



USE OF INFORMATION TECHNOLOGY ON FARMS

AUSTRALIA

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CONTENTS

	<i>page</i>
Notes	2
Main findings	3
FARM USE OF COMPUTERS AND THE INTERNET	
Regional use of computers	5
Regional use of the Internet	7
Use of information technology by industry	11
Use of information technology by size of farm	14
Place and frequency of Internet access	16
Cost of Internet access	18
Internet shopping	20
ADDITIONAL INFORMATION	
Explanatory notes	23
Reference map	26

- For further information about these and related statistics, contact Tim Power on Canberra 02 6252 7895, or the National Information Service on 1300 135 070.

NOTES

ABOUT THIS PUBLICATION

This publication presents statistics on the use of Information Technology (IT) by farms in Australia. The data were obtained from questions included in the 1998–99 Agricultural Commodity Survey and from a supplementary survey of farms with Internet access. Some comparisons have been included with data collected in the 1997–98 Agricultural Commodity Survey. Preliminary results from the 1998–99 Agricultural Commodity Survey were published on 23 December 1999 in *Use of Information Technology on Farms, Australia, 1998–99, Preliminary* (Cat. no. 8134.0).

ABOUT THE SURVEYS

The statistics in this publication relate to farms in scope of the Agricultural Commodity Survey, i.e. farms with an estimated value of agricultural operations (EVAO) of \$5,000 or more. The 1998–99 Agricultural Commodity Survey sampled approximately 25% of the farming establishments operating in Australia in March 1999 and included information technology questions on farm use of a computer and the Internet as at March 1999. The supplementary 1998–99 Agriculture Internet Use Survey was forwarded to farm establishments which had indicated in the 1998–99 Agricultural Commodity Survey that they were using the Internet. The supplementary survey included questions on place and frequency of Internet access, cost of Internet access, services accessed via the Internet and purchases of goods and services via the Internet.

COMMENTS ON THIS PUBLICATION

The ABS welcomes comments and suggestions on data items for inclusion in future surveys. Please contact the Director, Science and Technology Statistics Section, Australian Bureau of Statistics, PO Box 10, Belconnen ACT 2616, or phone Canberra 02 6252 5019.

ABBREVIATIONS

ABS	Australian Bureau of Statistics
EVAO	Estimated Value of Agricultural Operations
n.a.	not applicable
n.p.	not available for publication but included in totals where applicable
n.e.c	not elsewhere classified
RSE	Relative standard error
SE	Standard error
*	estimates have a relative standard error between 25% and 50%
**	estimates have a relative standard error of 50% or more
—	nil or rounded to zero

Dennis Trewin
Australian Statistician

MAIN FINDINGS

AUSTRALIA	Almost half (49%) of 147,181 Australian farms, with an estimated value of agricultural operations of \$5,000 or more, owned or used a computer at March 1999. This was a 27% increase over the number of farms using a computer at March 1998. There were substantially fewer farms using the Internet at March 1999 (18%). However, this represented a 65% increase in the number of farms using the Internet since March 1998.
STATE/TERRITORY	Of all the States and Territories at March 1999, the Northern Territory and the Australian Capital Territory had the highest proportion of farms for both computer use (65% and 64% respectively) and Internet use (31% and 26% respectively). Of the States, Western Australia had the highest proportion of farms using a computer (59%) and Tasmania had the highest proportion of farms using the Internet (22%). Queensland had the lowest proportion for both computer use (45%) and Internet use (16%).
STATISTICAL DIVISION	Of the non-capital city Statistical Divisions, Kimberley in Western Australia had the highest proportion of farms which used a computer (67%) at March 1999. Gippsland in Victoria and Wide Bay–Burnett in Queensland had the lowest proportion of farms using a computer (both 37%). For Internet use, Northern Territory–Balance (30%) and Kimberley (29%) had the highest proportion of farms using the Internet. The lowest Internet use was recorded in Pilbara in Western Australia (5%) and Gippsland (11%).
SIZE OF FARM	The proportion of farms with a computer and the Internet generally increased with size as measured by the level of EVAO (estimated value of agricultural operations) for Australia and for each of the States. Computer use for Australia increased from 39% to 84% and Internet use increased from 14% to 42% when comparing farms with an EVAO of less than \$25,000 to those with an EVAO of \$1 million or more.
FARM INDUSTRY	Cotton growing and Plant nurseries had the highest proportion of farms using both a computer (76% and 71% respectively) and the Internet (both 36%). Beef cattle farming had the lowest proportion of farms for both computer use (38%) and Internet use (12%).
PLACE AND FREQUENCY OF ACCESS	Of the farms using the Internet, 81% accessed only from home, 4% accessed at home and elsewhere, and 15% accessed away from home only. Most of the farms accessed the Internet 2 to 6 times per week (46%) or once a week or less (30%). Only 24% of farms accessed the Internet daily.
COST OF ACCESS	Most of the farms had Internet costs in the range of \$101–\$250 (37%) over the year to March 1999. Around 24% had costs in the range of \$251–\$500 and 23% had Internet costs of \$100 or less over the year. Only 10% of farms recorded costs over \$500.

INTERNET SHOPPING

Just under 4% of Australian farms shopped on the Internet during the year to March 1999. Computer software/equipment (41%) and books/magazines (36%) were the most popular types of purchase/order by Internet shopping farms. Purchase/order of farm machinery, materials, livestock, etc were made by only 20% of farm Internet shoppers. Around 24% of the farm Internet shoppers spent over \$1,000 in the year to March 1999. Around 71% of farm Internet shoppers paid for their purchases/orders online.

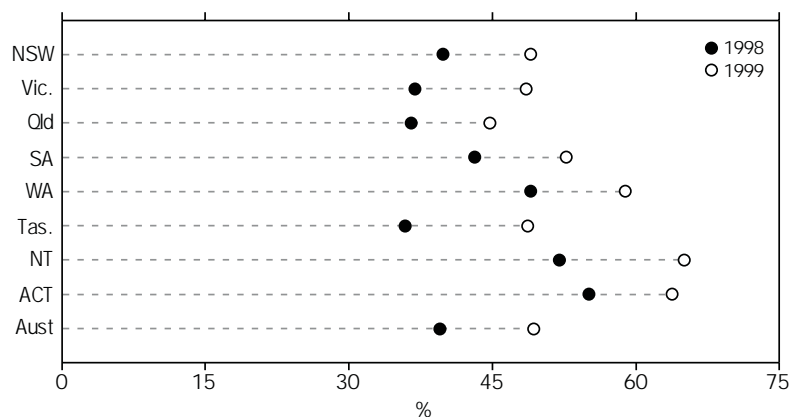
FARM USE OF COMPUTERS AND THE INTERNET

REGIONAL USE OF COMPUTERS

At the end of March 1999, an estimated 49% (or 72,615) of the 147,181 farms in Australia owned or used a computer. This represents a 27% increase over the number of farms using a computer at March 1998.

The Northern Territory (65%), the Australian Capital Territory (64%) and Western Australia (59%) had the highest proportion of farms using a computer at March 1999. Queensland (45%) and the three States of New South Wales, Victoria and Tasmania (all with 49%) had the lowest proportion of farms using a computer.

FARMS USING A COMPUTER, BY STATE/TERRITORY



Over the year to March 1999, the largest increase in the number of farms using a computer occurred in Tasmania (up 36% over March 1998) and Victoria (up 34%).

1

FARMS USING A COMPUTER, BY STATE/TERRITORY

	March 1998		March 1999		Percentage increase in number of farms using a computer
	Farms using a computer		Farms using a computer		
	no.	%(a)	no.	%(a)	
New South Wales	16 934	39.8	21 545	49.0	27.2
Victoria	13 538	36.9	18 075	48.5	33.5
Queensland	11 311	36.5	13 870	44.7	22.6
South Australia	6 795	43.1	8 361	52.7	23.0
Western Australia	6 850	49.0	8 271	58.9	20.7
Tasmania	1 608	35.9	2 186	48.7	35.9
Northern Territory	196	52.0	241	65.0	23.0
Australian Capital Territory	58	55.1	66	63.8	13.8
Australia	57 290	39.5	72 615	49.3	26.7

(a) Percentages are of all farms.

(b) Percentages are of farms with a computer.

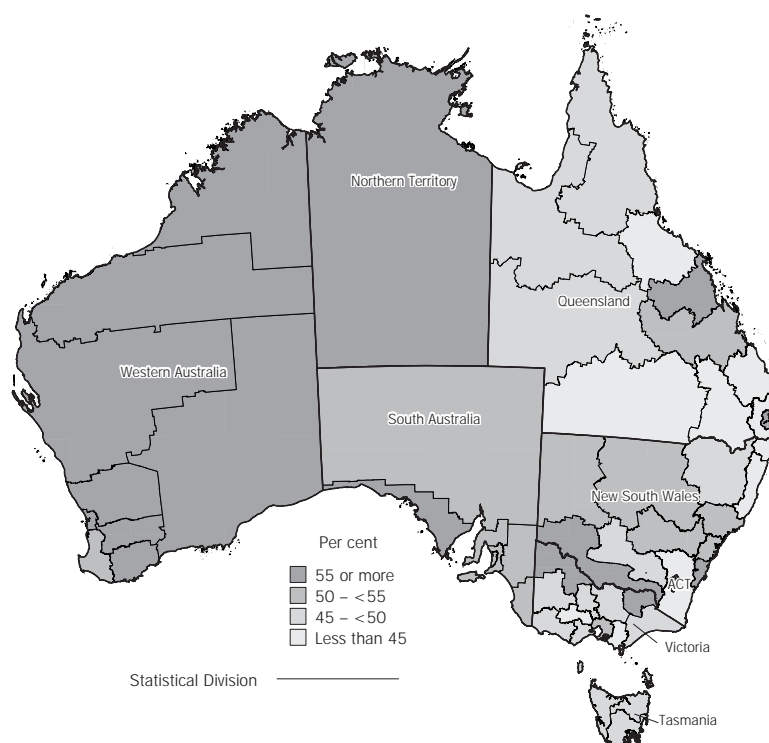
Highest SDs The Statistical Divisions in each State (outside the capital city Statistical Divisions) with the highest proportion of farms using a computer were:

- Murray (57%) and Illawarra (55%) in New South Wales;
- Mallee (58%) and Ovens–Murray (56%) in Victoria;
- Mackay (58%) and Fitzroy (50%) in Queensland;
- Eyre (57%), Yorke and Lower North (55%) in South Australia;
- Kimberley (67%) and Upper Great Southern (65%) in Western Australia; and
- Northern (50%) in Tasmania.

Lowest SDs The Statistical Divisions in each State (outside the capital city Statistical Divisions) with the lowest proportion of farms using a computer were:

- Mid-North Coast and Richmond–Tweed (both 41%) in New South Wales;
- Gippsland (37%) and Central Highlands (43%) in Victoria;
- Wide Bay–Burnett (37%), Moreton and Northern (both 41%) in Queensland;
- Murray Lands and South East (both 51%) in South Australia;
- South West (50%) and Lower Great Southern (55%) in Western Australia; and
- Southern (47%) in Tasmania.

FARMS USING A COMPUTER, BY STATISTICAL DIVISION—MARCH 1999



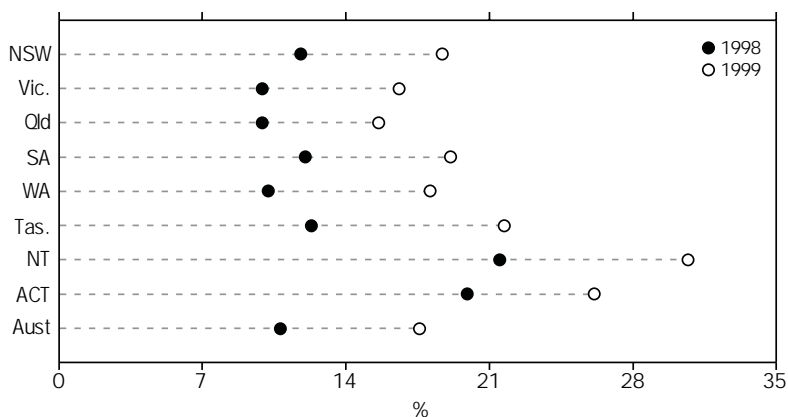
For identification of individual Statistical Divisions, please see the reference map at the back of this publication.

REGIONAL USE OF THE INTERNET

At the end of March 1999, an estimated 18% (or 25,927) of the 147,181 farms in Australia used the Internet. This represents a 65% increase over the number of farms using the Internet at March 1998.

The Northern Territory (31%) and the Australian Capital Territory (26%) had the highest proportion of farms using the Internet at March 1999. Queensland (16%) and Victoria (17%) had the lowest proportion of farms using the Internet.

FARMS USING THE INTERNET BY STATE/TERRITORY



Over the year to March 1999, the largest increase in the number of farms using the Internet occurred in Western Australia (up 78% over March 1998) and Tasmania (up 76%).

2

FARMS USING THE INTERNET, BY STATE/TERRITORY

	March 1998		March 1999		Percentage increase in number of farms using the Internet
	Farms using the Internet <i>no.</i>	<i>%(a)</i>	Farms using the Internet <i>no.</i>	<i>%(a)</i>	
New South Wales	5 006	11.8	8 231	18.7	64.4
Victoria	3 621	9.9	6 174	16.6	70.5
Queensland	3 075	9.9	4 830	15.6	57.1
South Australia	1 896	12.0	3 030	19.1	59.8
Western Australia	1 428	10.2	2 548	18.1	78.4
Tasmania	552	12.3	973	21.7	76.3
Northern Territory	81	21.5	114	30.7	40.7
Australian Capital Territory	21	19.9	27	26.1	28.6
Australia	15 680	10.8	25 927	17.6	65.4

(a) Percentages are of all farms.

(b) Percentages are of farms using the Internet.

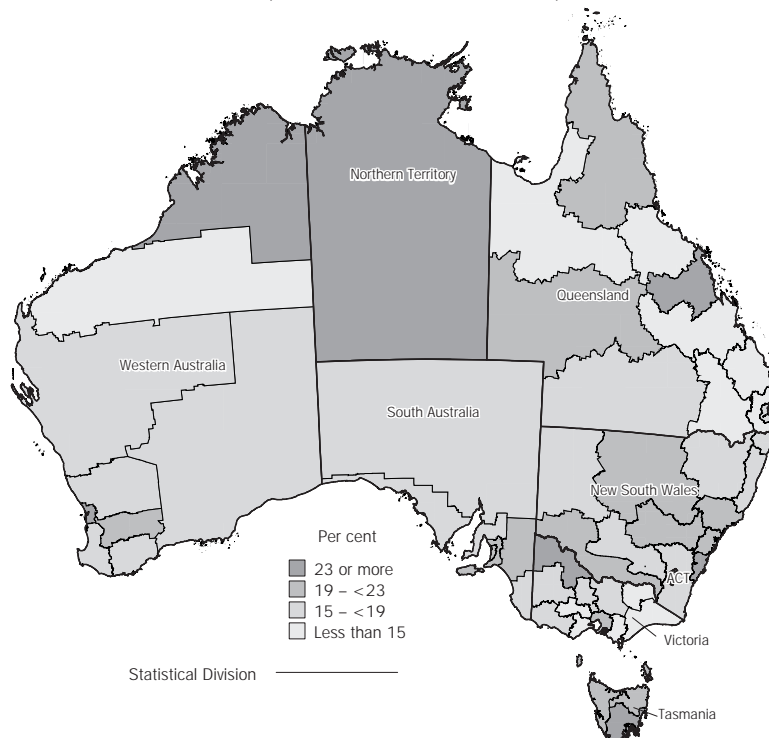
Highest SDs The Statistical Divisions in each State (outside the capital city Statistical Divisions) with the highest proportion of farms using the Internet were:

- Illawarra (27%) and Hunter (22%) in New South Wales;
- Mallee (26%) and Goulburn (17%) in Victoria;
- Mackay (23%) and Central West (20%) in Queensland;
- Outer Adelaide and Murray Lands (both 21%) in South Australia;
- Kimberley (29%) and Upper Great Southern (20%) in Western Australia; and
- Southern (24%) in Tasmania.

Lowest SDs The Statistical Divisions in each State (outside the capital city Statistical Divisions) with the lowest proportion of farms using the Internet were:

- Mid-North Coast (15%), Northern and Murrumbidgee (both 17%) in New South Wales;
- Gippsland (11%) and Barwon (12%) in Victoria;
- Wide Bay–Burnett (13%), Fitzroy and Darling Downs (both 14%) in Queensland;
- Eyre (16%) and South East (17%) in South Australia;
- Pilbara (5%), South West, South Eastern and Midlands (all 16%) in Western Australia; and
- Northern and Mersey–Lyall (both 21%) in Tasmania.

FARMS USING THE INTERNET, BY STATISTICAL DIVISION, MARCH 1999



For identification of individual Statistical Divisions, please see the reference map at the back of this publication.

3

FARMS USING A COMPUTER AND THE INTERNET, BY STATISTICAL DIVISION(a)

	March 1998			March 1999		
	Total number of farms	Computers	Internet	Total number of farms	Computers	Internet
		%	%		%	%
NEW SOUTH WALES						
Sydney	1 892	40.7	19.0	2 225	50.5	21.4
Hunter	2 707	36.5	13.9	3 012	52.9	21.5
Illawarra	953	39.7	13.6	931	55.3	26.5
Richmond-Tweed	3 133	32.4	12.3	3 368	41.4	18.6
Mid-North Coast	3 378	27.6	10.7	3 395	40.5	15.2
Northern	6 921	42.8	12.4	6 918	49.3	17.1
North Western	4 377	43.6	8.5	4 499	53.4	20.0
Central West	5 872	42.5	11.5	5 692	50.8	19.5
South Eastern	4 297	37.4	11.1	4 431	42.7	17.7
Murrumbidgee	4 709	39.8	9.7	5 225	48.1	17.3
Murray	3 932	47.8	13.1	4 001	56.8	19.5
Far West	324	39.2	11.0	297	52.9	*17.7
Total	42 496	39.8	11.8	43 994	49.0	18.7
VICTORIA						
Melbourne	3 014	42.9	15.7	2 971	51.0	20.7
Barwon	1 941	35.2	6.7	1 921	48.0	11.9
Western District	5 198	35.4	7.9	5 172	49.7	15.7
Central Highlands	1 955	35.8	11.4	2 069	42.8	13.8
Wimmera	3 317	36.5	7.9	3 171	46.7	16.1
Mallee	4 609	37.7	10.9	4 693	57.8	25.5
Loddon	2 375	34.7	9.8	2 393	45.6	16.0
Goulburn	6 362	37.5	9.5	6 504	47.4	16.7
Ovens-Murray	2 239	29.5	9.6	2 691	55.8	*14.2
East Gippsland	2 361	38.9	9.2	2 188	45.5	*13.7
Gippsland	3 317	38.8	10.6	3 517	37.4	*10.6
Total	36 687	36.9	9.9	37 289	48.5	16.6
QUEENSLAND						
Brisbane	1 090	44.9	17.7	1 346	57.7	18.2
Moreton	4 372	33.1	11.0	4 107	40.6	14.5
Wide Bay-Burnett	5 207	32.4	7.8	5 299	37.4	13.3
Darling Downs	6 828	36.3	8.6	6 882	43.2	13.9
South West	1 774	39.6	11.6	1 794	44.1	16.9
Fitzroy	3 110	42.7	11.4	3 131	50.3	13.6
Central West	709	46.8	13.3	674	45.6	*20.4
Mackay	2 152	39.1	8.1	1 817	58.2	23.4
Northern	2 136	36.4	8.9	2 321	41.1	*14.6
Far North	3 094	33.3	11.3	3 210	48.7	19.4
North west	480	39.6	9.1	464	*47.9	*14.6
Total	30 951	36.5	9.9	31 045	44.7	15.6

For footnotes see end of table.

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	March 1998			March 1999		
	Total number of farms	Computers	Internet	Total number of farms	Computers	Internet
		%	%		%	%
SOUTH AUSTRALIA						
Adelaide	1 102	39.4	17.4	1 017	50.0	22.9
Outer Adelaide	2 976	42.7	13.3	3 120	52.8	20.8
Yorke and Lower North	2 196	45.1	13.9	2 345	54.6	18.3
Murray Lands	3 810	41.8	12.1	3 655	51.3	20.8
South East	2 676	41.0	10.4	2 717	51.3	16.6
Eyre	1 635	50.8	8.5	1 661	57.3	16.4
Northern	1 379	42.3	9.0	1 338	52.5	17.6
Total	15 774	43.1	12.0	15 854	52.7	19.1
WESTERN AUSTRALIA						
Perth	1 279	41.6	16.8	1 376	60.2	26.7
South West	2 793	37.1	8.5	2 763	50.1	15.5
Lower Great Southern	2 451	49.0	9.3	2 461	55.0	18.4
Upper Great Southern	1 849	54.7	10.0	1 936	64.6	19.6
Midlands	3 172	56.2	9.8	3 094	63.6	16.2
South Eastern	773	53.9	11.1	734	61.6	15.6
Central	1 426	51.3	9.3	1 419	61.2	17.2
Pilbara	59	56.3	*2.5	61	61.0	**5.1
Kimberley	189	55.6	17.7	194	67.1	28.6
Total	13 990	49.0	10.2	14 038	58.9	18.1
TASMANIA						
Greater Hobart	240	38.8	*13.6	243	50.1	26.6
Southern	898	36.0	14.2	898	47.0	24.2
Northern	1 584	37.4	11.0	1 594	49.7	20.6
Mersey-Lyall	1 761	34.0	12.4	1 752	48.5	20.7
Total	4 482	35.9	12.3	4 487	48.7	21.7
NORTHERN TERRITORY						
Darwin	11	46.2	11.6	18	71.5	41.9
Northern Territory — Balance	363	52.6	21.8	353	64.6	30.1
Total	374	52.0	21.5	371	65.0	30.7
AUSTRALIAN CAPITAL TERRITORY						
Total	105	55.1	19.9	103	63.8	26.1
AUSTRALIA						
Total	144 859	39.5	10.8	147 181	49.3	17.6

(a) Percentages are of all farms.

USE OF INFORMATION
TECHNOLOGY BY INDUSTRY

Computer use At March 1999, the farm industries which had the highest proportion of farms using a computer were Cotton growing (76%), Plant nurseries (71%), Poultry farming for meat (67%) and Livestock farming n.e.c. (66%). The farm industries which had the lowest proportion of farms using a computer were Beef cattle farming (38%), Sugar cane growing (42%), Sheep farming (44%) and Vegetable growing (45%).

Internet use The farm industries which had the highest proportion of farms using the Internet at March 1999 were Cotton growing and Plant nurseries (both 36%) and Livestock farming n.e.c. (32%). The farm industries which had the lowest proportion of farms using the Internet were Beef cattle farming (12%) and Dairy cattle farming and Sheep farming (both 14%).

4

FARMS USING A COMPUTER AND THE INTERNET, BY FARM INDUSTRY(a)

	<i>Total number of farms</i>	<i>Farms using a computer</i>		<i>Farms using the Internet</i>	
		<i>no.</i>	<i>%</i>	<i>no.</i>	<i>%</i>
Plant nurseries	2 784	1 985	71.3	994	35.7
Cut flower and flower seed growing	1 115	691	61.9	334	29.9
Vegetable growing	5 211	2 357	45.2	935	17.9
Grape growing	5 846	3 629	62.1	1 785	30.5
Apple and pear growing	1 309	715	54.7	229	17.5
Stone fruit growing	1 162	598	51.4	245	21.1
Fruit growing n.e.c.	5 614	3 084	54.9	1 451	25.9
Grain growing	16 697	9 772	58.5	3 384	20.3
Grain-sheep & grain-beef cattle farming	19 229	10 055	52.3	2 921	15.2
Sheep-beef cattle farming	8 694	4 226	48.6	1 721	19.8
Sheep farming	15 680	6 937	44.2	2 218	14.1
Beef cattle farming	33 876	12 908	38.1	4 201	12.4
Dairy cattle farming	14 000	7 118	50.8	1 896	13.5
Poultry farming (meat)	797	536	67.3	204	25.6
Poultry farming (eggs)	615	379	61.7	160	26.1
Pig farming	1 142	664	58.2	228	20.0
Horse farming	2 552	1 256	49.2	621	24.3
Livestock farming n.e.c.	1 272	844	66.4	404	31.8
Sugar cane growing	5 213	2 188	42.0	797	15.3
Cotton growing	1 256	957	76.2	451	35.9
Crop and plant growing n.e.c.	1 498	725	48.4	240	16.0
Other(b)	1 621	992	61.2	508	31.3
All farms	147 181	72 615	49.3	25 927	17.6

(a) Percentages are of all farms.

(b) Relates to establishments with an EVAO of \$5,000 or more but which are classified to a non-Agriculture ANZSIC class.

There was some variation in the proportion of farms using a computer and the Internet in the broad farm industry groupings across States at March 1999 as shown in table 5.

Computer use On the use of a computer the details were:

- Horticulture and fruit growing (Australia 57%)—the highest was Victoria (65%) and the lowest was New South Wales (52%);
- Grain, sheep and beef cattle farming (Australia 47%)—the highest was Western Australia (59%) and the lowest was Queensland (40%);
- Dairy cattle farming (Australia 51%)—the highest was Western Australia (57%) and the lowest was Queensland (41%);
- Poultry farming (Australia 65%)—the highest was Victoria (73%) and the lowest was South Australia (56%);
- Other livestock farming (Australia 56%)—the highest was Queensland (61%) and the lowest was Tasmania (47%); and
- Other crop growing (Australia 49%)—the highest was New South Wales (63%) and the lowest was Western Australia (34%).

Internet use On the use of the Internet, there was a similar pattern to that for computer use. The details were:

- Horticulture and fruit growing (Australia 26%)—the highest was Victoria (31%) and the lowest was New South Wales (23%);
- Grain, sheep and beef cattle farming (Australia 15%)—the highest was Tasmania (18%) and the lowest was Queensland (12%);
- Dairy cattle farming (Australia 14%)—the highest was Tasmania (20%) and the lowest was Queensland (12%);
- Poultry farming (Australia 26%)—the highest was Victoria (36%) and the lowest was New South Wales (18%);
- Other livestock farming (Australia 25%)—the highest was Victoria (31%) and the lowest was South Australia (21%); and
- Other crop growing (Australia 19%)—the highest was New South Wales (30%) and the lowest was Queensland (16%).

5

FARMS USING A COMPUTER AND THE INTERNET, BY STATE/TERRITORY AND BROAD FARM INDUSTRY(a)

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>NT</i>	<i>ACT</i>	<i>Aust.</i>
TOTAL NUMBER OF FARMS									
	no.	no.	no.	no.	no.	no.	no.	no.	no.
Horticulture and fruit growing	5 979	4 907	4 978	3 957	2 041	1 034	136	9	23 041
Grain, sheep and beef cattle farming	31 724	22 140	16 701	10 337	10 700	2 283	215	76	94 175
Dairy cattle farming	2 036	8 102	1 858	785	436	781	n.p.	n.p.	14 000
Poultry farming	556	311	232	120	158	28	n.p.	n.p.	1 411
Other livestock farming	1 671	1 050	1 352	413	313	157	n.p.	n.p.	4 966
Other crop growing	1 441	444	5 809	55	98	109	n.p.	n.p.	7 967
Other(b)	586	335	116	188	292	95	n.p.	n.p.	1 621
All farms	43 994	37 289	31 045	15 854	14 038	4 487	371	103	147 181
COMPUTER USE									
	%	%	%	%	%	%	%	%	%
Horticulture and fruit growing	52.2	65.2	55.2	53.5	58.7	55.9	64.1	*87.5	56.7
Grain, sheep and beef cattle farming	47.0	42.8	39.8	52.1	58.9	43.0	66.9	58.7	46.6
Dairy cattle farming	51.3	51.7	41.0	55.5	56.8	56.0	n.p.	n.p.	50.8
Poultry farming	61.2	73.2	67.2	55.7	64.9	65.9	n.p.	n.p.	64.9
Other livestock farming	52.0	54.2	60.9	57.9	59.3	46.5	n.p.	n.p.	55.7
Other crop growing	62.6	52.8	45.1	41.1	*34.0	47.2	n.p.	n.p.	48.6
Other(b)	59.9	54.2	*93.4	51.4	68.7	49.6	n.p.	n.p.	61.2
All farms	49.0	48.5	44.7	52.7	58.9	48.7	65.0	63.8	49.3
INTERNET USE									
	%	%	%	%	%	%	%	%	%
Horticulture and fruit growing	23.4	31.2	24.3	25.7	23.5	28.8	26.7	*33.9	25.9
Grain, sheep and beef cattle farming	16.9	13.9	12.2	16.3	16.6	18.3	34.5	22.8	15.3
Dairy cattle farming	14.4	12.3	11.7	18.6	18.2	20.4	n.p.	n.p.	13.5
Poultry farming	18.1	35.6	28.3	27.3	28.4	*29.0	n.p.	n.p.	25.8
Other livestock farming	24.2	30.8	23.6	21.4	23.0	27.1	n.p.	n.p.	25.2
Other crop growing	29.6	*16.3	16.0	*28.1	**19.2	*21.3	n.p.	n.p.	18.7
Other(b)	*41.8	*19.5	*41.7	*24.4	*25.8	26.3	n.p.	n.p.	31.3
All farms	18.7	16.6	15.6	19.1	18.1	21.7	30.7	26.1	17.6

(a) Percentages are of all farms.

(b) Relates to establishments with an EVAO of \$5,000 or more but which are classified to a non-Agriculture ANZSIC class.

USE OF INFORMATION
TECHNOLOGY BY SIZE OF
FARM

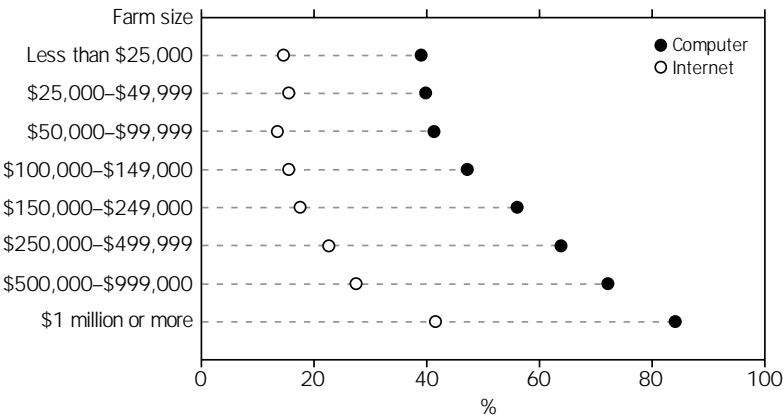
There was a strong relationship between farm size and the use of information technology, with the proportion of farms with a computer and the Internet generally increasing with the level of EVAO.

- Computer use

For all farms in Australia at March 1999, use of a computer was highest for the largest farm size of \$1m or more (84%) and lowest for the smallest farm size of less than \$25,000 (39%). There was little variation in the pattern of computer use for farms with an EVAO up to \$99,999 (from 39% to 41%). However, for farms with an EVAO above \$100,000, computer use rose substantially in line with a higher EVAO (from 47% to 84%).
- Internet use

The pattern for farm use of the Internet was similar. For all farms in Australia, use of the Internet was highest for the largest farm size of \$1m or more (42%) and lowest for farms of size \$50,000–\$99,999 (14%). There was little variation in the pattern of Internet use for farms with an EVAO up to \$149,999 (from 14% to 16%). However, for farms with an EVAO above \$150,000, Internet use rose substantially in line with a higher EVAO (from 18% to 42%).

FARMS USING A COMPUTER AND THE INTERNET, BY FARM SIZE (EVAO)



6

FARMS USING A COMPUTER AND THE INTERNET, BY STATE/TERRITORY AND FARM SIZE (EVAO)(a)

	<i>NSW</i>	<i>Vic.</i>	<i>Old</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>NT</i>	<i>ACT</i>	<i>Aust.</i>
TOTAL NUMBER OF FARMS									
	no.	no.	no.	no.	no.	no.	no.	no.	no.
Less than \$25,000	11 922	8 800	8 114	2 435	2 103	1 332	45	41	34 792
\$25,000–\$49,999	6 339	5 076	3 394	2 015	1 159	638	29	30	18 680
\$50,000–\$99,999	7 677	6 479	4 623	2 687	1 528	758	43	20	23 815
\$100,000–\$149,000	4 230	4 619	3 653	2 012	1 117	386	31	5	16 052
\$150,000–\$249,000	5 515	6 369	4 383	2 815	1 927	633	29	5	21 677
\$250,000–\$499,999	5 093	4 303	3 916	2 649	3 079	493	n.p.	n.p.	19 601
\$500,000–\$999,999	2 139	1 275	1 947	940	2 213	184	n.p.	n.p.	8 755
\$1m or more	1 079	367	1 015	301	912	64	n.p.	n.p.	3 810
All farms	43 994	37 289	31 045	15 854	14 038	4 487	371	103	147 181
COMPUTER USE									
	%	%	%	%	%	%	%	%	%
Less than \$25,000	38.8	39.9	37.3	37.3	45.1	38.3	51.6	58.8	39.0
\$25,000–\$49,999	37.1	41.4	38.0	41.5	50.1	35.5	63.8	59.0	39.8
\$50,000–\$99,999	44.5	40.3	34.5	41.0	45.4	48.5	47.7	82.6	41.3
\$100,000–\$149,000	50.8	45.1	40.4	50.1	59.4	47.6	65.1	*25.0	47.2
\$150,000–\$249,000	58.8	57.7	47.9	61.9	51.7	58.3	67.0	78.3	56.1
\$250,000–\$499,999	63.9	66.6	58.3	68.7	63.0	66.5	n.p.	n.p.	63.9
\$500,000–\$999,999	73.8	70.5	64.8	71.9	77.1	78.6	n.p.	n.p.	72.1
\$1m or more	85.3	86.4	82.9	88.7	81.6	88.1	n.p.	n.p.	84.1
All farms	49.0	48.5	44.7	52.7	58.9	48.7	65.0	63.8	49.3
INTERNET USE									
	%	%	%	%	%	%	%	%	%
Less than \$25,000	15.8	15.1	12.4	12.9	15.2	15.3	18.5	29.4	14.6
\$25,000–\$49,999	15.4	16.2	13.3	14.3	21.0	16.1	41.3	19.6	15.6
\$50,000–\$99,999	13.7	14.7	9.6	13.6	15.4	20.1	21.8	22.9	13.5
\$100,000–\$149,999	18.7	10.8	16.5	16.7	15.4	19.0	*13.5	*25.0	15.5
\$150,000–\$249,999	21.1	15.9	13.3	22.2	13.8	25.9	28.8	19.0	17.6
\$250,000–\$499,999	23.7	21.9	22.9	25.9	17.0	32.0	n.p.	n.p.	22.6
\$500,000–\$999,999	29.5	33.4	22.8	31.5	22.4	45.1	n.p.	n.p.	27.5
\$1m or more	48.0	52.5	39.5	40.1	32.2	56.2	n.p.	n.p.	41.6
All farms	18.7	16.6	15.6	19.1	18.1	21.7	30.7	26.1	17.6

(a) Percentages are of all farms.

PLACE AND FREQUENCY OF INTERNET ACCESS

Place of access Of the 25,927 farms (or farm households) accessing the Internet at March 1999, 81% accessed it only from home, 4% accessed it from home and elsewhere, and 15% accessed the Internet away from home only. Features included:

- South Australia and Queensland (both with 87%) had the highest proportion of farms accessing the Internet from home. Australian Capital Territory (27%) and Tasmania (21%) had the highest proportion of farms accessing the Internet away from home only.
- Farms with an EVAO in the range of \$100,000–\$149,999 (92%) had the highest proportion of farms with home access. Farms with an EVAO of less than \$50,000 had the highest proportion of farms accessing the Internet away from home only.
- Dairy cattle farming (92%) had the highest proportion of farms with home access. Other livestock farming (28%) had the highest proportion of farms accessing the Internet away from home only.

7

FARMS WITH INTERNET ACCESS, BY PLACE OF ACCESS(a)

	<i>Access only at home</i>	<i>Access at home and elsewhere</i>	<i>Access away from home only</i>
	%	%	%
State			
New South Wales	78.8	4.7	16.5
Victoria	81.9	*3.3	14.8
Queensland	84.1	*2.6	13.3
South Australia	83.3	3.8	12.9
Western Australia	80.6	*4.1	15.2
Tasmania	72.3	6.7	21.0
Northern Territory	77.3	*8.6	14.1
Australian Capital Territory	73.5	—	26.5
Farm size (EVAO)			
Less than \$25,000	72.9	*3.1	24.0
\$25,000–\$49,999	72.8	*5.8	21.4
\$50,000–\$99,999	79.2	*6.2	14.5
\$100,000–\$149,999	89.6	*2.4	8.0
\$150,000–\$249,999	84.1	*2.4	13.5
\$250,000–\$499,999	86.5	3.7	9.8
\$500,000–\$999,999	88.1	2.9	9.0
\$1m or more	79.3	6.8	14.0
Broad farm industry			
Horticulture and fruit growing	79.4	4.9	15.7
Grain, sheep and beef cattle farming	81.4	3.4	15.3
Dairy cattle farming	89.8	**1.7	*8.6
Poultry farming	81.6	*0.8	*17.6
Other livestock farming	63.9	*7.9	28.1
Other crop growing	88.6	1.3	10.1
Other(b)	74.1	*13.1	12.8
Total	81.0	3.9	15.1

(a) Proportions are of place of Internet access.

(b) Relates to establishments with an EVAO of \$5,000 or more but which are classified to a non-Agriculture ANZSIC class.

Frequency of access Of farms which access the Internet, only 24% accessed it daily with 46% accessing it 2 to 6 times per week and 30% once a week or less. Features included:

- The Australian Capital Territory had the highest daily access (47%) and was significantly higher than for other States and the Northern Territory (23% to 25%).
- Farms of EVAO size \$1 million or more had the highest proportion of daily access (31%) and farms of size \$250,000–\$499,999 had the lowest proportion of daily access (19%).
- Poultry farming had the highest proportion of farms with daily access (31%). Other crop growing farms predominantly accessed the Internet 2 to 6 times per week (49%) as did Dairy cattle farming (48%), Grain, sheep and beef cattle farming (47%) and Horticulture and fruit growing (45%).

8

FARMS WITH INTERNET ACCESS, BY FREQUENCY OF ACCESS(a)

	<i>Daily</i>	<i>2 to 6 times per week</i>	<i>Once a week or less</i>
	%	%	%
State			
New South Wales	22.7	45.6	31.7
Victoria	23.0	45.3	31.8
Queensland	24.9	46.8	28.2
South Australia	22.8	47.6	29.6
Western Australia	25.3	47.8	26.9
Tasmania	22.9	48.4	28.7
Northern Territory	24.7	31.2	44.0
Australian Capital Territory	46.6	40.1	13.4
Farm size (EVAO)			
Less than \$25,000	27.0	40.9	32.1
\$25,000–\$49,999	23.0	45.9	31.1
\$50,000–\$99,999	22.6	50.8	26.6
\$100,000–\$149,999	23.6	47.8	28.6
\$150,000–\$249,999	19.9	49.0	31.0
\$250,000–\$499,999	18.9	48.0	33.2
\$500,000–\$999,999	26.1	47.6	26.3
\$1m or more	31.3	40.3	28.4
Broad farm industry			
Horticulture and fruit growing	27.0	44.8	28.3
Grain, sheep and beef cattle farming	21.3	47.2	31.5
Dairy cattle farming	23.7	47.7	28.7
Poultry farming	30.5	34.6	34.9
Other livestock farming	26.8	45.5	27.7
Other crop growing	21.9	48.6	29.6
Other(b)	31.0	38.8	*30.1
Total	23.5	46.2	30.3

(a) Proportions are of frequency of access.

(b) Relates to establishments with an EVAO of \$5,000 or more but which are classified to a non-Agriculture ANZSIC class.

COST OF INTERNET ACCESS

Farms with Internet access provided information on the cost of Internet access for the year ending March 1999. These costs included payments to Internet Service Providers and the costs of telephone calls to connect and use the service.

Of farms accessing the Internet, 23% indicated that their Internet costs were \$100 or less in the year to March 1999, 37% had costs in the range \$101–\$250, 24% had costs in the range \$251–\$500, and 10% had costs over \$500. Features included:

- Western Australia (22%) and Queensland (12%) recorded the highest proportion of farms with the greatest Internet access costs of \$501 or more. Northern Territory and South Australia (both with 29%) had the highest proportion of farms with costs of \$100 or less. The Australian Capital Territory (39%) had the highest proportion of farms with costs in the range \$251–\$500.
- The greatest Internet access cost of \$501 or more was most recorded by farms with EVAO of \$1m or more (15%) and EVAO of \$500,000–\$999,999 (14%).
- Horticulture and fruit growing (27%) and Poultry farming (26%) had the greatest proportion of farms with Internet costs of \$100 or less. Dairy cattle farming (46%) and Other crop growing (45%) had the highest proportion of farms with costs in the range \$101–\$250. Other livestock farming (30%) had the highest proportion of farms with costs in the range \$251–\$500.

	\$1–\$100	\$101–\$250	\$251–\$500	\$501 or more	Nil or don't know
	%	%	%	%	%
State					
New South Wales	19.4	38.3	26.3	8.5	7.5
Victoria	25.1	38.5	21.6	8.4	6.3
Queensland	23.3	39.2	19.7	12.4	5.5
South Australia	29.3	38.5	18.7	7.1	6.4
Western Australia	18.5	20.4	33.6	22.0	5.6
Tasmania	22.8	37.7	24.9	8.3	6.2
Northern Territory	29.3	30.5	20.1	*7.4	12.7
Australian Capital Territory	*4.2	39.4	38.8	*8.7	*8.9
Farm size (EVAO)					
Less than \$25,000	25.7	36.3	20.8	11.0	6.3
\$25,000–\$49,999	23.7	31.8	24.4	8.1	*11.9
\$50,000–\$99,999	24.2	41.1	20.0	9.5	*5.2
\$100,000–\$149,999	14.3	38.6	30.7	9.9	*6.4
\$150,000–\$249,999	27.1	38.0	20.2	9.3	*5.3
\$250,000–\$499,999	22.9	37.4	25.2	9.2	5.3
\$500,000–\$999,999	19.3	34.8	26.0	14.1	5.8
\$1m or more	15.5	34.0	29.2	14.6	6.8
Broad farm industry					
Horticulture and fruit growing	26.9	32.9	25.8	9.1	5.3
Grain, sheep and beef cattle farming	21.8	37.9	23.3	10.3	6.7
Dairy cattle farming	21.0	45.7	18.0	12.1	*3.2
Poultry farming	25.9	37.1	21.3	9.9	*5.7
Other livestock farming	17.9	24.9	30.3	*11.8	*15.0
Other crop growing	21.4	44.6	21.4	*9.0	*3.6
Other (b)	20.1	24.8	24.2	*17.8	*13.0
Total	22.7	36.7	23.7	10.4	6.5

(a) Proportions are of cost of access.

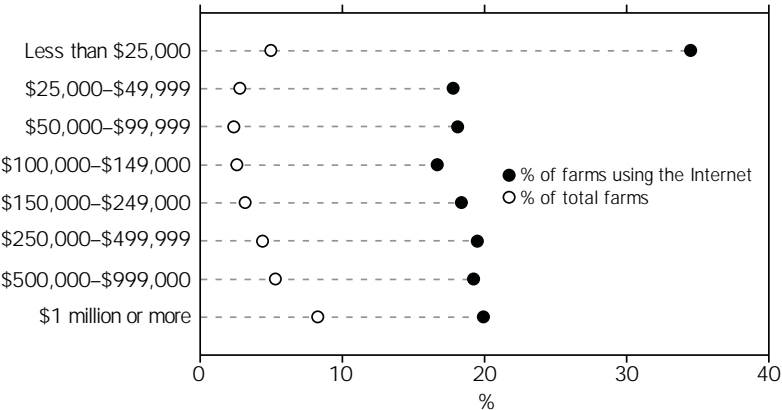
(b) Relates to establishments with an EVAO of \$5,000 or more but which are classified to a non-Agriculture ANZSIC class.

INTERNET SHOPPING

Around 4% of all Australian farms (or 5,608 farms) shopped on the Internet at sometime during the year to March 1999. This means that around 22% of the farms which had Internet access actually used the Internet to shop. The Australian Capital Territory (14%) had the highest proportion of all farms that had shopped on the Internet. Northern Territory farms (6%) were the next highest with the farms in the States ranging from 3% to 4%.

Size of farm The proportion of farms which shopped on the Internet was highest for the largest farm size of \$1m or more (8%) and lowest for farms of size \$50,000–\$99,999 (2%). Around 5% of farms with an EVAO of less than \$25,000 shopped on the Internet. This was around double that for farms with an EVAO of between \$25,000 and \$249,999 where only 2% to 3% of farms had Internet shopping. The higher proportion of farms in the lowest EVAO range may be due to non-agricultural influences. However, for farms with an EVAO above \$250,000, the proportion of farms undertaking Internet shopping rose in line with a higher EVAO (from 4% to 8%).

FARM INTERNET SHOPPING, AUSTRALLIA



Farm industry The broad farm industry groupings which had the highest proportion of farms that had shopped on the Internet were Horticulture and fruit growing and Other livestock (both 6%). The farm industries which had the lowest proportion of farms with Internet shopping were Dairy cattle farming and Grain, sheep and beef cattle farming (both 3%).

	<i>Total number of farms</i>	<i>Number of farms using the Internet</i>	<i>Number of farms Internet shopping</i>	<i>Internet shopping farms as a percentage of farms using the Internet %</i>	<i>Internet shopping farms as a percentage of total farms %</i>
State					
New South Wales	43 994	8 231	1 943	23.6	4.4
Victoria	37 289	6 174	1 328	21.5	3.6
Queensland	31 045	4 830	938	19.4	3.0
South Australia	15 854	3 030	621	20.5	3.9
Western Australia	14 038	2 548	554	21.7	3.9
Tasmania	4 487	973	189	19.5	4.2
Northern Territory	371	114	21	18.4	5.7
Australian Capital Territory	103	27	14	52.0	13.6
Farm size (EVAO)					
Less than \$25,000	34 792	5 073	1 749	34.5	5.0
\$25,000–\$49,999	18 680	2 906	517	*17.8	*2.8
\$50,000–\$99,999	23 815	3 217	582	18.1	2.4
\$100,000–\$149,999	16 052	2 480	415	*16.7	*2.6
\$150,000–\$249,999	21 677	3 821	702	18.4	3.2
\$250,000–\$499,999	19 601	4 436	865	19.5	4.4
\$500,000–\$999,999	8 755	2 406	463	19.2	5.3
\$1m or more	3 810	1 587	316	19.9	8.3
Broad farm industry					
Horticulture and fruit growing	23 041	5 973	1 411	23.6	6.1
Grain, sheep and beef cattle farming	94 175	14 444	3 032	21.0	3.2
Dairy cattle farming	14 000	1 896	348	*18.4	*2.5
Poultry farming	1 411	364	61	*16.8	*4.3
Other livestock	4 966	1 253	304	24.2	6.1
Other crop growing	7 967	1 488	284	*19.1	*3.6
Other(a)	1 621	508	169	33.3	10.4
Total	147 181	25 927	5 608	21.6	3.8

(a) Relates to establishments with an EVAO of \$5,000 or more but which are classified to a non-Agriculture ANZSIC class.

Purchases/orders Features of the purchases/orders made by Internet shopping farms in the 12 months to March 1999 included:

- Computer software/equipment (41% of farm Internet shoppers) and books/magazines (36% of farm Internet shoppers) were the most popular types of purchase/order.
- Purchase/order of farm machinery, materials, livestock, etc. were made by 20% of farm Internet shoppers.
- Entertainment/tickets to entertainment events and Clothing/shoes/sporting equipment (both with 9% of farm Internet shoppers) were the least frequent purchase/order.
- Around 24% of farm Internet shoppers spent over \$1,000 over the year.
- Around 71% of farm Internet shoppers paid for their purchases/orders online.

11

CHARACTERISTICS OF FARM INTERNET SHOPPING(a)

	%
Value of purchases/orders	
\$1–\$50	13.8
\$51–\$100	15.3
\$101–\$250	19.7
\$251–\$500	13.5
\$501–\$1,000	13.7
\$1,001 or more	23.9
Total	100.0
Paid online for goods and services(b)	70.5
Type of goods/services purchased/ordered(c)	
Music e.g. CDs	12.5
Books/magazines	36.1
Computer software/equipment	41.2
Clothing/shoes/sporting equipment	9.2
Travel and holidays including accommodation	19.6
Entertainment /tickets to entertainment events	*8.9
Farm machinery, materials, livestock etc.	19.5
Other	24.7

(a) Proportions relate to farm purchases/orders via the Internet in the 12 months to March 1999.

(b) Farms which purchased and paid for goods/services via the Internet.

(c) Proportions add to greater than 100%, as farms could provide more than one selection.

EXPLANATORY NOTES

INTRODUCTION

1 This publication presents final results on farm use of computers and the Internet at March 1999. The data were obtained from the 1998–99 Agricultural Commodity Survey and the 1998–99 Agriculture Internet Use Survey. Some comparable data from the 1997–98 Agricultural Commodity Survey have been included.

AGRICULTURAL COMMODITY SURVEY

2 The scope of the Agricultural Commodity Survey is establishments undertaking agricultural activity having an estimated value of agricultural operations (EVAO) of \$5,000 or more. Farms with a smaller EVAO were excluded, being considered more akin to hobby farms than farm businesses. The concept of an establishment is the same as that used by the ABS for all industry statistics collections. Generally, the establishment is the smallest accounting unit of business controlling its productive activities and maintaining a specified range of detailed data.

3 The 1998–99 survey sampled approximately 25% of the farming establishments operating in Australia at the end of March 1999. The information technology questions included in the 1998–99 Agricultural Commodity Survey covered use of a computer and the Internet at March 1999.

AGRICULTURE INTERNET USE SURVEY

4 A supplementary survey of approximately 3.5% of farming establishments which had Internet access at March 1999 was also conducted. The questions included in the 1998–99 Agriculture Internet Use Survey covered place and frequency of Internet access, cost of Internet access, services accessed via the Internet and purchases of goods and services via the Internet.

GEOGRAPHICAL, INDUSTRY AND SIZE CLASSIFICATIONS

5 The data contained in tables in this publication have, where appropriate, been classified on a geographical, farm industry and farm size basis by classifying farm establishments:

- to Statistical Divisions (SD) within States and Territories, as set out in the *Australian Standard Geographical Classification (ASGC)* (Cat. no. 1216.0),
- to industry according to the methodology described in *Australia and New Zealand Standard Industrial Classification (ANZSIC)* (Cat. no. 1292.0), and
- to EVAO ranges according to the estimated value of agricultural operations (or activity) undertaken by an establishment.

6 Because the survey covers establishments with an EVAO of \$5,000 or more, it includes establishments whose primary activity is not farming activity. These establishments are classified to a non-agriculture ANZSIC class and details for these are shown separately in the farm industry tables as 'Other'.

7 The estimates in this publication are subject to sampling and non-sampling error.

8 The estimates in this publication are based on information obtained from a sample of establishments in the surveyed population. Consequently, the estimates are subject to sampling variability, that is, they may differ from the figures that would have been obtained if all units had been included in the survey. 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 of units was included.

9 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 a census had been conducted, and approximately 19 chances in 20 that the difference will be less than two SEs.

10 Sampling variability can be measured by the relative standard error (RSE) which is obtained by expressing the SE as a percentage of the estimate to which it refers. The RSE is a useful measure in that it provides an immediate indication of the percentage standard errors likely to have occurred due to sampling, and this avoids the need to refer also to the size of the estimate.

11 The following table provides RSEs for a selection of the Australian estimates presented in this publication.

RELATIVE STANDARD ERRORS FOR SELECTED INDICATORS

	<i>Farms using a computer</i>	<i>Farms using the Internet</i>	<i>Farms with Internet Shopping</i>
State			
New South Wales	1.9	3.9	13.1
Victoria	2.2	4.9	15.4
Queensland	2.3	4.7	20.1
South Australia	1.8	3.7	11.7
Western Australia	1.7	4.0	11.7
Tasmania	1.9	3.5	10.9
Northern Territory	2.1	4.2	18.3
Australian Capital Territory	3.8	8.9	13.1
Australia	0.9	2.0	6.9
Farm size			
Less than \$25,000	3.5	6.6	15.5
\$25,000–\$49,999	4.7	8.3	29.3
\$50,000–\$99,999	3.4	6.5	20.2
\$100,000–\$149,999	3.7	7.3	37.3
\$150,000–\$249,999	2.4	4.7	15.8
\$250,000–\$499,999	1.9	3.3	11.0
\$500,000–\$999,999	1.9	3.2	10.5
\$1m or more	2.0	3.1	11.1
Farm activity			
Horticulture and fruit growing	2.0	3.8	12.6
Grain, sheep and beef cattle farming	1.3	2.8	9.9
Dairy cattle farming	3.1	7.1	30.5
Poultry farming	6.5	9.9	27.7
Other livestock farming	5.0	9.2	23.7
Other crop growing	4.9	9.2	42.1
Other	9.9	15.2	23.6

ACCURACY OF DATA
continued

12 As an example of the above, the estimate of the proportion of farms in New South Wales with Internet access at March 1999 is 18.7% (or 8,231 farms) and the RSE on this estimate is 3.9%, giving a SE of 0.7% (or 321 farms). Therefore, there would be two chances in three that, if all units had been included in the survey, a proportion in the range of 18.0% to 19.4% (7,910 to 8,552 farms) would have been obtained, and 19 chances in 20 (i.e. a confidence interval of 95%) that the proportion would have been within the range of 17.3% to 20.1% (7,589 to 8,873 farms).

13 Errors other than those due to sampling may occur because of deficiencies in the register of units from which the sample was selected, non-response, and imperfections in reporting by respondents. Inaccuracies of this kind are referred to as non-sampling errors and they may occur in any collection, whether it be a census or a sample. Every effort has been made to reduce non-sampling error to a minimum by careful design and testing of questionnaires, efficient operating procedures and systems, and appropriate methodology.

ACKNOWLEDGMENT

14 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*.

ABS PUBLICATIONS

15 The most recent issue of other ABS publications on the use and production of information technology and telecommunication goods and services in Australia are listed below:

Business Use of Information Technology, Australia, 1997–98
(Cat. no. 8129.0)

Computer Services Industry, Australia, 1998–99 (Cat. no. 8669.0)

Government Use of Information Technology, Australia, 1997–98
(Cat. no. 8119.0)

Household Use of Information Technology, Australia, 1998
(Cat. no. 8146.0)

Information Technology, Australia, Preliminary, 1998–99
(Cat. no. 8143.0)

Information Technology, Australia, 1998–99 (Cat. no. 8126.0)

Use of the Internet by Householders, Australia, August 1999
(Cat. no. 8147.0)

Year 2000 Problem, Australia, June 1999 (Cat. no. 8152.0)

AVAILABILITY OF
UNPUBLISHED STATISTICS

16 As well as statistics included in this publication, the ABS has a range of data on the use of selected information technologies in households. Inquiries about these statistics should be made by telephoning Tim Power in Canberra 02 6252 7895 or email tim.power@abs.gov.au.

REFERENCE MAP: AUSTRALIA: STATES, TERRITORIES AND STATISTICAL DIVISIONS



FOR MORE INFORMATION...

- INTERNET** www.abs.gov.au the ABS web site is the best place to start for access to summary data from our latest publications, information about the ABS, advice about upcoming releases, our catalogue, and Australia Now—a statistical profile.
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