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Agriculture in NSW (July 2012)

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Agriculture in NSW (July 2012)

by

Nathan Wales

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SUMMARY

This paper provides a statistical snapshot of indicators relevant to agriculture in NSW. These include agricultural production and income, exports by commodity, gross agricultural product, employment, agricultural conditions such as drought, agricultural water entitlements and land ownership.¹ While the focus of this paper is on NSW, some comparison is made to other States and Territories, and to Australia.

More than half of Australia's land mass is devoted to agriculture, primarily for cattle and sheep grazing and the growing of wheat. In 2009-10, cattle and wheat were the largest in value of all agricultural products in Australia. Between 1970 and 2010 the number of sheep in Australia declined by 60%, from approximately 180 million head to 68 million.² Sheep and lamb, alongside beef cattle, continue to be the most important agricultural livestock commodities for the NSW economy. Other high value agricultural commodities for NSW include chicken meat, apples, bananas and macadamia nuts.

Agriculture contributed approximately \$14.5 billion, or 3.4%, to the NSW economy in June 2011. Wheat is the most important crop commodity for NSW, contributing a significant amount to Gross Agricultural Product and to NSW and Australian exports. Largely as a result of the high Australian dollar and forecast lower world prices for some agricultural commodities, the value of NSW and Australian agricultural exports are expected to fall in 2012-13.

The current year's total winter crop production in NSW is expected to decrease compared to the previous year, largely owing to an expected decline in the production of wheat and barley as a result of changed climatic conditions. In contrast, the production of other crops, including sorghum, cotton and rice is expected to increase.³ The export of barley in Australia is expected to be down 33% by value in 2012-13, a result of a fall in the world price for the grain.

Sources used

The most up-to-date data sources have been used in developing this paper. Much of the information refers to data collected by the Australian Bureau of Statistics (ABS), the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) and the Department of Agriculture, Fisheries and Forestry (DAFF). The figures used are the original numbers, unless otherwise indicated. Sources other than ABS, ABARES and DAFF have been used where relevant and are identified in the paper itself.

¹ Agricultural constraints such as soil fertility, and the impact of weeds and pests on agricultural productivity, are not discussed in the document.

² S. Dunleavy. *Today's Australia: fewer sheep, less reading, longer life*. The Australian, 25 May 2012

³ S. Morris. *Winter crop forecast lowered*. Australian Financial Review, 14 June 2012

NSW GROSS AGRICULTURAL PRODUCT AND GROSS STATE PRODUCT

Gross State Product (GSP) in NSW grew by 2.2% in the year ending June 2011, the fifth highest increase in Australia after Western Australia (3.5%), the ACT (2.8%), Victoria (2.5%) and South Australia (2.4%). At \$420 billion, NSW has the largest GSP in Australia followed by Victoria (\$306 bn) and Queensland (\$252 bn).

NSW Gross State Product, chain volume measures, 2005 – 2011 (\$m)

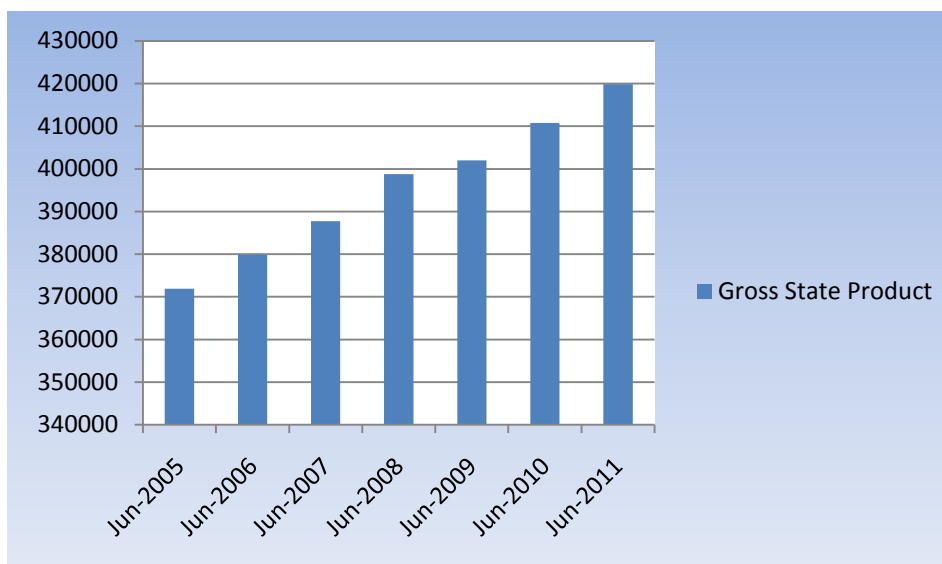
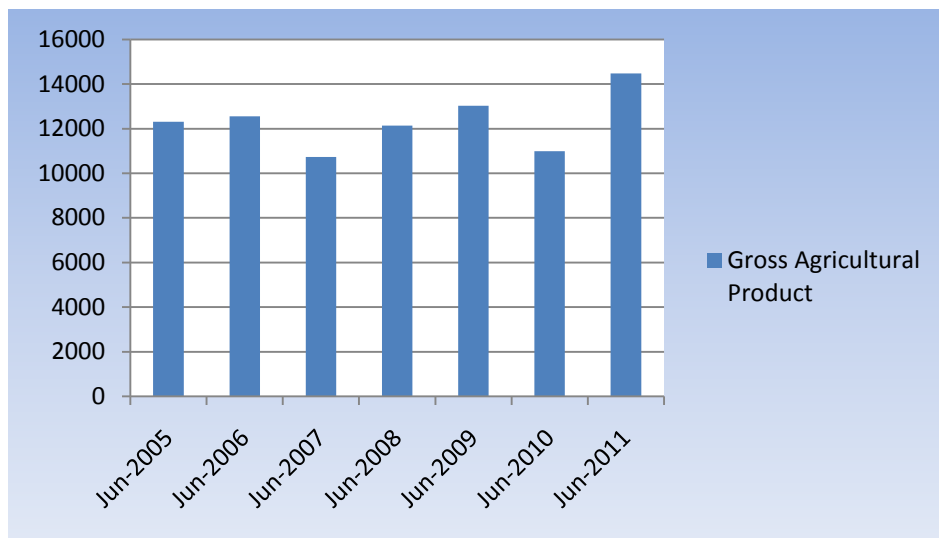
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	AUS (GDP)
Jun-2005	371892	263143	209802	74804	144279	21218	12962	24475	1123646
Jun-2006	379852	268758	221630	75866	151196	21740	13381	24963	1157783
Jun-2007	387743	279019	234250	77370	160601	22348	14145	26060	1201563
Jun-2008	398796	288640	245497	81942	166974	23009	15137	26850	1246899
Jun-2009	402003	291352	246901	83231	173419	23457	15813	27780	1263934
Jun-2010	410774	298123	251144	84269	180821	23561	16021	28666	1293380
Jun-2011	419895	305615	251616	86323	187117	23738	16281	29473	1320057

Source: ABS, [Australian National Accounts, State Accounts 2010-11](#), 5220.0, November 2011

NSW Gross Agricultural Product (GAP) fluctuated slightly between June 2005 and June 2010, increasing most noticeably between June 2010 and June 2011. NSW Gross State Product (GSP) has trended upwards between 2005 and 2011. The most noticeable change in GAP, as a proportion of GSP, occurred in 2007 and 2010.

NSW Gross Agricultural Product compared with Gross State Product, chain volume measures, 2005 – 2011 (\$m)

	Gross Agricultural Product	Gross State Product	GAP as a % of GSP
Jun-2005	12312	371892	3.3
Jun-2006	12563	379852	3.3
Jun-2007	10734	387743	2.8
Jun-2008	12137	398796	3.0
Jun-2009	13025	402003	3.2
Jun-2010	10999	410774	2.7
Jun-2011	14486	419895	3.4

NSW Gross Agricultural Product and NSW Gross State Product, chain volume measures, 2005 – 2011 (\$m)

Source: ABS, [Australian National Accounts, State Accounts 2010-11](#), 5220.0, November 2011

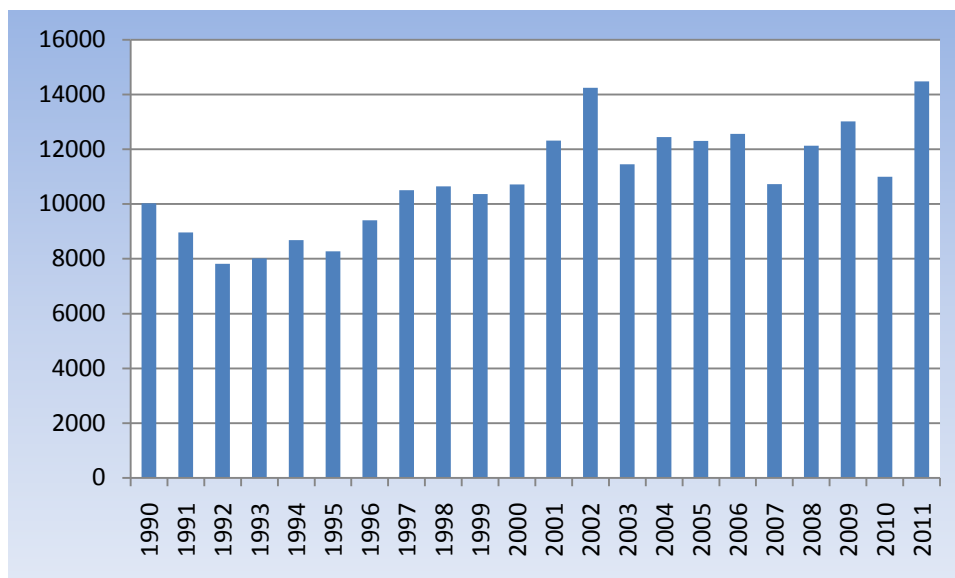
AGRICULTURAL PRODUCTION

The value of agricultural production in NSW has shown an upwards trend during the period 1990 to 2011. The gross value of agricultural production in NSW for the year ending June 2011 was approximately \$14.5 billion.⁴ This amounted to an increase of 24% on the previous year. Despite remaining relatively stable between the 10 years 1992 and 2002, between the years 2002 and 2011 agricultural production in NSW, as a percentage of agricultural production in Australia, declined from 29% to approximately 22%. This is likely a result of ongoing drought in NSW, particularly between the years 2002 and 2009. Agricultural production figures are based on chain volume estimates.

Gross value of agricultural production in NSW and Australia, chain volume measures, 1990 – 2011 (\$m)

	Agricultural production NSW	Agricultural production Australia	Agricultural production NSW as a % of agricultural production Australia
Jun-1990	10023	34466	29.1
Jun-1991	8959	30341	29.5
Jun-1992	7814	29091	26.9
Jun-1993	8012	30743	26.1
Jun-1994	8687	32702	26.6
Jun-1995	8279	32731	25.3
Jun-1996	9406	36314	25.9
Jun-1997	10510	36522	28.8
Jun-1998	10653	38582	27.6
Jun-1999	10366	38643	26.8
Jun-2000	10719	40616	26.4
Jun-2001	12322	46483	26.5
Jun-2002	14252	53136	26.8
Jun-2003	11453	44348	25.8
Jun-2004	12452	51391	24.2
Jun-2005	12312	49540	24.9
Jun-2006	12563	52762	23.8
Jun-2007	10734	48461	22.1
Jun-2008	12137	57381	21.2
Jun-2009	13025	58230	22.4
Jun-2010	10999	54263	20.3
Jun-2011	14486	63775	22.7

⁴ The gross value of agricultural production is estimated from ABS Agricultural Commodity Survey data and other data (see Glossary for details and ABS website [here](#))

Gross value of agricultural production in NSW, chain volume measures, 1990 – 2011 (\$m)

Source: ABS, [Australian National Accounts, State Accounts 2010-11](#), 5220.0, November 2011

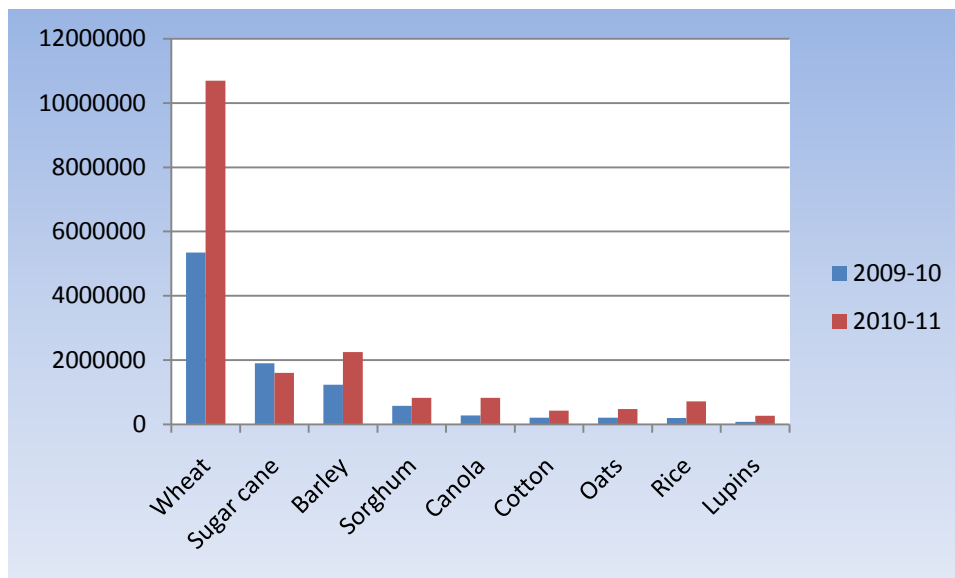
Agricultural production and yield in NSW, by commodity

Statistical information on agricultural production and yield in NSW is available for selected commodities, including horticulture, crops and livestock for the years 2009-10 and 2010-11. The 2010-11 data contains preliminary estimates based on data collected in the 2011 Agricultural Census. Those commodities with no data available in 2010-11 were excluded from the charts.

Wheat is unquestionably the most important agricultural crop grown in NSW, covering the largest area of agricultural land and comprising the largest tonnage of any other crop produced. Sugar cane production in NSW is high relative to the small area of land that is involved in its production, and fruit such as bananas are important economically despite being produced in relatively small volumes and over a small land area when compared with other agricultural commodities.

Production of key agricultural commodities in NSW, 2009 – 10 and 2010 – 2011 (tonnes)

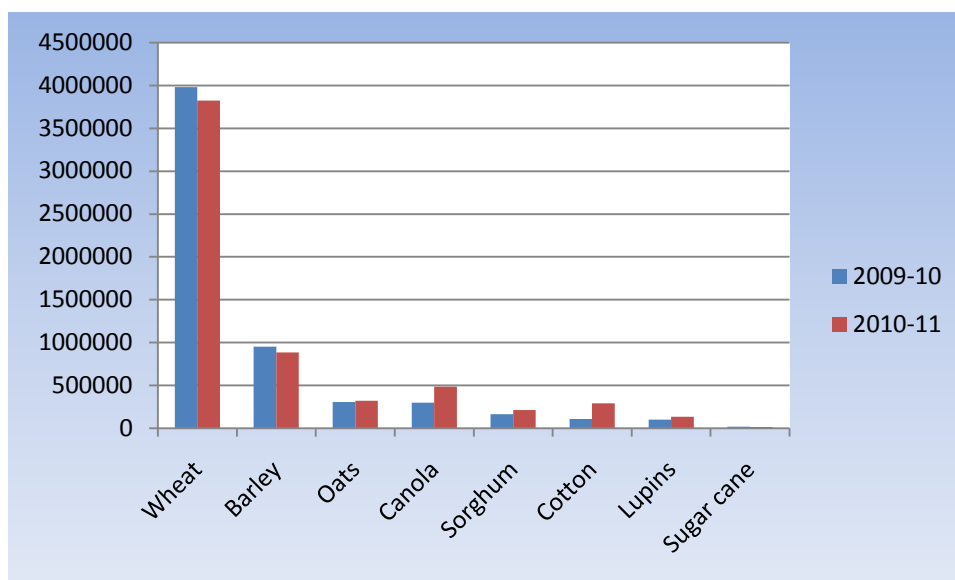
Commodity	2009-10	2010-11 (P)	% change 2009-10 to 2010-11
Wheat	5349760	10700000	100
Sugar cane	1904678	1608000	-16
Barley	1236248	2249000	82
Sorghum	581378	823000	42
Chickpeas	303761	n/a	n/a
Canola	281311	822000	192
Cotton	213676	431000	102
Oats	210945	477000	126
Rice	194503	720000	270
Oranges	192453	n/a	n/a
Lupins	83738	269000	221
Apples	33471	n/a	n/a
Macadamias	18183	n/a	n/a
Bananas	10749	n/a	n/a



Source: ABS, [Agricultural Commodities, Australia, 2009-10](#), 7121.0, April 2011 and ABS, [Principal Agricultural Commodities, Australia, Preliminary, 2010-11](#), 7111.0

**Area of production of key agricultural commodities in NSW, 2009 – 2010 and 2010 – 2011
(hectares)**

Commodity	2009-10	2010-11	% change 2009-10 to 2010-11
Wheat	3982611	3823000	-4
Barley	950728	886000	-7
Oats	306892	322000	5
Canola	297820	487000	64
Chickpeas	252254	n/a	n/a
Sorghum	163620	213000	30
Cotton	108720	293000	169
Lupins	102100	134000	31
Sugar cane	18977	14000	-26
Vegetables	16115	n/a	n/a
Bananas	1178	n/a	n/a



Source: ABS, [Agricultural Commodities, Australia, 2009-10](#), 7121.0, April 2011 and ABS, [Principal Agricultural Commodities, Australia, Preliminary, 2010-11](#), 7111.0

Yields increased between 2009-10 and 2010-11 for all agricultural commodities recorded in NSW. The most notable increase was wheat yield which changed from 1.34 tonnes per hectare (t/ha) in 2009-10 to 2.80 t/ha in 2010-11.

Yield of key agricultural commodities in NSW, 2009 – 2010 (tonnes/hectare)

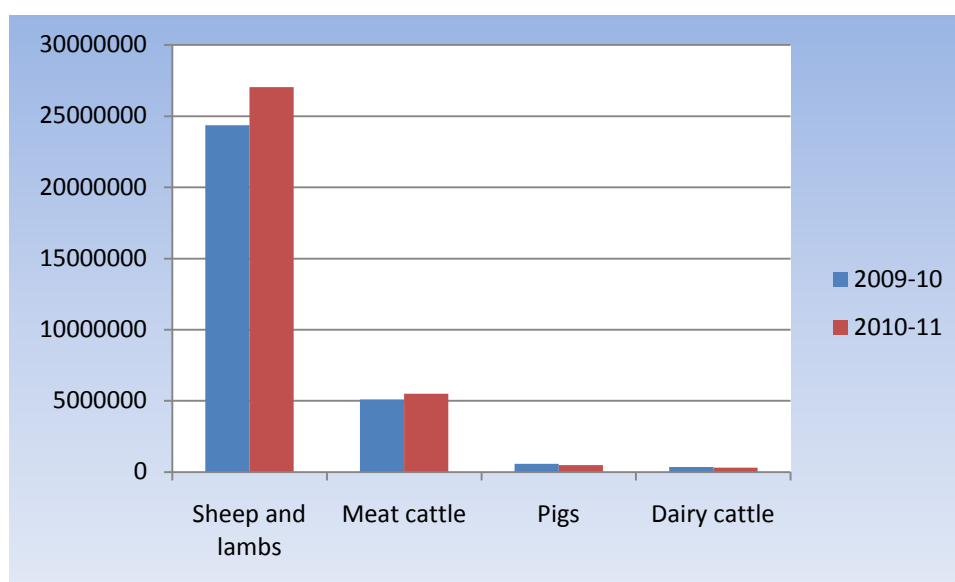
Commodity	Hectares	Tonnes	Yield (t/ha)
Wheat	3982611	5349760	1.34
Barley	950728	1236248	1.30
Oats	306892	210945	0.69
Canola	297820	281311	0.94
Chickpeas	252254	303761	1.20
Sorghum	163620	581378	3.55
Cotton	108720	213676	1.97
Lupins	102100	83738	0.82
Sugar cane	18977	1904678	100.37
Vegetables	16115	n/a	n/a
Bananas	1178	10749	9.12

Yield of key agricultural commodities in NSW, 2010 – 2011 (tonnes/hectare)

Commodity	Hectares	Tonnes	Yield (t/ha)
Wheat	3823000	10700000	2.80
Barley	886000	2249000	2.54
Oats	322000	477000	1.48
Canola	487000	822000	1.69
Chickpeas	n/a	n/a	n/a
Sorghum	213000	823000	3.86
Cotton	293000	431000	1.47
Lupins	134000	269000	2.01
Sugar cane	14000	1608000	114.86
Vegetables	n/a	n/a	n/a
Bananas	n/a	n/a	n/a

Main livestock produced in NSW, 2009 – 2010 and 2010 – 2011 (number)

Commodity	2009-2010	2010-2011 (P)	% change 2009-10 to 2010-11
Meat chickens	26042898	n/a	n/a
Sheep and lambs	24366338	27028000	11
Meat cattle	5107062	5504000	8
Pigs	584614	505000	-14
Dairy cattle	348318	323000	-7

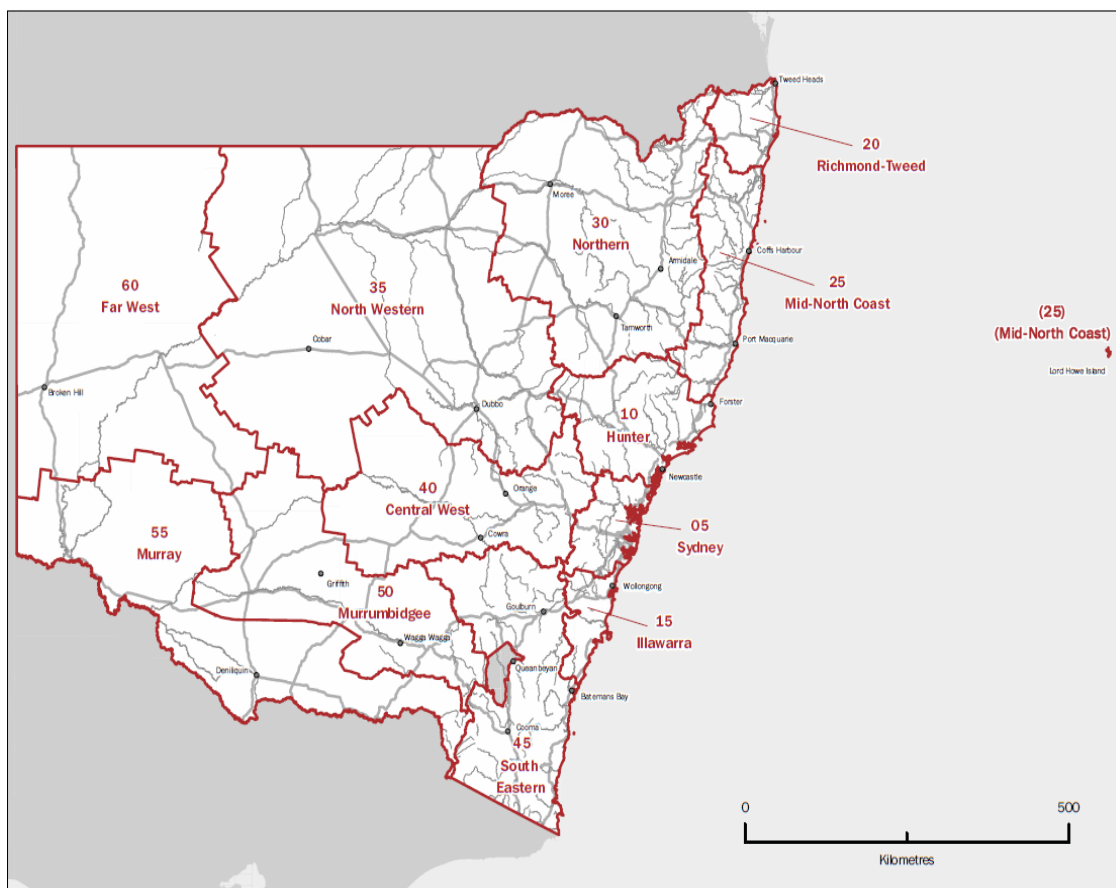


Source: ABS, [Agricultural Commodities, Australia, 2009-10](#), 7121.0, April 2011 and ABS, [Principal Agricultural Commodities, Australia, Preliminary, 2010-11](#), 7111.0

Agricultural production in NSW, by selected Statistical Divisions

By examining agricultural production in NSW by individual [Statistical Divisions](#), the significance of certain commodities to specific geographic areas can be observed. For example, the amount of wheat produced in the North Western Statistical Division is very high relative to other commodities, and compared to the amount of wheat produced in other Statistical Divisions. This section only includes commodities measured by tonnes produced. Commodities which use measures such as number of trees, for example orchard fruit, cannot be directly compared with commodities calculated on tonnes produced.

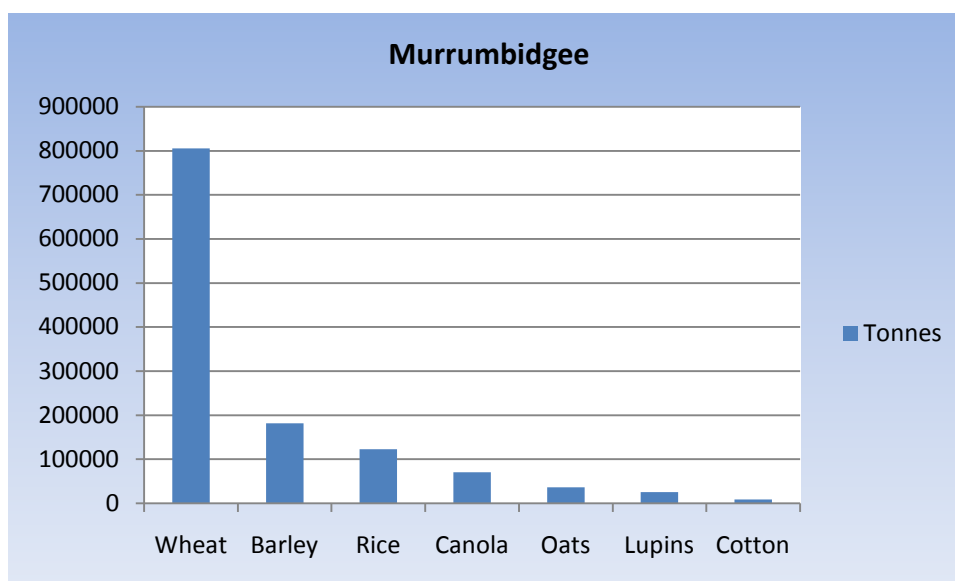
NSW, Statistical Divisions



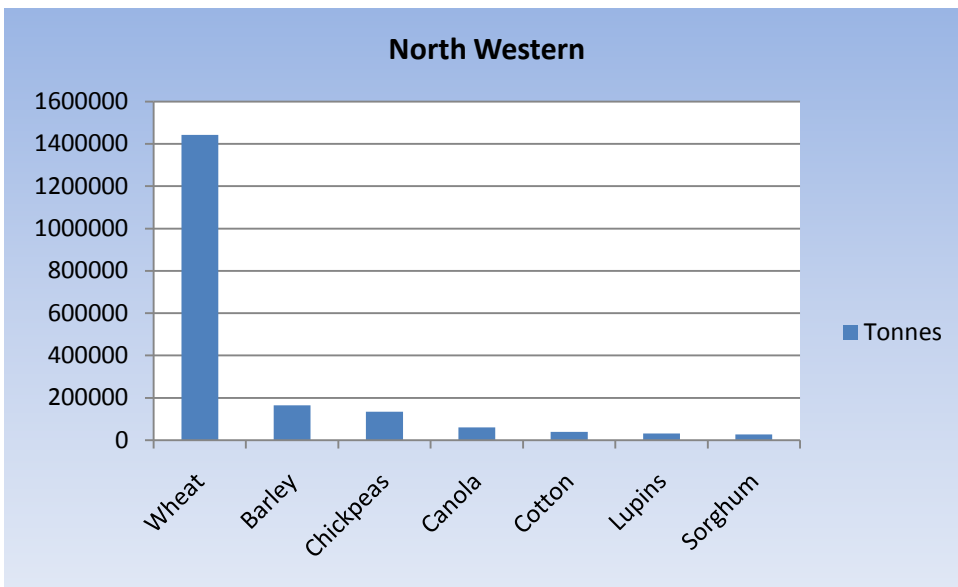
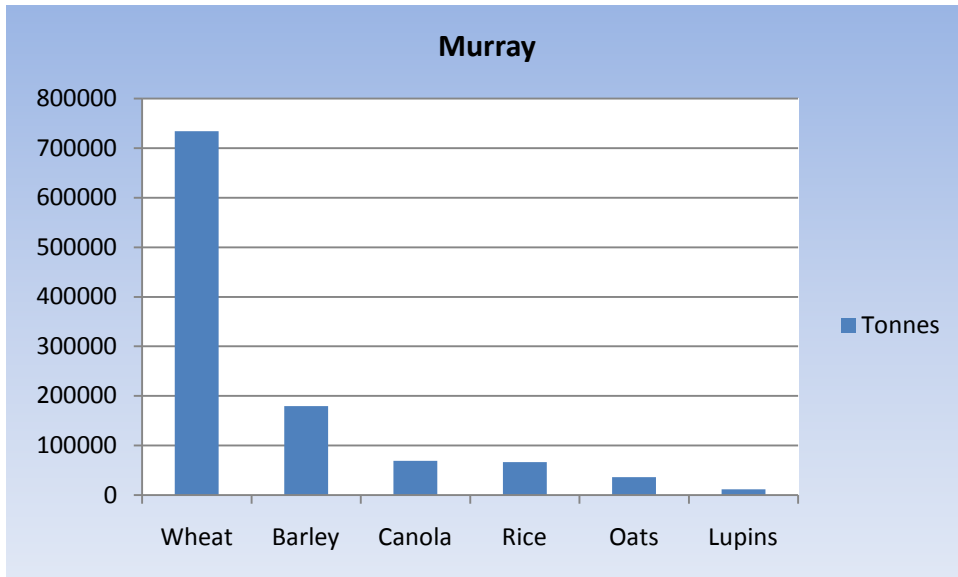
Source: ABS, [Australian Standard Geographical Classification \(ASGC\), July 2006](#), 1216.0

The extent to which different commodities are produced within a Statistical Division varies due to climatic and other reasons. For example, in the Richmond-Tweed and Mid-North Coast Statistical Divisions, large quantities of sugar cane are grown, due primarily to climatic reasons, while the majority of other agricultural commodities described here are grown in only small quantities or are not grown at all. The Statistical Divisions described in this section includes those which produce a variety of agricultural commodities in quantities significant enough to be represented graphically. All other Statistical Divisions have been excluded.

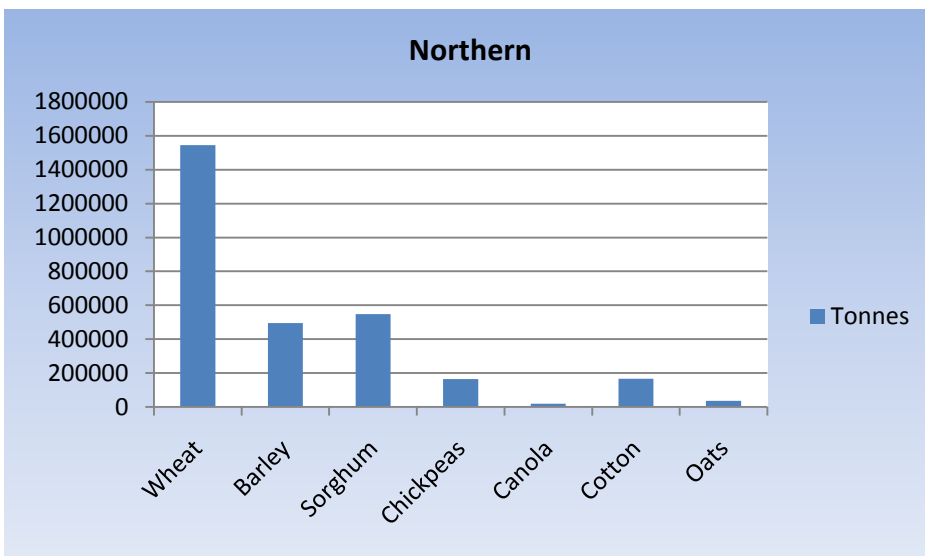
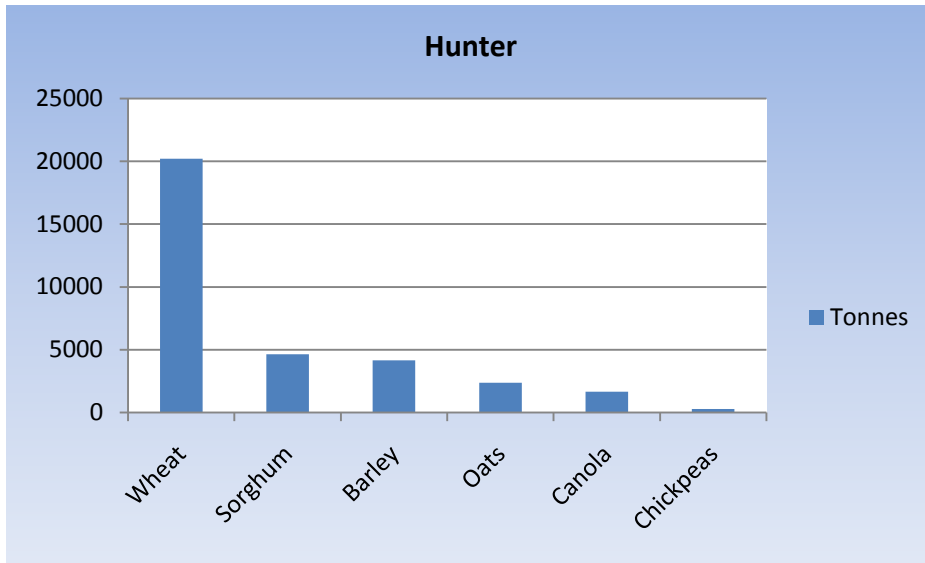
**Key agricultural commodities in NSW by selected Statistical Divisions, 2009 – 2010
(tonnes)**



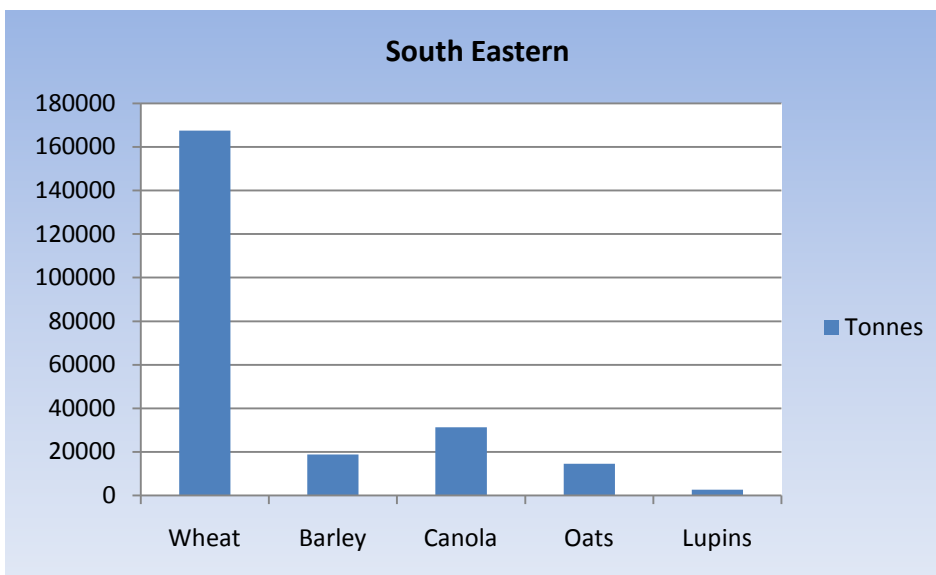
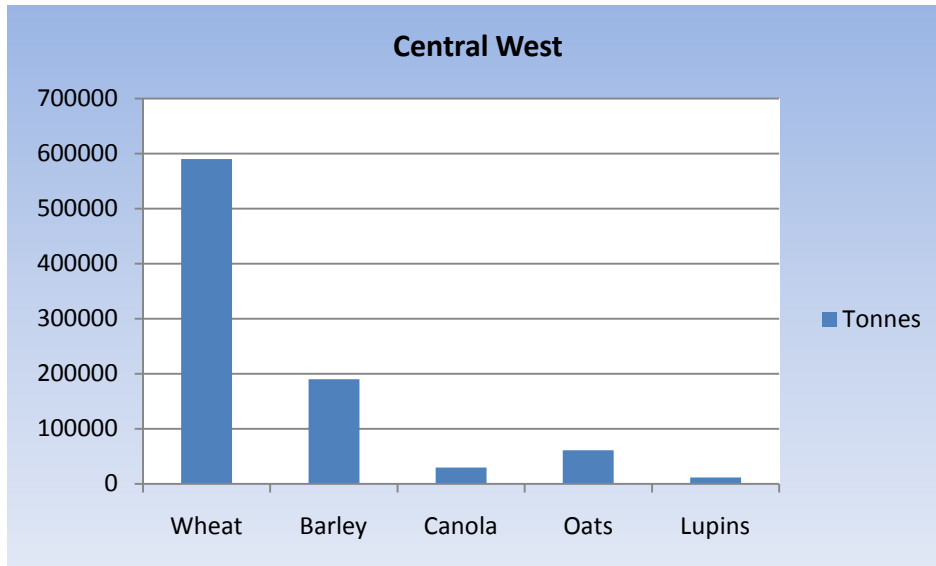
**Key agricultural commodities in NSW by selected Statistical Divisions, 2009 – 2010
(tonnes)**



**Key agricultural commodities in NSW by selected Statistical Divisions, 2009 – 2010
(tonnes)**



**Key agricultural commodities in NSW by selected Statistical Divisions, 2009 – 2010
(tonnes)**

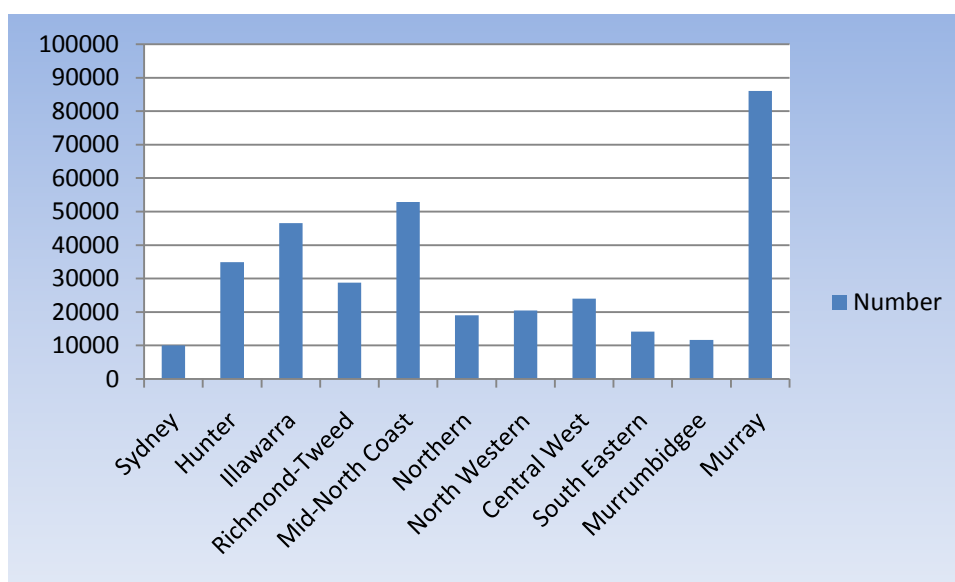


Source: Source: ABS, [Agricultural Commodities, Australia, 2009-10](#), 7121.0, April 2011 and ABS, [Value of Agricultural Commodities Produced, Australia, 2009-10](#), 7503.0

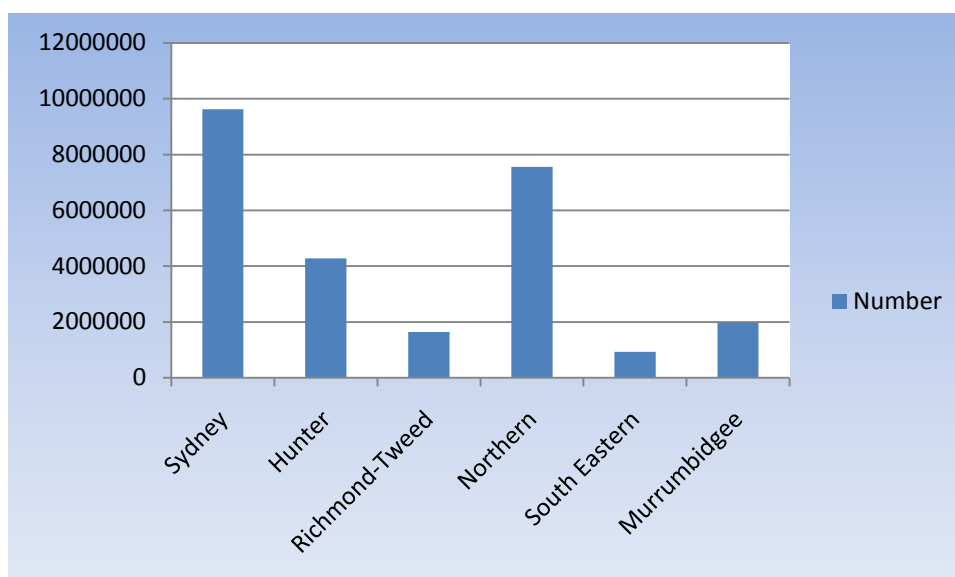
Agricultural production in NSW, by all applicable Statistical Divisions

An examination of individual agricultural commodities, by Statistical Division, demonstrates the importance of different commodities to geographic areas. Dairy cattle, for example, are particularly important to the Murray Statistical Division while meat chicken production is particularly important to the Sydney Statistical Division. The following charts only include those Statistical Divisions where the commodity described is produced in quantities large enough to record.

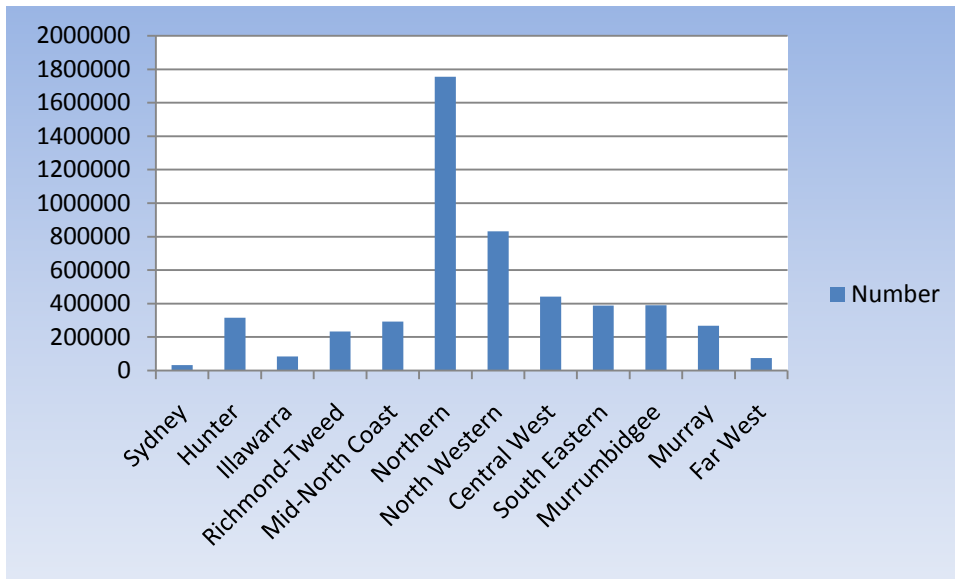
Dairy cattle production in NSW by Statistical Division, 2009 – 2010



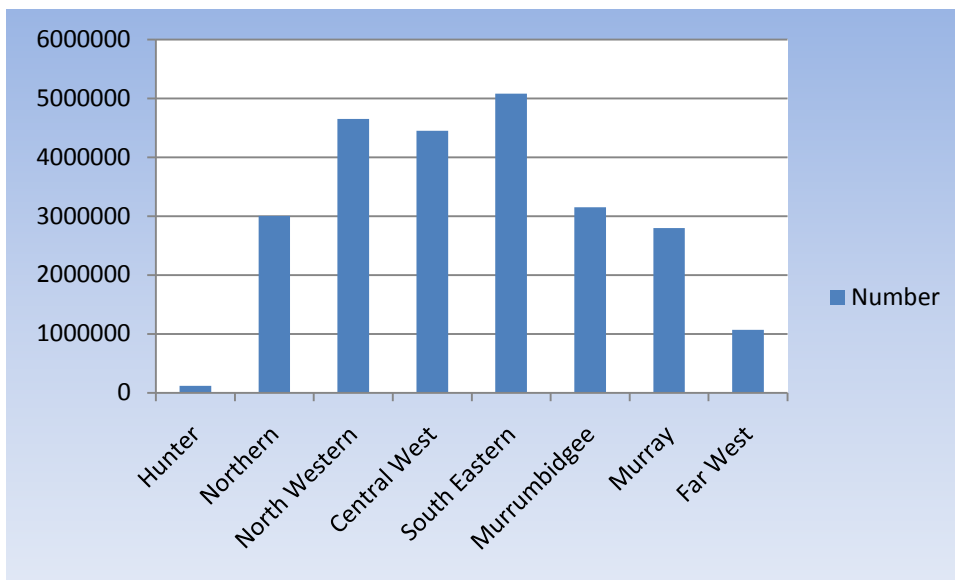
Meat chicken production in NSW by key Statistical Division, 2009 – 2010



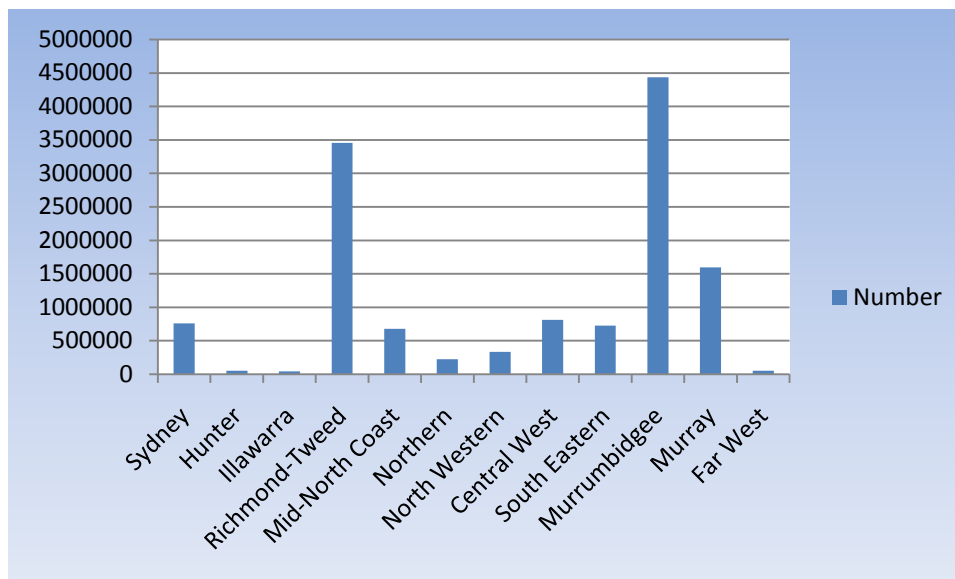
Meat cattle production in NSW by key Statistical Division, 2009 – 2010



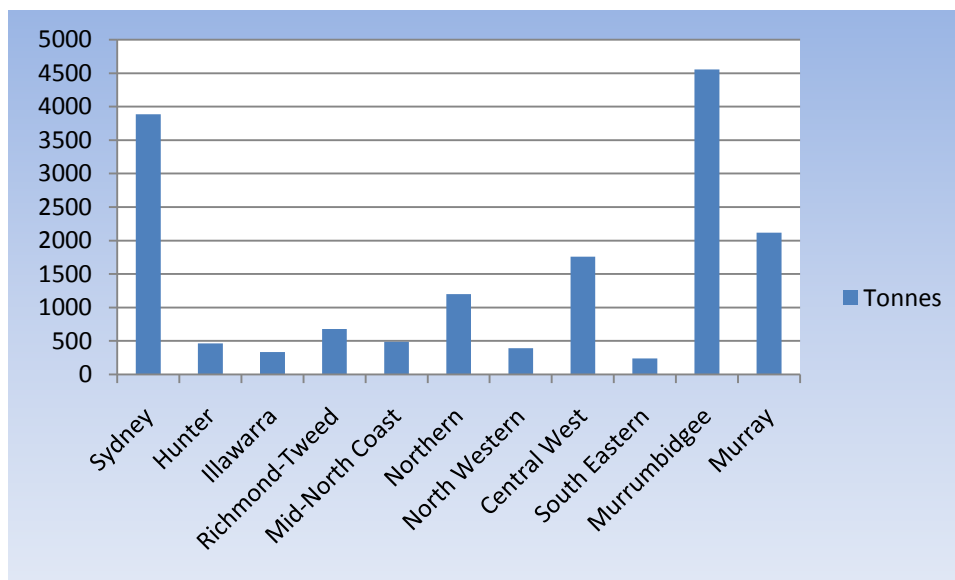
Sheep and lamb production in NSW by key Statistical Division, 2009 – 2010



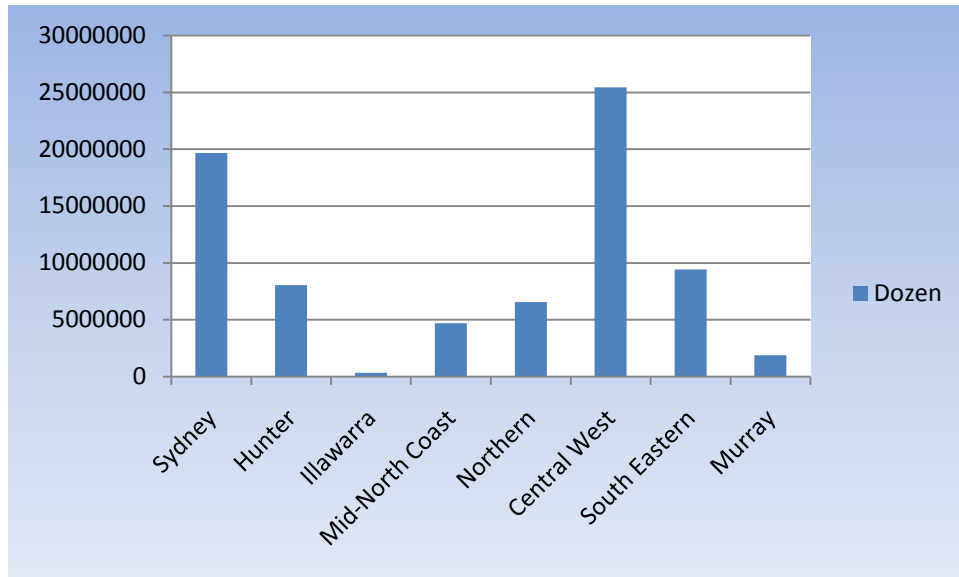
Orchard fruit production (including nuts) in NSW by Statistical Division, 2009 – 2010 (no. of trees)



Production of Vegetables for human consumption in NSW by Statistical Division, 2009 – 2010 (tonnes)



**Hen egg production for human consumption in NSW by Statistical Division, 2009 – 2010
(dozens)**



Source: Source: ABS, [Agricultural Commodities, Australia, 2009-10](#), 7121.0, April 2011 and ABS, [Value of Agricultural Commodities Produced, Australia, 2009-10](#), 7503.0

Wheat area, yield and production in NSW

Wheat production in Australia in 2009-10 was equal to 21 million tonnes.⁵ During the same period, approximately 5.3 million tonnes of wheat was produced in NSW. Between 1996-97 and 2009-10, wheat yields in NSW fluctuated from a low of 0.62 tonnes per hectare (t/ha) in 2007-08 to 2.62 t/ha in 1996-97.

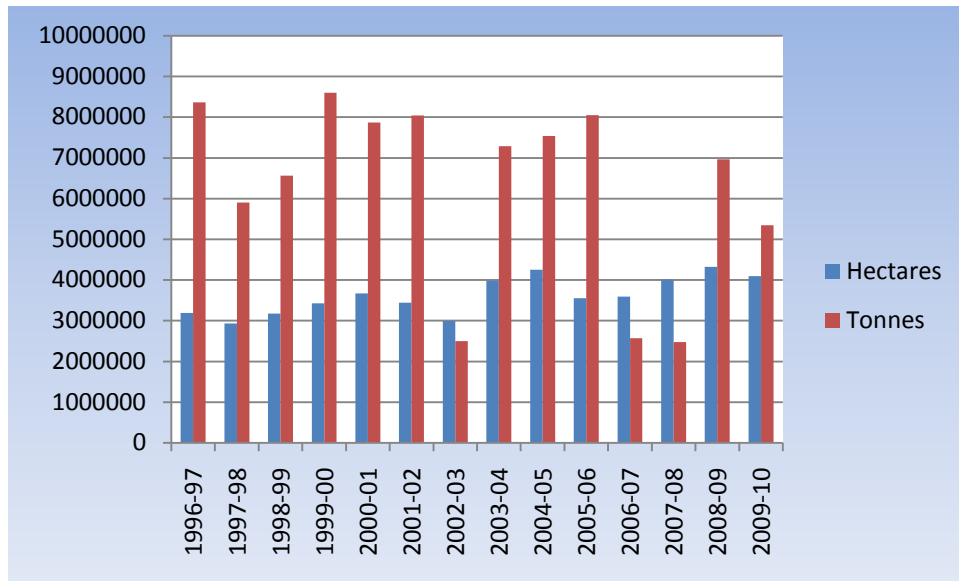
Wheat area, yield and production in NSW, 1996 – 1997 to 2009 – 2010⁶

Year	Hectares	Tonnes	Yield (t/ha)
1996-97	3192000	8363000	2.62
1997-98	2936000	5906000	2.01
1998-99	3174000	6563000	2.07
1999-00	3425000	8602000	2.51
2000-01	3671000	7867000	2.14
2001-02	3446000	8043000	2.33
2002-03	2996000	2497000	0.83
2003-04	3983000	7288000	1.83
2004-05	4256000	7537000	1.77
2005-06	3554000	8049000	2.26
2006-07	3596000	2568000	0.71
2007-08	4009000	2477000	0.62
2008-09	4322000	6963000	1.61
2009-10	4095000	5348000	1.31

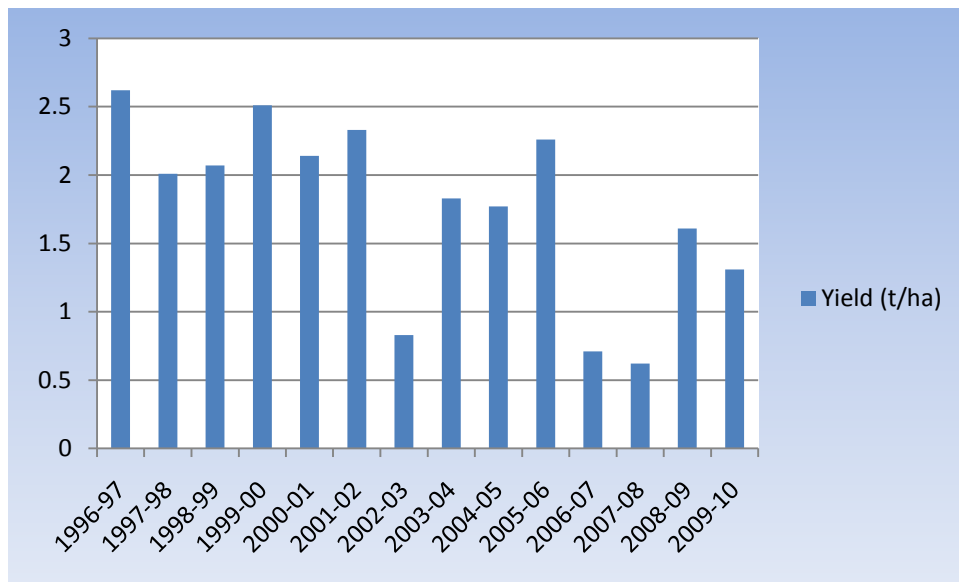
⁵ ABS, [Principal Agricultural Commodities, Australia, Preliminary, 2010-11](#), 7111.0

⁶ Area and production figures have been rounded to the nearest thousand.

Wheat area and production in NSW, 1996 – 1997 to 2009 – 2010



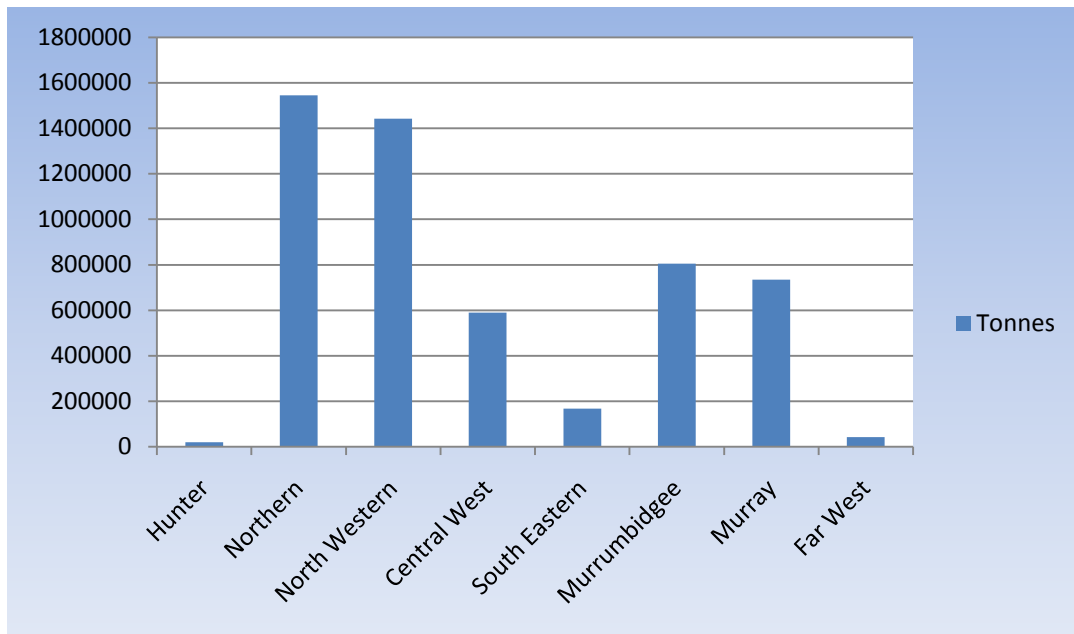
Wheat yield in NSW, 1996 – 1997 to 2009 – 2010 (t/ha)



Source: Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), [Australian Commodity Statistics 2010](#), Commonwealth of Australia 2010

Wheat is produced across all statistical divisions in NSW, and for many is the principal agricultural crop.

Wheat production in NSW by key Statistical Division, 2009 – 2010 (tonnes)⁷



Source: ABS, [Agricultural Commodities, Australia, 2009-10](#), 7121.0, April 2011

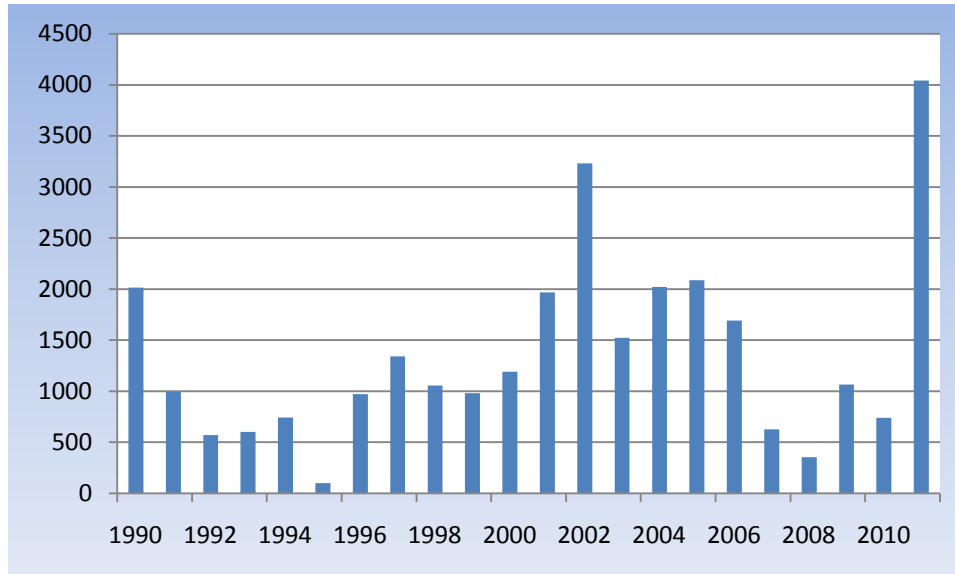
⁷ Statistical Divisions have been excluded where the tonnage of each commodity produced was deemed too small to be represented graphically. The threshold for exclusion of Statistical Divisions varies between commodities.

AGRICULTURAL INCOME

Agricultural income in NSW was approximately \$4 billion in the year ending June 2011. This amounted to 28% of the total agricultural income in Australia, and was the largest amount of any year between 1990 and 2011. Agricultural income, as described by the [ABS](#), is the income accruing from agricultural production during the year. It is equal to gross agricultural product at factor cost less consumption of fixed capital, compensation of employees, and net rent and interest payments. A noticeable spike in agricultural income occurred in the 10 years immediately after the mid 1990s.

Agricultural income in NSW and Australia, current prices, 1990 – 2011 (\$m)

	Agricultural income NSW	Agricultural income Australia	Agricultural income in NSW as a % of agricultural income in Australia
Jun-1990	2016	6352	31.7
Jun-1991	992	2368	41.9
Jun-1992	569	1870	30.4
Jun-1993	603	3535	17.1
Jun-1994	742	4304	17.2
Jun-1995	100	1979	5.1
Jun-1996	973	5151	18.9
Jun-1997	1342	4562	29.4
Jun-1998	1057	3520	30.0
Jun-1999	981	3734	26.3
Jun-2000	1190	4378	27.2
Jun-2001	1967	6841	28.8
Jun-2002	3231	11425	28.3
Jun-2003	1522	5593	27.2
Jun-2004	2020	8963	22.5
Jun-2005	2087	8867	23.5
Jun-2006	1693	8792	19.3
Jun-2007	627	4827	13.0
Jun-2008	353	6339	5.6
Jun-2009	1065	7984	13.3
Jun-2010	738	8071	9.1
Jun-2011	4042	14416	28.0

Agricultural income in NSW, current prices, 1990 – 2011 (\$m)

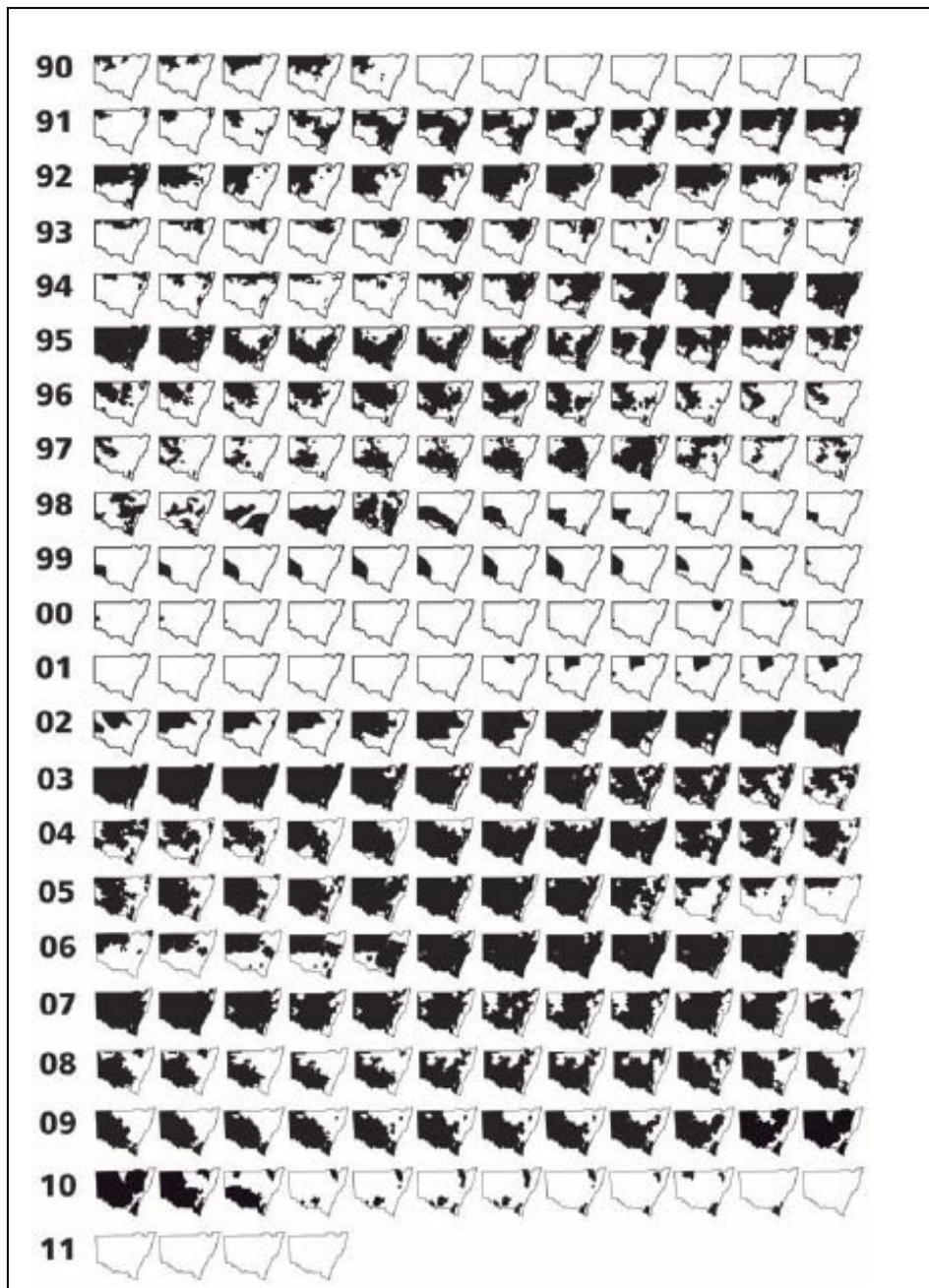
Source: ABS, [Australian National Accounts, State Accounts 2010-11](#), 5220.0, November 2011

CHANGE IN AGRICULTURAL CONDITIONS

Fluctuations in the gross value of agricultural production in NSW between 1990 and 2011 are in-part due to the cyclical nature of drought. During this period only the year 2000 passed almost drought free, while a number of years between 2002 and 2009 experienced significant periods of drought. The drop in agricultural production during the years 1991-1992, 2003 and 2007, after noticeable spikes in production during each preceding year, corresponds with periods of significant drought, as observed in the figure below.

Fluctuation in gross value of agricultural production, and income earned from agriculture in NSW, between 1990 and 2011 is a reflection of the change in levels of production and related drought conditions, and is also a consequence of market forces such as demand, consumption and commodity prices.

**Drought advance and retreat for each month between January 1990 and April 2011
(drought affected areas are shown in black)**

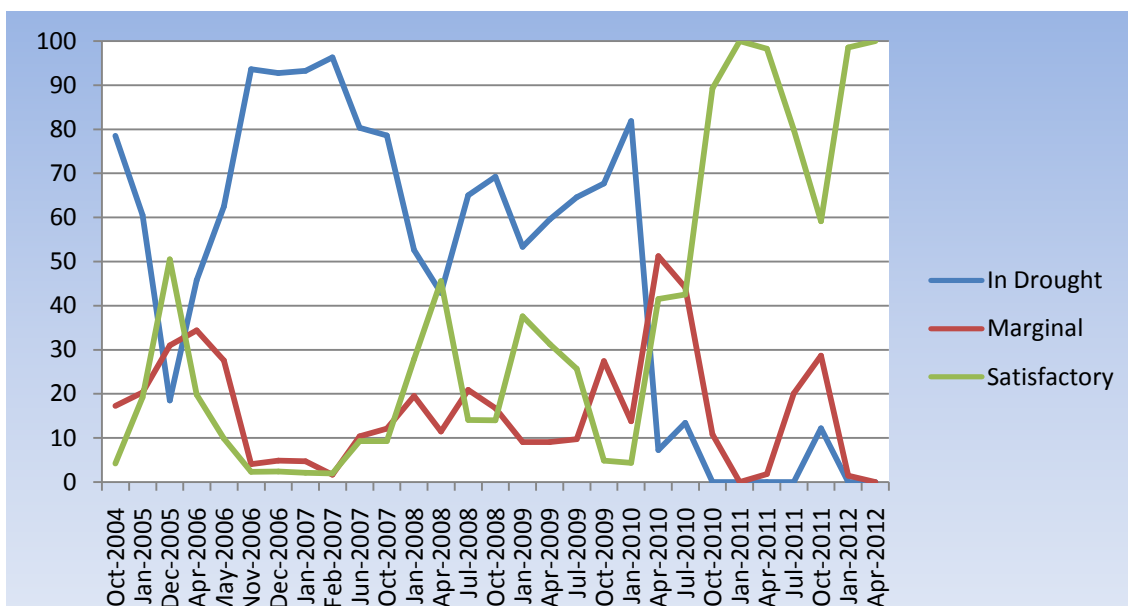


Derived from the NSW Government Department of Primary Industries, [Drought Advance and Retreat](#) [accessed online 14/05/2012]

The significance of drought in 2006 and 2007, and its likely impact on agricultural production and income, can be observed in the following table, and the figure that follows. Early 2008 to early 2010 was a period dominated by drought, despite intermittent periods which experienced satisfactory conditions.

Drought status across NSW for selected months, 2004 – 2012 (%)

	In Drought	Marginal	Satisfactory
Oct-2004	79	17	4
Jan-2005	61	20	19
Dec-2005	19	31	51
Apr-2006	46	34	20
May-2006	63	28	10
Nov-2006	94	4	2
Dec-2006	93	5	2
Jan-2007	93	5	2
Feb-2007	96	2	2
Jun-2007	80	10	9
Oct-2007	79	12	9
Jan-2008	53	20	28
Apr-2008	43	12	46
Jul-2008	65	21	14
Oct-2008	69	17	14
Jan-2009	53	9	38
Apr-2009	60	9	31
Jul-2009	65	10	26
Oct-2009	68	27	5
Jan-2010	82	14	4
Apr-2010	7	51	42
Jul-2010	13	44	43
Oct-2010	0	11	89
Jan-2011	0	0	100
Apr-2011	0	2	98
Jul-2011	0	20	80
Oct-2011	12	29	59
Jan-2012	0	2	99
Apr-2012	0	0	100



Source: NSW Government Department of Primary Industries, [Drought maps and declarations](#) [accessed online 15/05/2012]. Note: All values have been rounded to the nearest whole number

Quantifying the regional context, and spatial variability, of drought across NSW is constrained by available data. [Drought maps](#) produced by the NSW Government Department of Primary Industries which show the former Rural Lands Protection Board (RLPB) district boundaries and/or the Livestock Health and Pest Authority (LHPA) district boundaries do however give an indication of the spatial and temporal variability of drought across NSW.⁸ According to the NSW DPI:

NSW is divided into three broad rainfall zones based loosely along lines of latitude. Northern NSW received the bulk of its rainfall over the summer months, central NSW received its rainfall evenly across the season and southern NSW receives its rainfall over the winter.⁹

A list of each RLPB district can be found [here](#), and a list of each LHPA district can be found [here](#). Reports describing agricultural conditions in NSW, which accompany the NSW [drought maps](#), have been produced by the NSW DPI on a monthly basis since June 2011. The most recent report, at May 2012, can be found [here](#).

⁸ Detailed maps of each of the former RLPB districts (up to December 2008) can be found [here](#)

⁹ NSW Government Department of Primary Industries, [Drought Advance and Retreat](#) [accessed online 16/05/2012]

AGRICULTURAL EXPORTS BY COMMODITY

The value of food exports from NSW in 2010-11 was approximately \$4.16 billion.¹⁰ The value of food exports in 2010–11 in Australia, and across all States, was adversely affected by a sharp appreciation in the Australia dollar against the currencies of most of Australia’s trading partners.¹¹ Despite this, total Australian food exports increased to \$27.1 billion in 2010–11, \$2.6 billion higher than the previous year.

Agriculture's share of total exports in NSW in the last two years has grown, assisted by improvement in drought conditions. In 2009-10 agriculture contributed 7.2% to NSW exports. This compares with a 26.4% contribution by the mining sector and 35.6% by the services sector.¹²

The value of Australian air freight exports of food and beverages was \$1.6 billion in 2010–11, \$29 million or 1.8% lower than in 2009–10. New South Wales accounted for 15% of these exports while Victoria accounted for 41%.¹³

¹⁰ Commonwealth Government Department of Agriculture, Fisheries and Forestry, [Australian food statistics 2010–11](#)

¹¹ Commonwealth Government Department of Agriculture, Fisheries and Forestry, [Australian food statistics 2010–11](#)

¹² NSW Government Department of Trade, Investment, Regional Infrastructure and Services, [Composition of Exports](#) [accessed 23/05/2012]

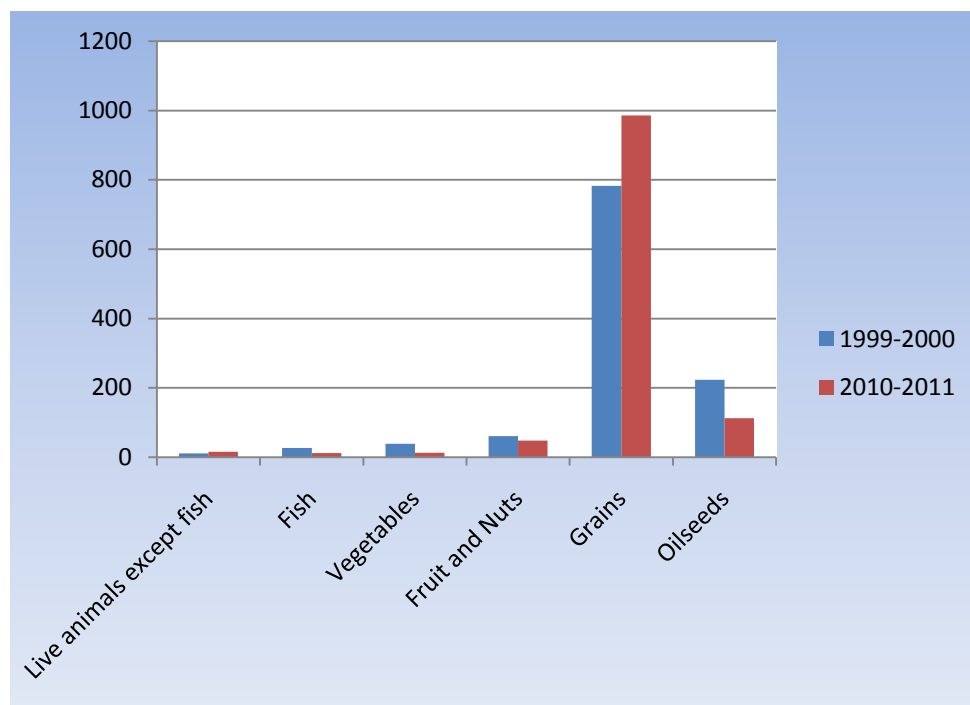
¹³ Commonwealth Government Department of Agriculture, Fisheries and Forestry, [Australian food statistics 2010–11](#)

Export value of selected food commodities in NSW, current prices, 1999-2000 to 2010 – 2011 (\$m)

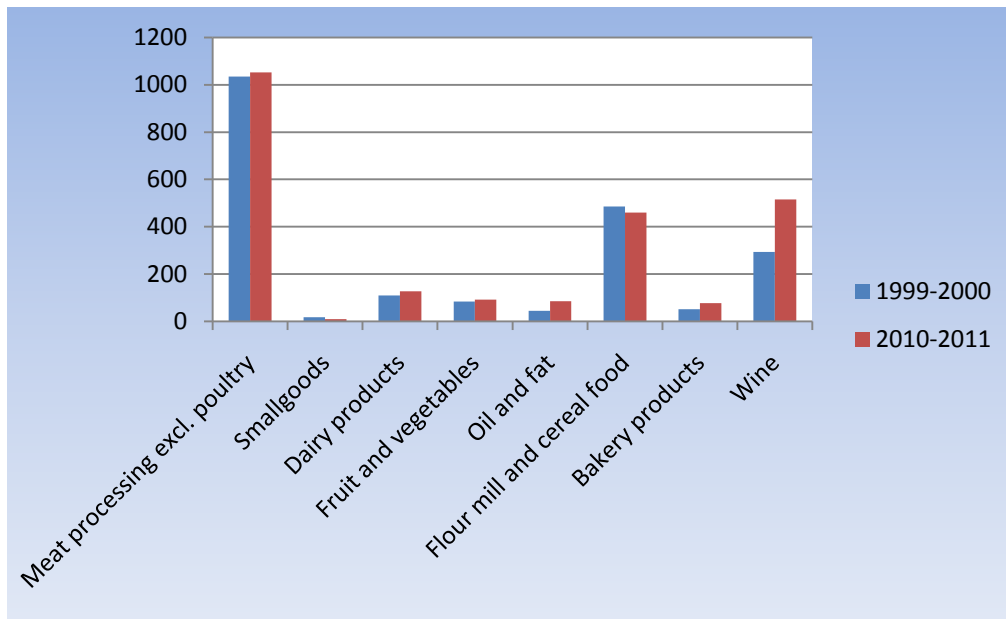
Commodity	1999-2000	2010-2011	% change 1999-00 to 2010-11
Minimally transformed			
Live animals except fish	11	16	45
Fish	27	12	-56
Vegetables	39	13	-67
Fruit and Nuts	61	48	-21
Grains	783	986	26
Oilseeds	223	113	-49
Substantially transformed			
Meat processing excluding poultry	1035	1053	2
Smallgoods	17	9	-47
Dairy products	110	127	15
Fruit and vegetables	84	92	10
Oil and fat	44	85	93
Flour mill and cereal food	486	460	-5
Bakery products	52	77	48
Wine	294	516	76
All food commodities	3692	4164	13

Source: Commonwealth Government Department of Agriculture, Fisheries and Forestry, [Australian Food Statistics, 2000-2011](#)

Export value of selected (minimally transformed) food commodities in NSW, current prices, 1999 – 2000 to 2010 – 2011 (\$m)



Export value of selected (substantially transformed) food commodities in NSW, current prices, 1999 – 2000 to 2010 – 2011 (\$m)

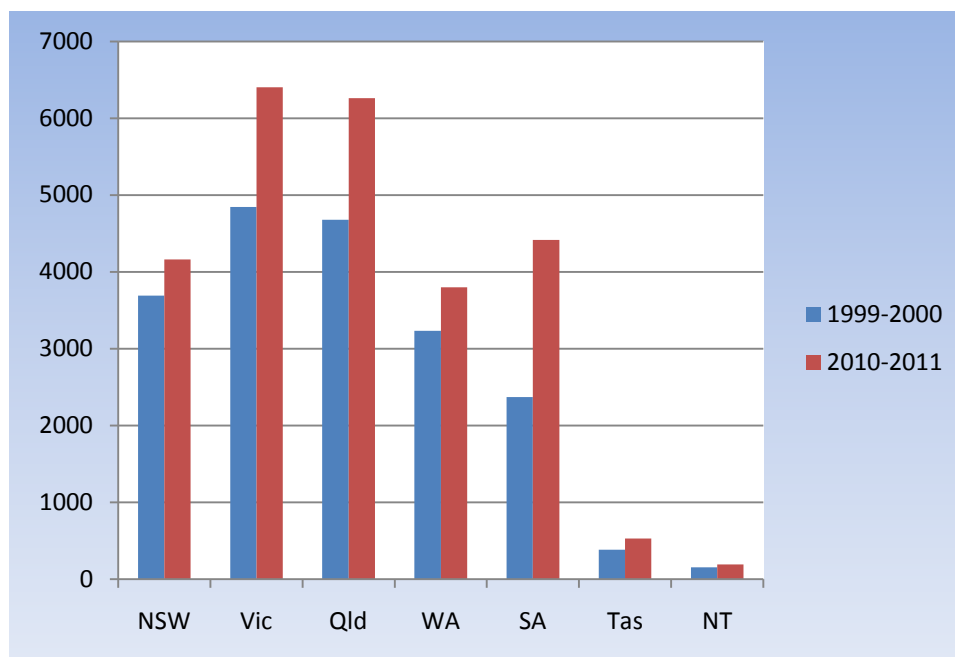


Total value of food exports from all Australian States, current prices, 1999 – 2000 to 2010 – 2011 (\$m)

	NSW	Vic	Qld	WA	SA	Tas	NT	NSW exports as a % of Australian exports
1999 - 2000	3692	4845	4680	3234	2370	384	156	19.1
2010 - 2011	4164	6404	6264	3799	4417	531	193	16.2

Source: Commonwealth Government Department of Agriculture, Fisheries and Forestry, [Australian Food Statistics, 2000-2011](#)

**Change in the total value of food exports from all Australian States, current prices,
1999 – 2000 to 2010 – 2011 (\$m)**



Source: Commonwealth Government Department of Agriculture, Fisheries and Forestry, [Australian Food Statistics, 2000-2011](#)

**Change in the value of grain exports from all Australian States, current prices,
1999 – 2000 to 2010 – 2011 (\$m)**

	1999 - 2000	2010 - 2011	% change 1999-00 to 2010-11
NSW	783	986	26
Vic	367	699	90
Qld	298	555	86
WA	1611	1843	14
SA	515	1568	204
Tas	n/a	n/a	n/a
NT	n/a	n/a	n/a

Source: Commonwealth Government Department of Agriculture, Fisheries and Forestry, [Australian Food Statistics, 2000-2011](#)

The Commonwealth Department of Foreign Affairs and Trade in its publication [Australia's Trade by State and Territory](#) provides a breakdown of NSW exports to its main trading partners by major commodity dispatched.¹⁴ Statistics relating to main agricultural exports for 2009-10 are shown in the following table:

NSW principal export partners (by major agricultural commodity dispatched), current prices, 2009 – 2010 (\$m)

	Commodity	Export Value
Japan	Beef (Fresh/Chilled/Frozen)	228
China	Wool and other Animal Hair	454
South Korea	Beef (Fresh/Chilled/Frozen)	142
USA	Alcoholic Beverages	298
USA	Beef (Fresh/Chilled/Frozen)	189
USA	Starches/Wheat Glutin/Inulin	161
Thailand	Cotton	62
Malaysia	Wheat	18
UK	Alcoholic Beverages	89
UK	Meat (excl. Beef)	24
Singapore	Meat (excl. Beef)	28
Germany	Fruit and Nuts	10

Source: DFAT, [Australia's Trade by State and Territory: 2009-10](#), pp.26, 28

¹⁴ DFAT, [Australia's Trade by State and Territory: 2009-10](#), pp.26, 28.

RED MEAT EXPORTS

Between 1999-00 and 2010-11 the export of fancy meat¹⁵ from NSW increased considerably. During the same period the export of mutton and goat meat from NSW decreased. In comparison, exports of other red meat products showed only minor fluctuations.

Red meat exports in NSW, by category, 1999 – 2011 (tonnes)

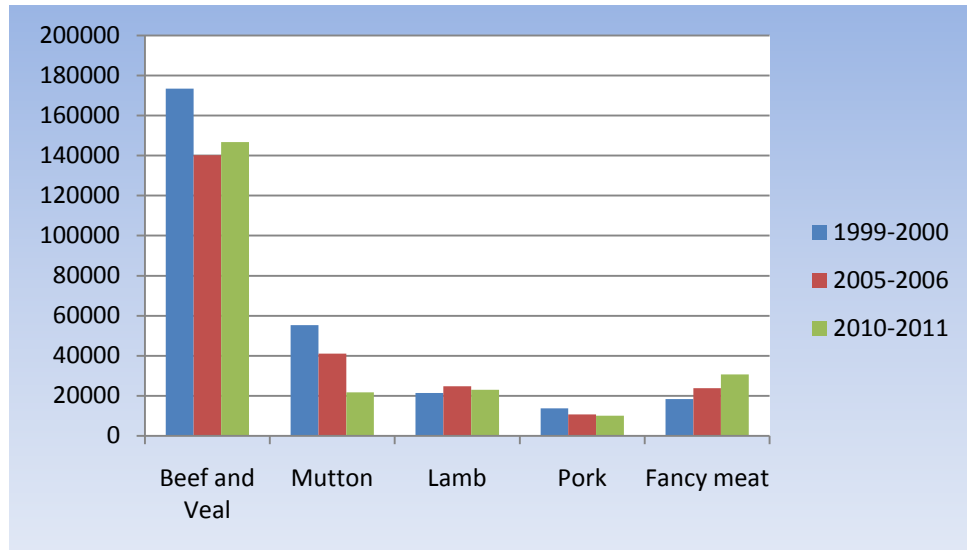
Category	1999-2000	2005-2006	2010-2011	% change 1999-00 to 2010-11	% change 2005-06 to 2010-11
Beef and Veal	173383	140234	146717	-15	5
Mutton	55279	41021	21779	-61	-47
Lamb	21356	24819	23080	8	-7
Goat	701	319	0	n/a	n/a
Pork	13814	10738	10147	-27	-6
Fancy meat	18430	23839	30629	66	28
Total	282964	240971	232352	-18	-4

Red meat exports in NSW, by category, 2010 – 2011 (tonnes)

Category	2010-2011	2010-11 exports, as a % of Australian exports
Beef and Veal	146717	16
Mutton	21779	25
Lamb	23080	15
Goat	0	0
Pork	10147	48
Fancy meat	30629	20
Total	232352	17

¹⁵ Fancy meat includes internal organs and extremities of various animals. Examples include kidneys, liver, brains, heart, feet/trotters, head, tail and ears

Red meat exports in NSW, by category, 1999 – 2000, 2005 – 2006 and 2010 – 2011¹⁶
(tonnes)



Source: Commonwealth Government Department of Agriculture, Fisheries and Forestry, [Red Meat Statistics, 1997-2010](#)

Red meat export data by country of destination, for each year between 1997 and 2012, for NSW can be found [here](#).

¹⁶ For data display purposes red meat with low export tonnages have been excluded

EMPLOYMENT

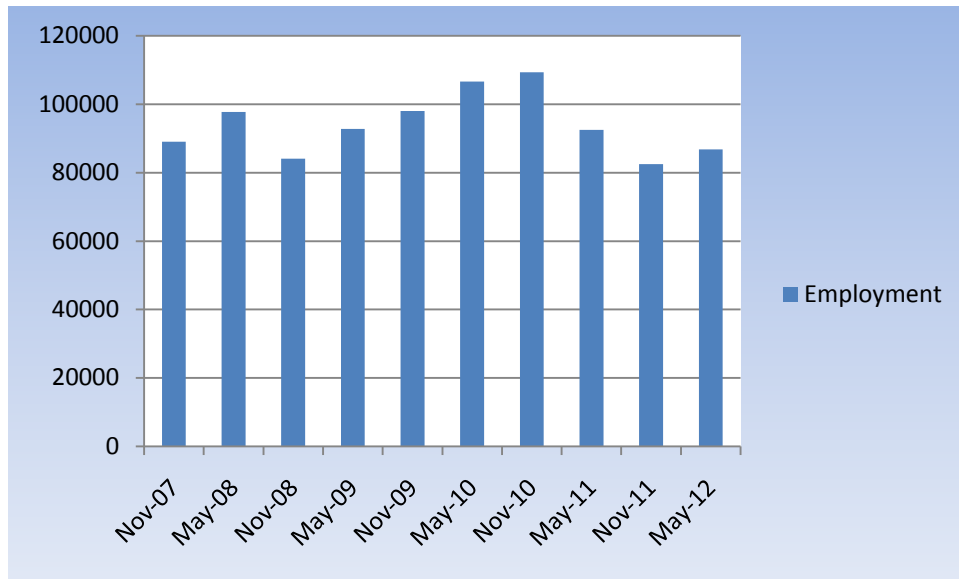
Despite an overall upwards trend in total employment in NSW between November 2007 and 2012, total employment for all industries fell slightly between May 2008 and November 2008 and between November 2010 and May 2011.

In comparison, there were considerable fluctuations in the level of employment in Agriculture, Fisheries and Forestry in NSW between 2007 and 2012. The most significant decline occurred between November 2010 and November 2011 when employment in the sector declined by approximately 25%.

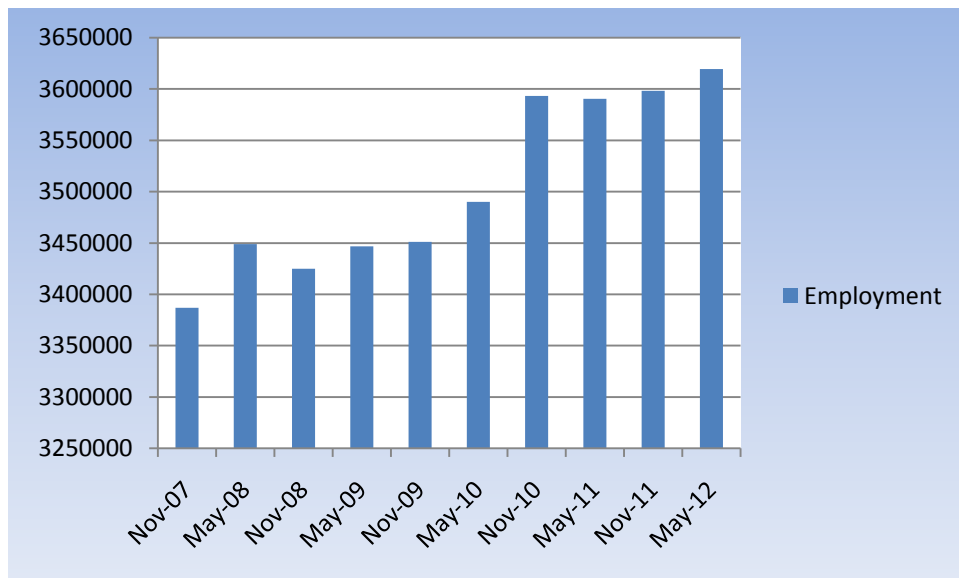
Total employment in NSW, and in Agriculture, Fisheries and Forestry in NSW, 2007 – 2012 (number)

Date	Total employed in NSW	Employment in agriculture, fisheries and forestry (AFF) in NSW	Employment in AFF in NSW as a % of total employment in NSW
Nov-07	3387000	89008	2.6
May-08	3449000	97767	2.8
Nov-08	3425000	84052	2.5
May-09	3446600	92813	2.7
Nov-09	3451000	98022	2.8
May-10	3490100	106598	3.1
Nov-10	3593200	109327	3.0
May-11	3590600	92535	2.6
Nov-11	3598300	82485	2.3
May-12	3619300	86752	2.4

Total employment in Agriculture, Fisheries and Forestry in NSW, 2007 – 2012



Total employment in NSW, 2007 – 2012



Source: ABS, [Labour Force, Australia, Detailed – Electronic Delivery, March 2012](#), 6291.0.55.001, April 2012.

Employment in agriculture, fisheries and forestry, by Statistical Region

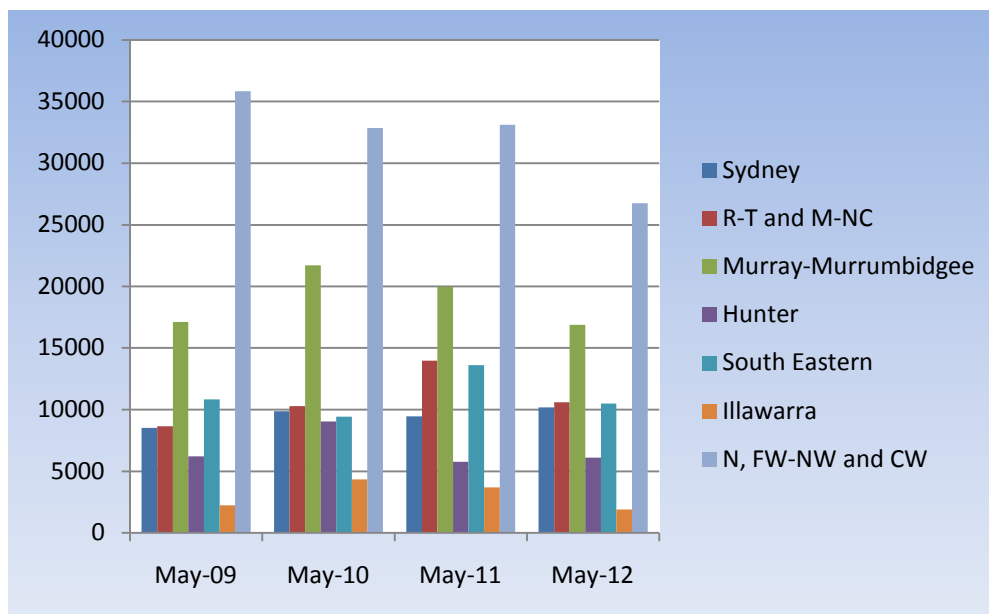
Employment in Agriculture, Fisheries and Forestry in NSW remained relatively stable across some Statistical Regions between May 2009, May 2010, May 2011 and May 2012, while fluctuating across others.¹⁷ The reasons for such variation may be many and varied. For example, possible reasons for a spike in employment in the Murray-Murrumbidgee Region in May 2010 and May 2011 may have been due to improved climatic conditions.

Employment in the Richmond-Tweed and Mid-North Coast Statistical Regions increased considerably between May 2009 and May 2011, before declining in May 2012 to levels similar to May 2010. Despite considerable fluctuations across each of the four years, employment in the Hunter, South Eastern and Murray-Murrumbidgee Statistical Regions remained relatively stable overall between May 2009 and May 2012. The only regions in which employment declined significantly between May 2009 and May 2012 was the Northern, Far West-North Western and Central West, with a decline of approximately 25%.

¹⁷ Figures are based on a four quarter average to May 2009, May 2010, May 2011 and May 2012.

Total employment in Agriculture, Fisheries and Forestry, by Statistical Region in NSW, May 2008, May 2010 and May 2012¹⁸

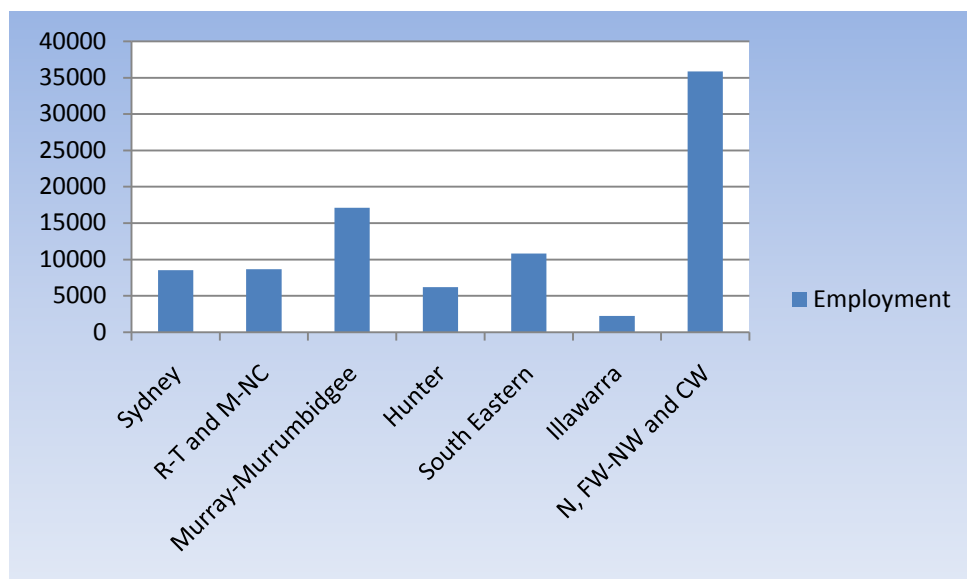
Statistical Region	May-09	May-10	May-11	May-12
Sydney	8524	9864	9461	10190
Richmond-Tweed and Mid-North Coast	8655	10274	13961	10607
Murray-Murrumbidgee	17126	21704	19977	16884
Hunter	6199	9037	5766	6094
South Eastern	10835	9441	13616	10502
Illawarra	2245	4327	3686	1895
Northern, Far West-North Western and Central West	35850	32860	33127	26742



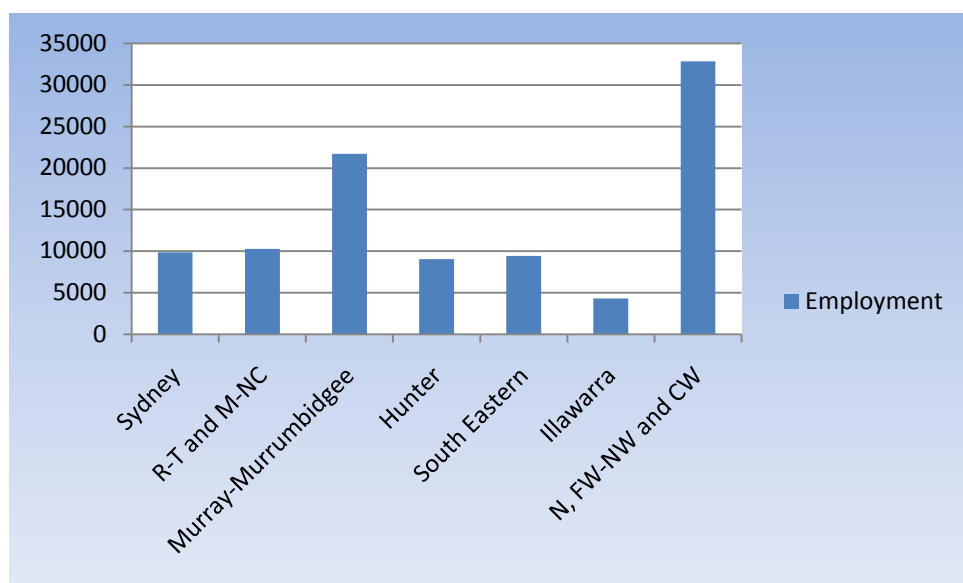
Source: ABS, [Labour Force, Australia, Detailed – Electronic Delivery, March 2012](#), 6291.0.55.001, April 2012.

¹⁸ For all charts by Statistical Region: R-T and M-NC refers to the Richmond-Tweed and Mid-North Coast Statistical Regions and N, FW-NW and CW refers to the Northern, Far West-North Western and Central West Statistical Regions.

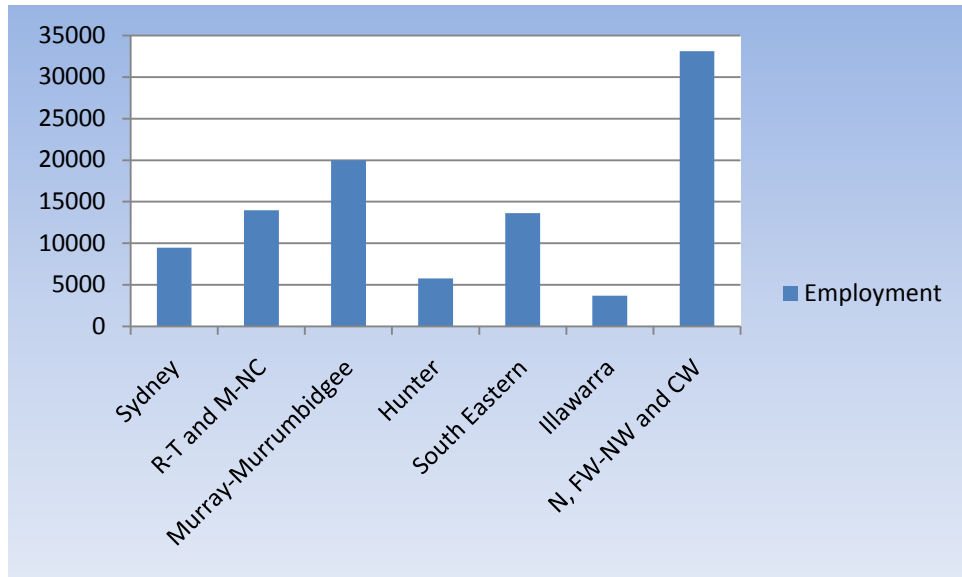
Total employment in Agriculture, Fisheries and Forestry, by Statistical Region in NSW, May 2009



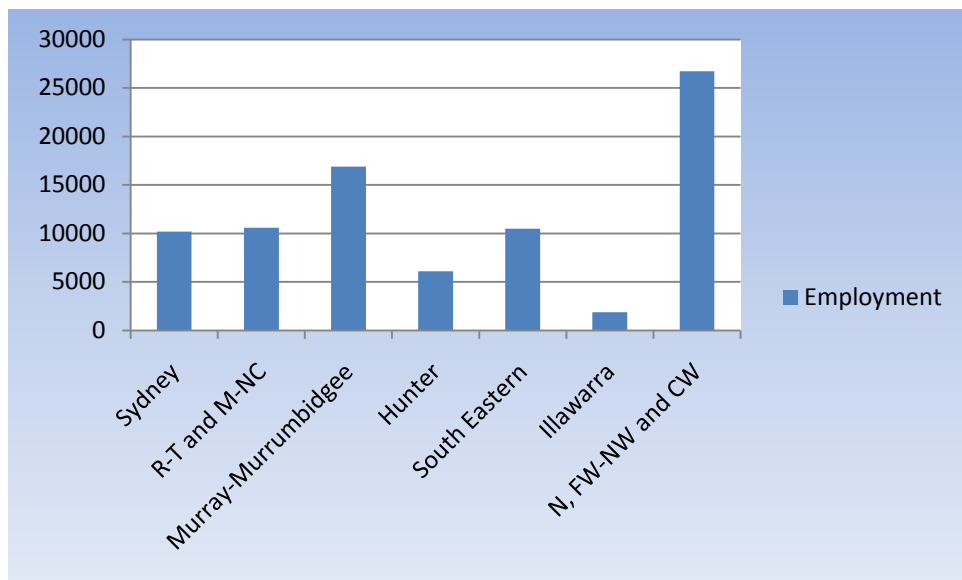
Total employment in Agriculture, Fisheries and Forestry, by Statistical Region in NSW, May 2010



Total employment in Agriculture, Fisheries and Forestry, by Statistical Region in NSW, May 2011



Total employment in Agriculture, Fisheries and Forestry, by Statistical Region in NSW, May 2012



Employment in agriculture and fisheries, by category

Between 2005-06 and 2010-11, total employment in agriculture in NSW increased by approximately 11%, while total employment in agriculture in Australia remained relatively stable for the same period. However, between 2001-02 and 2010-11, total employment in agriculture in NSW declined by almost 28%, while total employment in agriculture in Australia declined by approximately 21% for the same period. The decline in agricultural employment in NSW was primarily due to the significant down turn in those employed in grain, sheep and beef farming after 2001-02. In NSW employment in grain, sheep and beef cattle farming is high compared to employment in other areas of agriculture.

Between 2005-06 and 2010-11, total employment in fisheries in NSW declined by approximately 13%, while employment in fisheries in Australia declined by approximately 19% for the same period.

Employment in agriculture and fisheries in NSW and Australia, by category, 2001 – 2002¹⁹ (number)

Category	NSW	Australia	Employment in agriculture in NSW as a % of employment in agriculture in Australia
Horticulture and fruit growing	19708	97783	20
Grain, sheep and beef farming	74708	214683	35
Dairy cattle farming	4125	31100	13
Poultry farming	2600	9300	28
Other livestock farming	3650	12675	29
Other crop growing	4850	17550	28
Agriculture not fully defined	unknown	unknown	n/a
All agriculture	110025	386450	28
Aquaculture	unknown	unknown	n/a
All fishing	unknown	unknown	n/a

¹⁹ The category "Agriculture not fully defined" is included in the "All agriculture" category in the 2001-2002 data

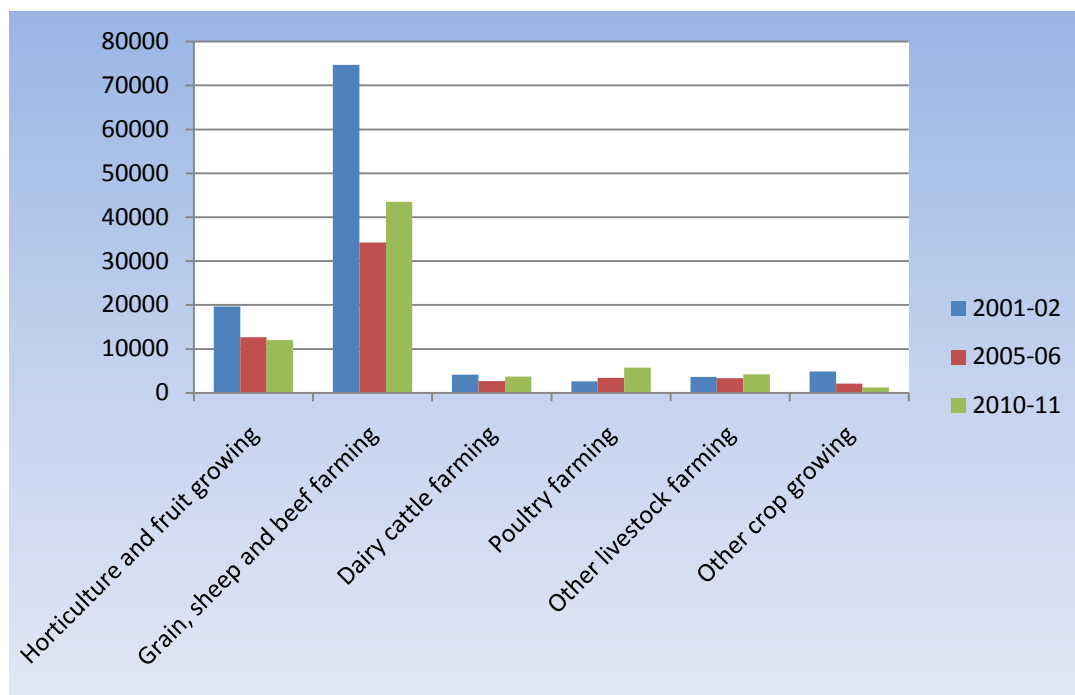
**Employment in agriculture and fisheries in NSW and Australia, by category, 2005 – 2006
(number)**

Category	NSW	Australia	Employment in agriculture in NSW as a % of employment in agriculture in Australia
Horticulture and fruit growing	12650	82175	15
Grain, sheep and beef farming	34250	138850	25
Dairy cattle farming	2675	22975	12
Poultry farming	3450	9150	38
Other livestock farming	3325	11275	29
Other crop growing	2125	9875	22
Agriculture not fully defined	21100	30075	70
All agriculture	79575	304375	26
Aquaculture	925	4575	20
All fishing	1925	13550	14
All agriculture and fishing	81500	317925	26

**Employment in agriculture and fisheries in NSW and Australia, by category, 2010 – 2011
(number)**

Category	NSW	% change 2005-06 to 2010-11	Australia	Employment in agriculture in NSW as a % of employment in agriculture in Australia
Horticulture and fruit growing	12000	-5	60750	20
Grain, sheep and beef farming	43500	27	136500	32
Dairy cattle farming	3750	40	28750	13
Poultry farming	5750	67	10000	58
Other livestock farming	4250	28	13250	32
Other crop growing	1250	-41	10250	12
Agriculture not fully defined	17000	-19	47500	36
All agriculture	88500	11	306750	29
Aquaculture	1000	8	4500	22
All fishing	1667	-13	11000	15
All agriculture and fishing	90167	11	317750	28

Employment in agriculture in NSW, by category, 2001 – 2002, 2005 – 2006 and 2010 – 2011 (number)



Total employment in agriculture and fisheries in NSW and Australia, 2001 – 2011 (number)

Year	Agriculture NSW	Agriculture Australia	Fisheries NSW	Fisheries Australia
2001-02	110025	386450	unknown	unknown
2005-06	79575	304375	1925	13550
2010-11	88500	306750	1667	11000

Source: Commonwealth Government Department of Agriculture, Fisheries and Forestry, [Australian Food Statistics, 2000-2011](#)

Employment in food and beverage manufacturing

Employment in the manufacturing of meat and meat products, and in the manufacturing of bakery products, is high compared with employment in other areas of food and beverage manufacturing in NSW. Total employment in food and beverage manufacturing in NSW increased by approximately 8% between 2002-03 and 2010-11. During the same period employment in food and beverage manufacturing in Australia increased by approximately 26%.

Between 2002/2003 and 2005-06 total employment in food and beverage manufacturing in NSW decreased by approximately 12%. During the same period employment in food and beverage manufacturing in Australia remained relatively stable.

Employment in food and beverage manufacturing in NSW and Australia, by category, 2002 – 2003²⁰ (number)

Category	NSW	Australia	Employment in NSW as a % of employment in Australia
Meat and meat products	15850	47475	33
Dairy products	3375	19050	18
Fruit and vegetable processing	3100	13425	23
Oil and fat	825	2175	38
Flour mill and cereal food	5225	8400	62
Bakery products	10700	28425	38
Other food	8800	30625	29
Beverages and malt	6825	23350	29
Food and beverages not classified	1900	7725	25
Total food and beverage	56600	180650	31

²⁰ Comparable data for the period prior to 2002 – 2003 was unavailable

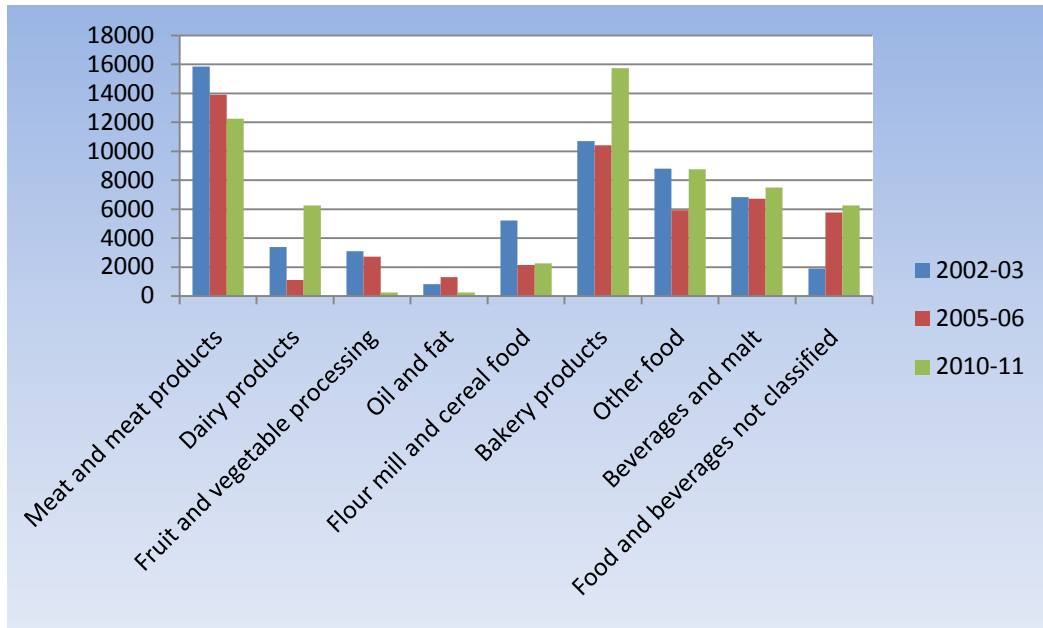
Employment in food and beverage manufacturing in NSW and Australia, by category, 2005 – 2006 (number)

Category	NSW	Australia	Employment in NSW as a % of employment in Australia
Meat and meat products	13900	45475	31
Dairy products	1100	15275	7
Fruit and vegetable processing	2725	12725	21
Oil and fat	1300	3775	34
Flour mill and cereal food	2150	7525	29
Bakery products	10425	35000	30
Other food	5925	23000	26
Beverages and malt	6725	26650	25
Food and beverages not classified	5775	12350	47
Total food and beverage	50025	181775	28

Employment in food and beverage manufacturing in NSW and Australia, by category, 2010 – 2011 (number)

Category	NSW	Australia	Employment in NSW as a % of employment in Australia
Meat and meat products	12250	53250	23
Dairy products	6250	21250	29
Fruit and vegetable processing	250	7500	3
Oil and fat	250	1000	25
Flour mill and cereal food	2250	5750	39
Bakery products	15750	65000	24
Other food	8750	29500	30
Beverages and malt	7500	24000	31
Food and beverages not classified	6250	20500	30
Total food and beverage	61000	227750	27

Employment in food and beverage manufacturing in NSW, by category, 2002 – 2003, 2005 – 2006 and 2010 – 2011 (number)



Total employment in food and beverage manufacturing in NSW and Australia, 2008 – 2011 (number)

Year	Food and beverage NSW	Food and beverage Australia
2002-03	56600	180650
2005-06	50025	181775
2010-11	61000	227750

Source: Commonwealth Government Department of Agriculture, Fisheries and Forestry, [Australian Food Statistics, 2000-2011](#)

AGRICULTURAL WATER ENTITLEMENTS

In 2010 the highest volume of Australian ownership of water entitlements for agricultural purposes was for sheep, beef cattle and grain farming.²¹ This component of the agricultural sector also had the highest volume of agricultural water entitlements with some level of foreign ownership. Of all States in Australia, NSW/ACT had the largest volume of agricultural water entitlements with some degree of foreign ownership (for those which were more than 50% foreign owned).

Water entitlements for agricultural purposes on issue in NSW, under the *Water Management Act 2000*, 2008–2009 to 2010–2011²²

Category	2008-09		2009-10		2010-11		% change (Vol.) 2008-09 to 2010-11
	No.	Vol. (ML)	No.	Vol. (ML)	No.	Vol. (ML)	
Groundwater	3137	999921	4292	1153690	4494	1167577	17
Regulated Rivers	8037	7898571	8394	7933518	8680	7960049	1
Unregulated Rivers	1242	105406	3646	254756	5516	368233	249
Total	12416	9003898	16332	9341964	18690	9495858	5

Source: Commonwealth Government National Water Commission, [Australian water markets report, 2010-2011](#)

Of the total water entitlements in NSW in 2010, approximately 11% were foreign owned, while approximately 9% of entitlements in Australia were foreign owned for the same period.²³ In the following four tables *Foreign > 0% and < 10%* means some level of foreign ownership of no more than 10%; *Foreign >= 10% and <= 50%* means more than or equal to 10% foreign ownership but less than or equal to 50%; and *Foreign > 50%* means more than 50% foreign ownership.

Water entitlements for agricultural purposes by level of foreign ownership, 2010 (ML)

	Total water entitlements	Australian owned	Foreign > 0% and < 10%	Foreign >= 10% and <= 50%	Foreign > 50%	Not known	Total foreign owned
NSW	5977615	5339983	43861	128983	458518	6270	631362
Australia	13731387	12465414	84056	170366	914849	96702	1169271

Source: ABS, [Agricultural Land and Water Ownership](#), December 2010, 7127.0

²¹ ABS, [Agricultural Land and Water Ownership](#), December 2010, 7127.0

²² Details of the categories referred to in the table can be found [here](#)

²³ Data of water entitlements and agricultural land by level of foreign ownership was not available for years prior to 2010

OWNERSHIP OF LAND AND AGRICULTURAL BUSINESSES

1535536 hectares of agricultural land in NSW in 2010 was foreign owned. This equated to approximately 2.7% of the total holdings of agricultural land in NSW. During the same period, 11.3% of the total holdings of agricultural land in Australia were foreign owned.

Agricultural land by level of foreign ownership, 2010 (Ha)

	Total area of holding	Australian owned	Foreign > 0% and < 10%	Foreign >= 10% and <= 50%	Foreign > 50%	Not known	Total foreign owned
NSW	56186791	54541462	13608	379301	1142457	109962	1535366
Australia	397991323	352807599	168526	21701375	22984181	329642	44854082

Source: ABS, [Agricultural Land and Water Ownership](#), December 2010, 7127.0

Agricultural land by level of foreign ownership, 2010 (%)

	Australian owned	Foreign > 0% and < 10%	Foreign >= 10% and <= 50%	Foreign > 50%	Not known	Total foreign owned
NSW	97.1	0	0.7	2	0.2	2.7
Australia	88.6	0	5.5	5.8	0.1	11.3

Source: ABS, [Agricultural Land and Water Ownership](#), December 2010, 7127.0

Approximately 1% of all agricultural businesses in NSW and Australia in 2010 were foreign owned. Of these, the majority were more than 50% foreign owned.

Agricultural businesses by level of foreign ownership, 2010 (number)

	Total agricultural businesses	Australian owned	Foreign > 0% and < 10%	Foreign >= 10% and <= 50%	Foreign > 50%	Not known	Total foreign owned
NSW	43309	42699	30	103	313	164	446
Australia	135648	133623	139	330	824	732	1294

Source: ABS, [Agricultural Land and Water Ownership](#), December 2010, 7127.0

OTHER AGRICULTURAL INDICATORS

Other agricultural indicators of significance to NSW include organic agriculture, the cut flower industry and farmers markets.

Organic agriculture

Organic agriculture statistics for NSW have not been included in the 2012 edition report as data is currently only preliminary. The [Australian Organic Market Report](#), a biannual publication on the organic agricultural industry in Australia, describes a number of aspects of organic agriculture including area of organic farm land, number of producers and area and volume of various agricultural commodities. A 2012 edition of the report is due to be released soon. All data is based on surveys conducted by the [Biological Farmers of Australia Ltd.](#)

Farmers markets

Farmers markets are growing in popularity and becoming increasingly important as an alternative food supply chain for both producers and consumers of agricultural products. There were 28 farmers markets in NSW in 2004, increasing to 43 in 2011 (representing almost 30% of all farmers markets nationally).²⁴ A list of farmers markets in NSW can be found on the Australian Farmers Markets Association website [here](#).

Cut flower industry

Statistics on the cut flower industry in NSW are only available alongside related industries of nurseries and cultivated turf. In 2009-10 the gross value of cut flowers, nurseries and cultivated turf in NSW was \$241 million, which represented 23% of the total value of the industry nationally. The area of cut flowers, nurseries and cultivated turf under irrigation in NSW during the same period was 3800 hectares, which represented 29% of the total area nationally.²⁵

The cut flower industry in NSW is typically located in metropolitan areas. In 2005-06 the Sydney Statistical Division accounted for \$172 million or 49% of the total output from the cut flower, nursery and cultivated turf industry. Other important areas for this industry are Richmond-Tweed (\$50m), Mid-North Coast (\$29m) and the Hunter Region (\$19m).²⁶

²⁴ Commonwealth Government Department of Agriculture, Fisheries and Forestry, [Australian food statistics 2010-11](#)

²⁵ ABS, *Water Account, Australia, 2009-10*, 4610.0, November 2011

²⁶ NSW Department of Primary Industries, [Analysis of ABS Agriculture Census data in NSW Local Government Areas and Statistical Divisions. Profiles of broad agricultural commodity Groupings](#), September 2011

GLOSSARY

The following definitions are those used by the Australian Bureau of Statistics, unless otherwise stated.

Agricultural income: The income accruing from agricultural production during the year. It is equal to gross agricultural product at factor cost less consumption of fixed capital, compensation of employees, and net rent and interest payments.

Chain volume measures: Estimates that exclude the direct effects of changes in prices. Unlike current measure estimates, they take account of changes to price relativities that occur from one year to the next. Annually re-weighted chain volume indexes are referenced to the current price values in a chosen reference year.

Current prices: Agricultural income estimates are based on current prices, as described by the [ABS](#). The current price refers to the period to which the observation relates. For example, estimates for 2003-04 are valued using 2003-04 prices. This contrasts to chain volume measures where the prices used in valuation refer to the prices of a previous period.

Employed: All persons aged 15 years and over who, during the reference week: worked for one hour or more for pay, profit, commission or payment in kind in a job or business, or on a farm (comprising employees, employers and own account workers); or worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or were employees who had a job but were not at work and were: away from work for less than four weeks up to the end of the reference week; or away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week; or away from work as a standard work or shift arrangement; or on strike or locked out; or on workers' compensation and expected to return to their job; or were employers or own account workers, who had a job, business or farm, but were not at work.

Foreign ownership: When an individual, enterprise or other organisation that does not usually reside in Australia owns part of the business, either directly or through an enterprise or organisation that does not usually reside in Australia.

Gross domestic product: Is the total market value of goods and services produced in Australia within a given period after deducting the cost of goods and services used up in the process of production but before deducting allowances for the consumption of fixed capital. It is equivalent to gross national expenditure plus exports of goods and services less imports of goods and services.

Gross State product (GSP): GSP is defined equivalently to gross domestic product (GDP) but refers to production within a State or Territory rather than to the nation as a whole.

Gross value of agricultural production: The gross value of agricultural production is estimated from data collected in the ABS annual Agricultural Commodity Survey together with additional data from various marketing organisations, wholesalers, brokers and auctioneers. Before costs are deducted, an allowance is also made for subsidies not included in the gross value of agricultural production (e.g. drought relief), and a production valuation adjustment (PVA) is deducted. The PVA is required for wheat and wool because the gross value of agricultural production is based on realised future sales prices, which may be different from average current period prices (the basis required for the national accounts). The PVA is calculated directly using quantity data and the difference between average current period prices and the prices underlying the calculation of the gross value of production. Costs are obtained from a variety of sources, including the ABS Agricultural Finance Survey (AFS), the Australian Bureau of Agricultural and Resource Economics (ABARE) publication *Australian Commodities Forecasts and Issues and the Agriculture, Australia* (Cat. no. 7113.0). Quarterly estimates of the GMI of non-farm and farm unincorporated enterprises are obtained by moving the annual benchmarks using various indicators or on trend.

Water entitlement. An individual's ongoing right to access water, in this instance for use on agricultural land.