflected in the National Accounts.

20 Marketing costs in the National Accounts are based on expenses incurred in transporting farm produce between the farm and the principal markets, whether they are paid by the farm businesses or the buyer. On the other hand, only marketing costs actually incurred by the farm business are included in the AFS. In addition, the National Accounts estimates of marketing costs include the marketing expenses of various marketing boards which are not included in the AFS.

21 The National Accounts estimates for the agricultural industry exclude financial transactions related to non-agricultural activity, whereas the AFS estimates include financial data relating to all activities which are undertaken by management units, whose predominant activity is agriculture.

COMPARISON WITH AUSTRALIAN NATIONAL ACCOUNTS *continued*

22 The National Accounts estimates of farm income relate to ANZSIC subdivisions 01 and 02 and hence also include estimates of income of management units predominantly involved in providing agricultural services (such as contract harvesting and aerial spraying). The AFS only includes financial data relating to agricultural services activities of management units which had a predominant activity of agriculture (i.e. coded to ANZSIC subdivision 01). A further difference is that in the National Accounts, payments to shearing contractors are regarded as wages, whereas in the AFS such payments are included under the item 'Payments to Contractors'.

23 The National Accounts estimates of farm production include the value of crops and seed produced and consumed on the farm, whereas the AFS includes only the value of proceeds for crops sold. Similarly, the National Accounts estimates for seed and fodder costs include the value of seed and fodder produced and consumed on the holding, whereas the AFS measures only the value of those items purchased.

24 The National Accounts also provide an estimate for the 'equipment' component of gross fixed capital expenditure for Division A of the ANZSIC, which includes expenditure by the forestry, fishing and hunting industries. On the other hand, the AFS provides an estimate for total gross fixed capital expenditure which includes not only expenditure on equipment but also expenditure on both dwellings and non-dwelling construction. This estimate is only for ANZSIC Division A, subdivision 01, Agriculture.

25 In view of these conceptual differences, the different sources of the estimates, and sampling error, caution should be exercised in drawing inferences from a comparison between the AFS estimates and the estimates in the National Accounts.

REAL ESTIMATES

26 Real estimates of two key statistics derived from the AFS are included in this publication. These statistics are cash operating surplus (COS) and net worth. While real estimates are similar to the chain volume estimates published by the ABS (in that they are both designed to allow the calculation of growth rates free of the direct effects of inflation) they are slightly different measures. Chain volume measures can only be compiled for statistics that can be thought of as the aggregate of components, each of which is the product of a unit price and a quantity, such as turnover or expenditure. Chain volume estimates cannot be derived for those current price statistics that cannot be regarded as the product of price and quantity vectors, such as income statistics (e.g. COS), liabilities and financial assets, which can only be thought of as money values.

27 Nevertheless, 'real' estimates can be obtained by revaluing such current price values in terms of a basket of goods and services that the money is, or could be, spent on.

28 Real values of cash operating surplus and net worth have been derived by deflating the current price estimates with the implicit price deflator (IPD) of domestic final demand for the Australian estimates and State final demand for the State estimates. IPDs are themselves a derived measure, obtained by dividing a current price estimate with the corresponding chain volume estimate (they are revised annually). The IPD for Australian domestic final demand is published in table 1.7 of *Australian System of National Accounts* (Cat. no. 5204.0). IPDs for State final demand can be derived from the current and constant price estimates of final demand published in tables 3 and 6–13 of *Australian National Accounts: State Accounts* (Cat. no. 5220.0), respectively.

CROPS, PASTURES AND HORTICULTURE

29 Statistics of area and production of crops relate, in the main, to crops sown during the year ended 31 March. Statistics of perennial crops relate to the position as at 31 March and the production during the year ended on that date, or of fruit set by that date. For example, particulars of area, production and yield per hectare of wheat in Australia refer to wheat sown during the period from April to September and harvested between October and the following February, i.e. the 1998–99 season relates to the harvesting period October 1998 to February 1999. Statistics of other crops which in some States are harvested after 31 March 1999 (e.g. maize, potatoes, apples and pears) are collected by supplementary collection forms and are included in this publication.

LIVESTOCK SLAUGHTERING AND LIVESTOCK PRODUCTS

30 The statistics on livestock slaughtering and meat production are based on a monthly collection from abattoirs and other major slaughtering establishments and include estimates of animals slaughtered on farms and by country butchers and other small slaughtering establishments. Care should be taken when using this information as the figures only relate to slaughtering for human consumption and do not include animals condemned or those killed for boiling down. Definitions of livestock categories may differ between States and within States, particularly with regard to calves.

WOOL

31 Wool production statistics contained in this publication are derived from the monthly ABS Wool Brokers and Dealers Receivals Collection.

32 Wool receivals statistics show the amount of taxable wool received by brokers and dealers from wool producers. It excludes wool received by brokers on which wool tax has already been paid by other dealers (private buyers) or brokers.

MILK

33 Milk statistics have been collected and provided to the ABS by the Australian Dairy Corporation.

POULTRY

34 Poultry slaughtering statistics have been compiled from returns supplied by commercial poultry slaughtering establishments. Producers in Tasmania, the Northern Territory and the Australian Capital Territory are not included in the aggregates derived from the Poultry and Game Birds Slaughtered collection. However, the statistics represent a high level of coverage.

TRADE DATA

35 The merchandise export statistics in this publication are compiled in broad agreement with the United Nations' recommendations for the compilation of international trade statistics.

36 International trade statistics are compiled by the ABS from information submitted by exporters and importers or their agents to the Australian Customs Service (Customs).

37 Commodity exports are presented according to the codes and descriptions of the Australian Harmonised Export Commodity Classification (AHECC).

38 Merchandise trade covers all movable goods which add to (imports) or subtract from (exports) the stock of material resources in Australia. Excluded are:

TRADE DATA *continued*

- direct transit trade, i.e. goods being trans-shipped or moved through Australia for purposes of transport only;
- ships and aircraft moving through Australia while engaged in the transport of passengers or goods between Australia and other countries; and
- non-merchandise goods, consisting primarily of goods moving on a temporary basis (e.g. mobile equipment; goods under repair; goods for exhibition; and passengers' effects).

39 The United Nations' recommendations for the compilation of merchandise trade statistics recognise that the basic source used by most compiling countries—the customs record—will not be able to capture certain transactions. In Australia the following types of goods which fall within the scope of merchandise trade, are excluded because customs entries are not required:

- migrants' and passengers' effects exported or imported; and
- parcel post exports for values not exceeding $2,000 and parcel post imports for values not exceeding $1,000.

For exports only:

- fish and other sea products landed abroad directly from the high seas by Australian ships; and
- individual transaction lines (within an export consignment) where the value of the goods is less than $500.

40 The merchandise trade statistics in this publication are recorded on a general trade basis, i.e. exports include both Australian produce and re-exports.

41 Australian produce is defined as goods, materials or articles which have been produced or manufactured in Australia. Processing and assembly operations that leave imported components and products essentially unchanged are not considered as production or manufacture.

42 Re-exports are defined as goods, materials or articles originally imported into Australia which are exported in the same condition or after undergoing minor operations (e.g. blending, packaging, bottling, cleaning, husking and shelling) which leave them essentially unchanged.

43 The value of exports is the free on board (f.o.b.) transactions value of the goods expressed in Australian dollars. Goods shipped on consignment are initially valued at the f.o.b. Australian port of shipment equivalent of the current price offering for similar goods of Australian origin in the principal markets of the country to which the goods are despatched for sale. Exporters who do not know the value of the goods at shipment, and enter an approximate value, must subsequently submit an entry either confirming or revising the estimated return.

44 Restrictions are placed on the release of statistics for certain commodities for reasons of confidentiality. These restrictions do not affect total export and import figures, but they can affect statistics at all levels, that is, by country and/or by commodity. More information on the treatment of confidential data in international merchandise trade statistics can be obtained from the Information Paper, International Merchandise Trade Statistics, Australia: Data Confidentiality (Cat. no. 5487.0), or the Confidentiality Manager on (02) 6252 5409. Copies of the current Confidential Commodities List (CCL), in electronic or paper format, can be obtained from the Confidentiality Manager. The latest version is available on the ABS Website (www.abs.gov.au).

UNPUBLISHED STATISTICS

45 Unpublished statistics and customised output are available as a special data service and can be obtained by contacting Debbie Thomas on Hobart 03 6222 5948 or the National Information Service on 1300 135 070.

GENERAL ACKNOWLEDGMENT

46 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

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

Agricultural Commodities, Australia (Cat. no. 7121.0)

Agricultural Industries, Financial Statistics, Australia, Preliminary (Cat. no. 7506.0)

Australian and New Zealand Standard Industrial Classification (ANZSIC) (Cat. no. 1292.0)

Item Estimates from Agricultural Finance Survey (Cat. no. 7507.0.15.001) (Electronic format)

Livestock and Meat, Australia (Cat. no. 7218.0)

Livestock Products, Australia (Cat. no. 7215.0)

Principal Agricultural Commodities, Australia, Preliminary (Cat. no. 7111.0)

Value of Principal Agricultural Commodities Produced, Australia, Preliminary (Cat. no. 7501.0)

48 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)

Business Operations and Industry Performance, Australia (Cat. no. 8140.0)

49 Current publications produced by the ABS are listed in the *Catalogue of Publications and Products* (Cat. no. 1101.0). The ABS also issues, on Tuesdays and Fridays, a *Release Advice* (Cat. no. 1105.0) which lists publications to be released in the next few days. The Catalogue and Release Advice are available from any ABS office.

ABBREVIATIONS AND SYMBOLS

50 The following abbreviations and symbols have been used in this publication:

ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
ACS	Agricultural Commodity Survey
ACS	Australian Customs Service
AFS	Agricultural Finance Survey
AHECC	Australian Harmonised Export Commodity Classification
ANZSIC	Australian and New Zealand Standard Industrial Classification
b	billion
COS	Cash operating surplus
EVAO	Estimated value of agricultural operations
f.o.b.	free on board
GDP	Gross domestic product
GFP	Gross farm product
GUV	Gross unit value
ha	hectares
HS	Harmonised System
IGP	Industry gross product
IPD	Implicit price deflator
ISIC,Rev3	International Standard Industrial Classification, Revision 3
IVA	Industry value added
kg	kilograms
L	litres
m	million
ML	million litres
n.a.	not available
n.e.c.	not elsewhere classified
n.e.i.	not elsewhere included
n.p.	not available for publication but included in totals where applicable
PIBA	Primary Industry Bank of Australia
r	figure or series revised since previous issue
RSE	relative standard error
SD	Statistical division
SE	standard error
SITC,Rev3	Standard International Trade Classification, Revision 3
t	tonnes
UN	United Nations
VACP	Value of Agricultural Commodities Produced
WCO	World Customs Organisation
wt	weight
—	nil or rounded to zero
*	data subject to sampling variability between 25% and 50%
**	data subject to sampling variability greater than 50%
. .	not applicable
'000	thousands
$'000	dollars, thousands
$m	dollars, millions

51 The estimates for earlier years shown in this publication have been revised where necessary.

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

GLOSSARY

Adjusted value added — The estimate of value added less the estimate of rates and taxes, insurance payments and other expenses. Adjusted value added is a close approximation of the concept of gross product at factor cost, as used in the National Accounts, but still subject to the limitations outlined in Explanatory Notes, paragraphs 17–25.

Agricultural establishment — An establishment which is engaged mainly in agricultural activities.

Amounts owing to banks — Amounts owed by farm businesses to banks, including bank bills, bridging finance, credit cards for business purposes, fully drawn advances, overdrafts and seasonal peak loans as current liabilities and farm development and PIBA loans as non-current assets.

Amounts owing to pastoral and insurance companies etc. — Amounts owed by farm businesses to pastoral and insurance companies including amounts owing on building society and credit union loans.

Area of holding — Includes all occupied and maintained land owned, leased or rented, land worked by sharefarmers and all road permits. Excludes land leased or rented to others.

Average gross unit value — Calculated by dividing the gross value of each commodity produced by the total production of each corresponding commodity. It includes any relevant subsidy and bounty payments based on production.

Cash operating surplus (COS) — The estimate of gross operating surplus less an estimate of the change in value of livestock, less an estimate of interest paid, less an estimate of bad and doubtful debts, plus estimates of interest and land rent received. Cash operating surplus is not quite a true measure of the surplus available for profit since depreciation and income tax have not been deducted. While depreciation is not included in this calculation, the data has been collected and is available on request from 1993–94 onwards. Data on bad and doubtful debts has been collected since 1991–92, and is also available on request.

Chain volume measure — An annually re-weighted chain Laspreyres index referenced to the current price values in a chosen reference year. Chain Laspreyres volume measures are compiled by linking together (compounding) movements in volumes, calculated using the average prices of the previous financial year, and applying the compounded movements to the current price estimates of the reference year.

Debt to asset ratio — Calculated by dividing total value of assets by gross indebtedness (both are point in time values). The result is expressed as a ratio. At the end of 1998–99, the debt to asset ratio was 1:5.9, i.e. for every dollar of debt there was $5.90 of asset backing.

Establishment with agricultural activity — An establishment which is engaged in agricultural activity, regardless of the unit's predominant activity.

Estimated value of agricultural operations (EVAO) — An estimation of agricultural activity undertaken by an agricultural establishment. Three-year average weighted prices are applied to livestock turnoff and livestock numbers on the farm, and to area and production data for crops. The resultant aggregation of these commodity values is the EVAO. It is not an indicator of the value of receipts of individual farms but rather an indicator of the extent of agricultural activity.

Farm business See Management unit.

Farm operating costs as a proportion of turnover Calculated by dividing farm operating costs by turnover and expressing the result as a percentage. It is an indicator of cost effectiveness of farm operations. The lower the percentage figure the more cost efficient the farm business. In 1998–99, farm operating cost as a proportion of turnover was 82.3%, i.e. for every 82.3 cents of farm operating costs incurred, one dollar of turnover was generated.

Finance leasing Refers to a lease under which the lessor effectively transfers to the lessee substantially all the risks and benefits incident to ownership of the leased asset and where legal ownership may or may not eventually be transferred. The risks of asset ownership include those associated with unsatisfactory performance, obsolescence, idle capacity, losses in realisable value, uninsured damage and condemnation of the asset; the benefits include those obtainable from the use of the asset and gains in realisable value. The lessee recognises at the beginning of the lease term, an asset and a liability equal in amount to the present value of the minimum lease payments.

Free on board (f.o.b) The cost of transferring goods destined for a location from the place of production to the 'customer frontier' (i.e. the loaded carrier at port of shipment). This cost is included as part of the cost of production.

Gross domestic product (GDP) The total market value of goods and services produced in Australia after deducting the cost of goods and services used up (intermediate consumption) in the process of production, but before deducting allowances for the consumption of fixed capital (depreciation).

Gross farm product (GFP) The part of gross domestic product arising from production in agriculture and services to agriculture. GFP is equal to the estimated gross value of production (after stock valuation adjustment) less estimated production costs other than wages paid and consumption of fixed capital for all enterprises engaged in agriculture and services to agriculture.

Gross indebtedness Refers to the amounts owed by farm businesses at 30 June:

- to banks, pastoral companies, insurance companies and government agencies;
- under hire-purchase agreements, instalment credit and for finance lease arrangements; and
- to other lenders such as suppliers, solicitors' trust funds and local government authorities, etc.

The term 'gross' has been used to indicate that the amounts owing have not been reduced by the value of any cash deposits by farm businesses with the various lending organisations.

Gross operating surplus The estimate of adjusted value added less the estimate of wages, salaries and supplements.

Gross unit value (GUV) See average gross unit value.

Gross value of commodities produced See Value of Agricultural Commodities Produced (VACP) and Local value of commodities produced.

Industry gross product (IGP) The unduplicated gross product of a business defined as gross output minus intermediate inputs. Commencing with estimates for 1997–98, IGP has been replaced by the variable industry value added (IVA) for the purpose of measuring industry contribution to GDP. See paragraph 16 of the Explanatory Notes for the relationship between IGP and IVA.

Industry value added Represents the value added by an industry to the intermediate inputs used by the industry. From 1997–98, IVA has replaced IGP as the measure of industry contribution to GDP.

Insurance payments Includes payments on dwellings and buildings, crops, livestock, machinery and equipment, public liability and workers' compensation. Personal insurance, life assurance and payments to medical funds are excluded.

Interest paid as a proportion of turnover Calculated by dividing interest paid by turnover and expressing as a percentage. It indicates the proportion of farm business turnover that is accounted for by the farm business interest bill. In 1998–99, farm business interest as a proportion of turnover was 6.0%.

Interest coverage ratio This is calculated by totalling cash operating surplus and interest paid, then dividing by interest paid and expressing the result as a ratio. The resultant figure shows how many times the farm interest bill could be paid out of cash operating surplus before the deduction of interest. In 1998–99, this ratio was 4.4.

Interest, land rent received Includes land rent and lease proceeds, bank interest and other interest from business investments, bonds, securities, etc., and royalties received. From 1995–96, land rent is included with rent and leasing revenue.

Interest paid Includes interest paid on loans by banks, pastoral finance companies, insurance companies and government agencies, interest paid on loans under hire-purchase and other instalment credit and interest paid on other amounts owing.

Livestock slaughterings and other disposals Values are published as one figure but include two distinct components:

- value of livestock slaughtered; and
- value of net exports, i.e. the total value of livestock intended for slaughter in adjacent States and Territories where available (at present these can only be identified between the Northern Territory and adjacent States) and livestock exported overseas whether for slaughter or breeding, minus the value of imports of livestock.

Data on value of livestock slaughterings by State and Territory of slaughter are available on request.

Loans under hire-purchase and other instalment credit Refers to amounts owing under hire-purchase agreements from all sources. It excludes operating leases.

Local value of commodities produced The value placed on commodities at the place of production (i.e. farm gate). It is calculated by deducting marketing costs from the gross value of commodities produced. Gross and local value of agricultural commodities produced involve some duplication as they include certain agricultural commodities which are consumed as raw materials to produce other agricultural commodities (e.g. hay consumed by livestock).

Management unit The management unit is the highest level accounting unit within a business, having regard for industry homogeneity, for which accounts are maintained; in nearly all cases it coincides with the legal entity owning the business (i.e. company, partnership, trust, sole operator, etc.). In the case of large diversified businesses, however, there may be more than one management unit, each coinciding with a 'Division' or 'line of business'. A division or line of business is recognised where separate and comprehensive accounts are compiled for it. Management units which have a predominant activity in the agriculture sector are called farm businesses. Farm businesses which operate in more than one State are called 'multi-State farm businesses'.

Market place Generally the metropolitan market in each State and Territory. In cases where commodities are consumed locally, or where they become raw material for a secondary industry, these points are presumed to be the market places.

Marketing expenses Includes all marketing costs incurred (such as commission, packaging, freight and cartage, insurance, handling charges, etc.), whether deducted by a marketing agency or authority prior to payment to the farm business or paid directly by the farm business. Also included are market selling expenses for any non-agricultural activity conducted by the farm business. It excludes tolls (compulsory loans to grain pools, etc.), liens/mortgages, dockages, penalty payments, overseas freight and fruit and vegetable grading charges.

Net capital expenditure See Total net capital expenditure.

Net capital expenditure on buildings, structures and other developments Includes expenditure on dwellings and quarters for employees, buildings and structures, yards, etc. and expenditure on developments such as fences, dams, roads and drains. It includes expenditure on new and second-hand assets less sales of existing assets. Expenditure on repairs and maintenance, being current expenditure, is excluded.

Net capital expenditure on vehicles, machinery and equipment Includes expenditure on new and second-hand motor vehicles, machinery and equipment less trade-in allowances, cash discounts and sales of existing assets. Expenditure on repairs and maintenance, being current expenditure, is excluded.

Net indebtedness The estimate of gross indebtedness less the estimated value of financial assets.

Net worth The estimate for total value of assets less the estimate for gross indebtedness.

Other amounts owing Refers to amounts owing by farm businesses including money owing on trade/charge card accounts and amounts owing to farm suppliers or growers cooperatives in the business name and to local government authorities for arrears of rates.

Other expenses Includes administrative expenses such as postage and telephone charges, accountancy, farm management consultancy fees and legal fees, business travelling expenses, subscriptions to farmers' unions, organisations, papers, journals, etc., bank service charges, office supplies and all other sundry expenses (such as general freight charges) not already included in the above groups of expenditure.

Other miscellaneous revenue Includes both sundry agricultural proceeds (such as proceeds from insurance recoveries, agistment, livestock services, artificial insemination, government relief payments, agricultural services such as contract shearing, harvesting, etc.) and also receipts from any non-agricultural activity of the farm business.

Other selected expenses Includes expenditure on registration, third-party insurance and comprehensive insurance of motor vehicles, aircraft, etc. Payments for agistment, livestock services and artificial insemination and other expenses associated with non-agricultural activity are also included in this item.

Payments for crop and pasture chemicals Includes expenditure on fungicides, weedicides, herbicides, insecticides, pickling compounds, etc. and all associated inward freight charges.

Payments for electricity Includes payments to electricity supply authorities (excluding installation charges).

Payments for fertiliser Includes expenditure on fertiliser and soil conditioners and all associated inward freight costs.

Payments for fodder Includes purchases of livestock feed, fodder and supplements. All inward freight costs associated with these purchases are also included.

Payments for fuel Includes payments for petrol, distillate, Liquid Petroleum Gas (LPG) and lubricants used by the farm business.

Payments for seed Includes payments for pasture seed and inoculums, crop seed, vegetable seed and seedlings, young trees for orchards, windbreaks, etc. All inward freight costs associated with the above purchases are also included.

Payments for veterinary supplies and services Includes expenditure on dips, drenches, vaccines, veterinary fees, etc.

Payments to contractors Includes payments to contractors for wool classing, shearing, marking, harvesting and contract spreading charges, etc. and also for contract work for non-agricultural activity. Payments to contractors for the construction of fixed assets are included under capital expenditure.

Profit margin Calculated by dividing the cash operating surplus by turnover and expressing the result as a percentage, i.e. cash operating surplus divided by turnover multiplied by 100 equals profit margin. In 1998–99, the profit margin was 20.0% which meant that for every dollar of turnover 20.0 cents of cash operating surplus was generated.

Purchases and selected expenses Refers to cash payments made during the year by farm businesses for goods and services relating to either agricultural or non-agricultural activity. As with turnover, expenditure need not necessarily relate to agricultural production for a particular year but rather to payments made during the year. Livestock purchases have been included under purchases and selected expenses, rather than capital expenditure.

Purchases of livestock Includes all livestock purchases, whether for addition or replacement of the breeding herd or store stock. Also included are freight, cartage and other charges associated with the transportation of purchased livestock.

Rates and taxes Includes payments of rates to local government authorities, payments to vermin and weed control authorities, and other rates, taxes and licences (such as road tax, land tax and payroll tax). Income and company taxes paid are excluded from the Agricultural Finance Survey (AFS).

Real estimates Refer to Explanatory notes, paragraph 26–28.

Rent and leasing expenses Includes rent and leasing expenses for motor vehicles, machinery, equipment and buildings (from 1995–96 land is included). Excluded are rental payments for dwellings for the owner and family.

Rent and leasing revenue Includes proceeds from the renting and leasing of motor vehicles, machinery, equipment and buildings (from 1995–96 land is included). Also included is an imputed value for free accommodation provided to employees other than members of family.

Repairs and maintenance Includes repairs and maintenance to motor vehicles, machinery and equipment, buildings, structures and other developments.

Return on assets Calculated by dividing the cash operating surplus by the average value of farm assets. (The average value of farm assets is calculated by summing the asset value from the current and previous years and dividing by two. This is done because cash operating surplus is a flow, i.e. it accrues throughout the year while assets are valued at a point in time.) The result is expressed as a percentage. In 1998–99, the return on assets was 4%.

Return on farm operating costs This is calculated by dividing cash operating surplus by operating costs. Farm operating costs are the sum of purchases and selected expenses plus rates and taxes plus insurance payments plus other expenses plus wages and salaries and supplements plus interest paid plus land rent paid. In 1998–99, the return on farm operating costs was 24.3%, i.e. for every $100 of farm operating costs $24.30 of cash operating surplus was generated.

Return on net worth Calculated by dividing cash operating surplus by average net worth. Average net worth is calculated in the same way as average asset value and the result expressed as a percentage. It represents the return on unencumbered farm assets. In 1998–99 the return on net worth of Australian farm businesses was 5%.

Sales from crops Includes proceeds from sales of cereal grains and other crops (oilseeds, cotton, sugar cane, tobacco, etc.) and fruit and vegetables. Included also are premiums and amounts received from pools.

Sales from livestock Includes proceeds from sales of sheep, cattle, pigs, poultry, etc. Excluded are proceeds from livestock services and artificial insemination.

Sales from livestock products Includes proceeds from sales of wool, milk, eggs, etc.

Total net capital expenditure The sum of net capital expenditure on vehicles, machinery and equipment and on buildings, structures and other developments.

Total value of assets Comprises the estimates for the value of land, buildings and other structures, motor vehicles and machinery and equipment and the value of livestock. It also includes estimates of the value of the investments of the businesses (such as shareholdings, bonds, securities and cash deposits).

Turnover Includes all proceeds received during the year from the sale of crops, livestock, livestock products and other miscellaneous revenue. Proceeds are the gross receipts obtained by farm businesses prior to deductions by agents or marketing boards. They are those receipts obtained during the financial year and do not necessarily relate to the production of that year. For example, receipts from wheat could include the first advance payment on the current season's crop and pool payments received during the year for previous crops.

Turnover to debt ratio Calculated by dividing gross indebtedness by turnover and expressing the result as a ratio. In 1998–99, the farm business turnover ratio was 1:0.88, i.e. for each dollar of turnover made there was $0.88 of debt. A one-to-one ratio would mean if debt were to be paid off in a given year all of the turnover would have to be put into debt redemption.

Value added The estimate of turnover plus an estimate of the value of increase in livestock less the estimate of purchases and selected expenses. Value added is a measure of an industry's contribution to total economic activity.

Conceptually, the change in stocks for value added purposes should include data for livestock, hay and stocks of other agricultural commodities. In this publication, only livestock data have been included, because of their relative significance and because of the difficulties associated with collecting and valuing data relating to other farm stocks.

Purchases of livestock such as dairy cattle, sheep for wool, and breeding stock generally should be considered to be capital purchases, and therefore excluded from the calculation of value added. Because of practical considerations, all increases in livestock, whether arising from purchases or natural increase, have been included in the calculation of this item.

The estimate for the value of increase in livestock included in value added has been derived by obtaining opening and closing stock numbers for the financial year for each selected farm business and valuing these by average annual prices.

Value of Agricultural Commodities Produced (VACP) The value placed on recorded production at the wholesale prices realised in the market place.

Value of financial assets Includes the value of the investments of the businesses (such as shareholdings, bonds, securities, and cash deposits).

Value of land, buildings and other structures Includes the value of land, buildings and other improvements leased to other parties. Excludes the value of livestock, land, buildings and other improvements leased from other parties. The estimate is based on the total value which respondents considered the assets would have realised had it been necessary to sell them at 30 June.

Value of livestock Derived by obtaining livestock numbers as at 30 June from surveyed farm businesses and valuing them by an average price for the month of June.

Value of motor vehicles, machinery and equipment Excludes the value of personal assets, and is estimated as the respondents' assessment of market value at 30 June.

Wages, salaries and supplements Includes payments by farm businesses to their employees in the nature of wages and salaries, cash payments for work done in the form of a proportion of proceeds from sales, estimated value of produce for payments in kind, superannuation paid by the farm businesses, rations for employees and contractors and the imputed value of free accommodation.

Water and drainage charges Includes water and drainage rates for water used for irrigation and livestock purposes and drainage and flood control.

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