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# Technical Paper

Number:

XVI

Title:

FARMS AND FARMERS IN

**AUSTRALIA** ~

How many are there?

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Date:

**June 1979** 



Bureau of Agricultural Economics Canberra

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## FARMS AND FARMERS IN AUSTRALIA - How Many Are There?\*

Garrie Lette Rural Economic Analysis

#### INTRODUCTION

Australian agriculture has changed considerably during the past twenty-five years. Among the more obvious signs of this change is the reduction in the number of people employed in agriculture and the trend towards increasing mechanisation and larger and fewer farms.

Official statistics relating to the numbers of farms and of farmers have tended to vary over the years and between measures because of the different definitions employed when the data were compiled, the different ways in which they have been collected and the different times of collection. It is not surprising, therefore, that there has been some confusion over the actual number of farmers in Australia and the most appropriate measure for deriving estimates of, say, average incomes per farm.

Obviously the appropriateness of a particular measure of the number of farms or of farmers will depend upon the definitions employed in collecting the data and the objectives of doing so. Over the past twenty years or so a number of changes have been made to the definitions. Because of this, no consistent series exists on the numbers of farms and farmers.

It is suggested that, for a number of purposes, the most meaningful concept of a farm is that area, or those areas of land in close proximity, operated commercially by a single managerial entity or farmer. The number of farmers is therefore, equal to the number of farms. Some of the series previously published by the Australian Bureau of Statistics (ABS), which depict numbers of farms and the farm workforce, do not fully accord with this concept. In order to derive historical series, therefore, which are definitionally consistent with the concept, several measures that have been published are reviewed. Adjusted series are then derived which represent as closely as is possible, the number of farm establishments and the size of the Australian agricultural workforce over the past twenty-five years.

### II. CONCEPTUAL ISSUES

When discussing the number of farmers, it is often taken for granted that a farmer is the person who exerts control over a particular farming business, whether it consists of one holding or several separate holdings. This is analogous to saying that a farmer is equivalent to an owner/manager of a private firm which operates one, or several, separate factories under one consolidated set of accounts.

<sup>(\*)</sup> The author wishes to acknowledge the assistance given by Mr I. Roberts and Mr R. Buckland in the preparation of this paper.

In this paper, the view is put forward that each farm, be it one holding or more, should be treated as one economic unit and that the entrepreneurial control of that farm be vested in one farmer. In other words, the term 'farm' is taken to mean that area of land operated commercially by a single managerial entity in a given locality. Given the predominance of one-holding family farms, the further assumption is adopted that the number of farmers corresponds to the number of farms.

The fact is recognised that there are many people in the rural sector, other than those with sole entrepreneurial control, who would classify themselves as farmers. Sociological values and the advantages of income-splitting in order to reduce the incidence of tax as well as the fact that farms are often owned and operated by more than one individual help to explain this.

The measure of the number of farms that is derived is consistent with the one that is used to derive the Bureau's estimate of income per farm which is published regularly in the Quarterly Review of the Rural Economy. The total farm income measure derived by the BAE aggregates all income accruing from all rural production, including output from non-commercial farms. The measure of the number of farms that is proposed excludes non-commercial farms. As a result, estimates of income per farm would be biased upwards. This bias, however, is considered to be slight since non-commercial farms, most of which are either small or not operated primarily for economic purposes, provide only a small proportion of total farm production and income.

## III. SOME RECENT CHANGES IN DATA SERIES

Most Australian farms are commercial undertakings providing the sole or principal basis for the operators' or owners' earnings. There are others, however, which although they are operated commercially don't provide the main source of their owners' earnings. Still others are mainly for recreational purposes while there are also institutional farms such as experimental and prison farms. From the point of view of statistical collections, however, in recent years farms classified as non-commercial or used for purposes other than agriculture have largely been excluded from data (published by ABS) relating to farm numbers. The measures, therefore, are principally representative of commercial farms.

Prior to 1974-75, data relating to farm numbers were collected on the basis of rural holdings, which were defined broadly as any land holding above a minimum area used for agricultural production. This series was discontinued in 1975-76 (refer to the Appendix for more specific definitions of ABS series). In order to relate statistics more closely to the structure of farm businesses, new series were introduced in 1974-75 that were based on the concepts of 'agricultural enterprises' and 'agricultural establishments'.

Broadly, an 'agricultural enterprise' is defined as 'that unit comprising all operations in Australia of a single operating legal entity engaged mainly in agricultural activities'. This provides a measure of the number of businesses in Australian agriculture. However, some businesses operate several farms or establishments in different locations.

An 'agricultural establishment' is defined to cover all operations carried out by one enterprise at a single physical location where those operations are mainly agricultural. It is this definition of an establishment that corresponds most closely to the concept of a farm as previously outlined. Hence the ABS measure of 'establishments' is used as the basis for developing a series depicting the number of farms in Australia.

In their collections, ABS adopt cut-off points with respect to minimum area and/or estimated value of agricultural operations (EVAO). One example where such cut-off points could create problems is the exclusion of a normally commercial farm establishment when the EVAO of the operating enterprise falls below the \$1500 cut-off point due to a prolonged period of low gross incomes. This problem is minimised, however, by the practice of estimating EVAO on a basis that takes account of short-term variations in prices and seasonal conditions. A further requirement that establishments and enterprises derive over half of their income from agriculture could also cause problems since some substantial farms and farming businesses could be excluded.

As well as collecting data relating to the total number of farms ABS classifies farms by industry, or industry groups. For example, a farm deriving more than 50% of its gross receipts from dairying is classified as a dairy farm. Farms are assigned to composite groups, such as sheep-cereal grains, when the combined earnings from the two activities are 75% of the total and neither contributes more than four times the not meeting these criteria are classified multi-purpose. In 1974-75 the various groupings were changed to make them more representative of current production possibilities. in doing so, problems of comparability with previous data were created.

The basis for statistics on the rural workforce has also changed over time. At present the information published by ABS relates to 'persons employed in agriculture'. This includes farmers, family helpers on the farm and hired workers, and is derived from the ABS quarterly population surveys which were instituted in 1964.

Prior to 1964-65, figures for 'persons working permanently on rural holdings' were available from the annual agricultural censuses. These data, which were collected until 1974-75, did not include part-time and temporary workers. However, the information was complemented up to 1966-67 by similarly collected, but not always comprehensive, data on 'temporary employees working on rural holdings'.

Given the definitional and conceptual changes that have been introduced and the fact that future data collections will continue to be based on concepts that differ from those employed in the past, consistent series were developed by working backwards using current definitions. To do this, previous statistics based on definitions which are superseded were adjusted to correspond as closely as possible to definitions currently applying.

The derivation of each series and some of the difficulties associated with estimation are outlined in the next section.

#### IV. DERIVATION OF FARM DATA SERIES

#### (a) The Number of Farms

It was proposed previously that the concept of an establishment was the most appropriate one to use when specifying the number of farms in Australia.

The basis for the derivation of a series based on this concept was the data published on rural holdings for the period 1950-51 to 1975-76 and on the number of agricultural establishments since 1974-75.

For some years only (1959-60, 1965-66, 1968-69, 1970-71 and 1973-74) ABS has provided details of the number of sub-commercial and unused rural holdings amongst the total number. Sub-commercial holdings were those with gross receipts between zero and a certain cut-off value whilst holdings for which no gross receipts could be calculated, for example those used for intermittent grazing or for fruit trees which did not bear during the particular year, were classified as unused.

The agricultural establishments series published by ABS since 1974-75 has also been subject to an economic criterion since 1975-76. In addition, there is a difference, both in level and method of calculation, between the economic criteria used to define establishments and those used to define rural holdings. In concept, however, commercial rural holdings are closer to agricultural establishments than rural holdings as such. An historical series for establishments from 1950-51 to the present day was therefore derived by linking recent data on agricultural establishments with a series derived to represent commercial holdings.

The first step in the derivation of the latter series was to subtract the number of sub-commercial holdings from the total for each of the years for which details were published. Figures for the intermediate years were arrived at through linear interpolation. A decline in the ratio of commercial to total holdings was evident over the period. However, this decline was less rapid in the period between 1959-60 and 1965-66 than in later years. For the years immediately prior to 1959-60, therefore, the ratio was assumed to have declined at a rate that was slower than occurred between 1959-60 and 1965-66. The rate of decline was still lower in the early- to mid-1950s.

A comparable method was not used to derive figures for years subsequent to 1973-74 because of changes in the minimum area criterion. Instead, the average annual rate of decline in the number of commercial holdings between 1965-66 and 1973-74 was assumed to have continued in 1974-75 and 1975-76.

The derived series on commercial holdings was then deflated by the ratio of agricultural establishments to commercial holdings in 1975-76. This was done in order to obtain a series conforming as closely as possible to the current definition of an establishment.

The figures derived in this way are well below those depicting holdings, per se. This is to be expected since the establishments series is

subject to an economic criterion which excludes many small and non-economic farms.

A further difference is that the derived series declines steadily from the mid-1950s. The original holdings series actually rose marginally throughout the 1950s to peak in 1967-68 before falling rather sharply in the late 1960s and early 1970s. This indicates that whilst the actual number of holdings was increasing in the 1950s and 1960s, perhaps due to development schemes and break-up of some farms near the boundaries of population centres, the economic conditions facing the rural sector were already causing a decline in the ratio of commercial to total holdings and in the number of commercial units.

The series derived for the number of farms is shown in Table 1.

## (b) The Number of Farms Classified by Industry

As a result of changes that had occurred in Australian agriculture, the ABS revised its categories of industries and groups of industries in 1974-75. Since that time the industry categories have been based on the Australian Standard Industry Classification (ASIC). The precise means of allocating farms to activities was also altered.(1)

Prior to 1974-75, data relating to holdings classified by industry were published only intermittently, i.e. for 1959-60, 1965-66, 1968-69, 1970-71 and 1973-74. Since 1974-75, data on establishments and enterprises by industry have been published each year. However, these data are available on a consistently defined basis only since 1975-76. In order to derive estimates of the number of farms in each industry in previous years it was assumed that the proportion of establishments in each industry or industry group was the same as the proportion of holdings (establishments in 1974-75) in each industry or industry group. Application of these proportions to the derived series on the number of establishments, yielded estimates of the number of farms classified by industry for those years for which the data were available. These are presented in Table 2.

#### (c) The Agricultural Workforce

The major sources of information on the number of people employed in agriculture are the population censuses, the agricultural censuses and the labour force surveys. Some of the problems associated with the use of these data sources have been discussed by Powell(2) when compiling

<sup>(1)</sup> See ABS, Rural Land Use, Improvements, Agricultural Machinery and Labour, Reference No. 10-59, 1974-75, p. 7 and ABS, Agricultural Sector Part 1 - Structure of Operating Units, Reference No. 10-82, 1976-77, pp. 3-5.

<sup>(2)</sup> See Powell R.A., (1974), Technological Change in Australian Agriculture, 1920-21 to 1969-70, Unpublished Ph.D. Thesis, University of New England, Armidale, 1974, Ch. 3.

Table I

THE NUMBER OF FARMS AND TOTAL AGRICULTURAL WORKFORCE

Year	Farms	Total Agricultural Workforce
1950-51	203 350	476 100
51-52	203 350	478 700
52-53	204 200	487 200
53-54	205 500	490 600
54-55	205 700	486 800
55-56	205 700	484 000
56-57	204 500	482 700
57-58	204 550	482 000
58-59	204 000	473 300
59-60	203 400	458 100
60-61	202 800	449 900
61-62	202 200	454 800
62-63	201 600	444 500
63-64	201 000	436 900
64-65	200 350	430 900
65-66	199 750	424 700
66-67	198 400	418 700
67-68	197 050	415 000
68-69	195 700	405 400
69-70	192 550	407 800
70-71	189 400	403 200
71-72	187 650	396 800
72-73	185 900	383 700
73-74	184 150	374 900
74-75	182 250	367 300
75-76	180 400	362 400
76-77	173 650	356 500

Table 2
THE NUMBER OF AGRICULTURAL ESTABLISHMENTS: BY INDUSTRY

	1959-60		1965-	-66	1968-	968~69 1970-71	1973-	-74	1974-	1974-75		1975-76 197		76-77		
Item .	No.	% of Total	No.	% of Total	No.	% of Total	No.	% of Total	No.	% of Total	No.	% of Total	No.	% of Total	No.	% of Total
Cereal grains	7 850	3.9	12 000	6.0	15 400	7.9	7 150	3.8	14 350	7.8	11 250	6.2	18 950	10.5	19 450	11.2
Oilseeds (not elsewhere classified)											700	0.4	450	0.3	550	0.3
Sheep/cereal grains	31 500	15.5	31 150	15.6	32 650	16.7	31 950	16.9	23 850	13.0	19 950	10.9	23 000	12.7	23 150	13.3
Meat cattle/cereal grains						•					5 150	2.8	4 850	2.7	4 750	2.7
Sheep/meat cattle						,					16 550	9.1	13 650	7.6	13 250	7.6
Sheep	50 200	24.7	42 750	21.4	36 700	18.7	47 500	25.1	29 550	16.1	19 350	10.6	20 150	11.2	19 250	11.1
Meat cattle	10 900	5.3	16 000	8.0	19 550	10.0	23 250	12.3	35 750	19.4	45 500	25.0	30 550	16.9	28 700	16.5
Milk cattle	53 500	26.3	48 300	24.2	41 600	21.3	36 200	19.1	30 650	16.7	26 300	14.4	26 950	14.9	25 300	14.6
Pigs	1 250	0.6	1 550	0.8	2 150	1.1	3 050	1.6	2 700	1.5	3 300	1.8	3 550	2.0	3 B00	2.2
Poultry ) for meat ) for eggs	4 950	2.4	4 100	2.1	3 500	1.8	3 300	1.8	2 500	1.4	600 1 400	0.3	550 1 450	0.3 0.8	600 1 300	0.3 0.7
Grapes	4 350	2.1	4 600	2.3	4 300	2.2	4 350	2.3	4 850	2.6	4 400	2.4	4 750	2.6	4 900	2.8
) Plantation fruit Fruit ) Orchard and ) other fruit	12 850	6.3	11 750	5.9	11 050	5.6	10 950	5.8	9 950	5.4	1 850 6 850	1.0 3.8	2 050 7 250	1.1 4.0	2 000 6 950	1.1
Vegetables ) potatoes ) other	2 200 6 600	1.1 3.2	2 300 6 100	1.2 3.1	2 600 5 850	1.3 3.0	1 550 6 350	0.8	1 900 6 000	1.0	1 800 5 050	1.0 2.8	2 150 5 300	1.2 2.9	2 150 5 400	1.2 3.1
Multi-purpose	7 950	3.9	8 800	4.4	9 450	4.8	3 250	1.7	11 450	6.2	1 100	0.6	550	0.3	450	0.3
Sugar	6 750	3.3	7 400	3.7	7 750	3.9	7 400	3.9	7 150	3.9	5 950	3.3	6 650	3.7	6 650	3.8
Peanuts	,										350	0.2	400	0.2	450	0.2
Tobacco	950	0.5	950	0.5	1 050	0.5	1 150	0.6	1 150	0.6	1 200	0.7	1 050	0.6	1 050	0.6
Cotton											100	0.1	100	0.1	100	0.1
Nurseries and specialised horticultural activities (except forest nurseries)											1 450	0.8	1 350	0.7	1 250	0.7
Agriculture (not elsewhere classified)							•				2 150	1.2	4 650	2.6	2 200	1.3
Other (one main purpose)	1 750	0.9	1 900	1.0	2 150	1.1	1 950	1.0	2 250	1.2						
Total	203 400		199 750		195 650		189 400		184 100		182 250		180 400		173 650	

Note: Since 1974-75 industry groups have been classified on the basis of the Australian Standard Industrial Classification

estimates of the rural workforce for the period 1920-21 to 1969-70. Differences in definitions and in the timing, method and coverage of the collections probably account for most of the discrepancies between the estimates derived from each source. In developing this series, Powell argued that the population censuses, because of the close attention paid to definitions and to the completeness of their coverage, should provide the prime source of data. Agricultural census data and labour force survey estimates do, however, provide useful indications of trends for the purpose of estimating movements in the years between population censuses.

The labour force survey estimates are consistently higher than the population census data. Further, the survey estimates indicate that the number of employers and self-employed in agriculture has tended to rise since 1972-73. Trends in the number of commercial farms, on the other hand, have been downward. Among the reasons why the number of people categorised as farmers for the purpose of the survey has risen is the increasing occurrence of multiple ownership(3) and partnerships and, to a lesser degree, the growth in the number of part-time farmers. The number of farmers who control the operations of commercial farms on a full-time basis, on the other hand, is unlikely to have risen at a time when the number of such farms has been declining. Labour force survey data have not, therefore, been used to derive a series depicting the number of farmers.

The survey data have, however, provided the basis for deriving a series on the total number of people, including farm owners and operators, in agricultural workforce. This is because data from the 1976 population census were not available and workforce data from the annual agricultural census are no longer available. In addition, this approach is consistent with the objective of deriving series which conform to the definitions on the labour force currently published by ABS. The series for the years for which labour. force survey data are available was derived on the basis of annual averages of the quarterly survey data, adjusted to take account of the change-over to the Australian Standard Industrial Classification (ASIC) and to the revisions made by ABS on the basis of the 1971 census to the series for the total number of persons employed in agriculture. For the period prior to 1964-65, the series was extended backwards by linking Powell's series with that derived from the labour force survey over the period 1964-65 to 1969-70.

As has been suggested earlier, there does not appear to be any consistent measure of the number of farmers who could be said to be acting as proprietors or in an entrepreneurial capacity. In cases such as partnerships or less formally defined associations, when two or more people may be running a property, difficulties arise in trying to decide who is the farmer per se and in reconciling figures on establishments with estimates of the number of farmers. For the purposes of consistency, therefore, the number of farmers may be said to equate

<sup>(3)</sup> In 1971-72 there were 143 914 partnerships engaged in primary production. By 1974-75 the number had risen to 152 088. See Taxation Statistics (various issues).

the number of farms. The difference between the total number of those employed in agriculture and the number of farmers is therefore taken to represent employees, unpaid helpers and those people who might classify themselves as part owners.(4) The total rural workforce and the numbers of farmers and employees are indicated in Figure 1 and Table 1.

#### V. SUMMARY

In this paper it has been suggested that the most appropriate concept of a farm is that of an establishment rather than that of a holding.

Data series published by the ABS were reviewed. An historical series depicting estimates of the number of commercial farms were then derived. To do this, published data on rural holdings were adjusted and then linked with currently available data on establishments. Given the predominance of family owned farms, this measure also provided an estimate of the number of farmers. A series on the number of farms, classified by industry, was also developed for a number of individual years.

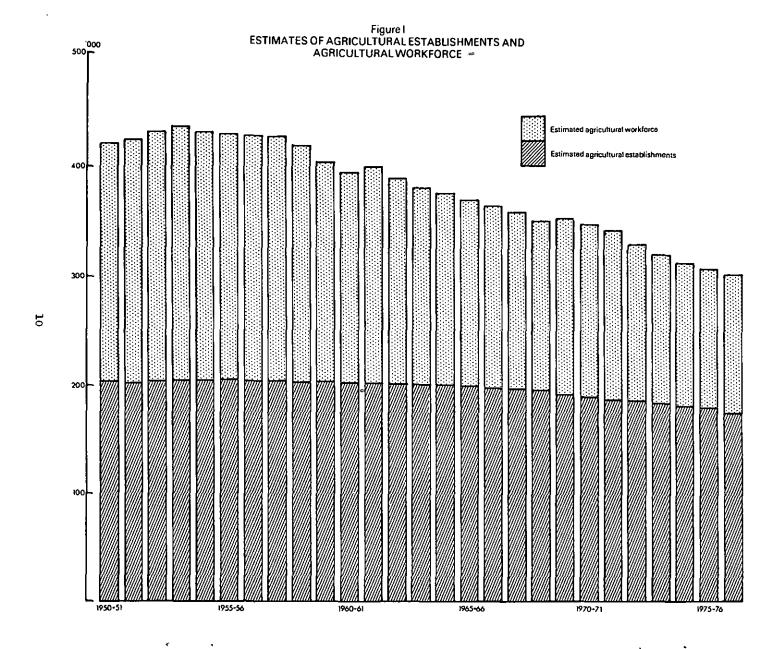
Derivation of an historical series of farm establishments satisfied two aims. It provided estimates of the number of farms over time on a basis consistent with information currently obtained by the ABS. It also yielded data that refer to farm firms which satisfy minimum commercial criteria.

Use of the derived series on the number of farms to estimate average income per farm could result in some upward bias because aggregate farm income incorporates output from non-commercial as well as commercial producers.

To complete the picture, data on the total rural workforce were also discussed and a series constructed which indicates the number of all those employed in agriculture, including unpaid helpers.

The series which were derived show that the number of those working in agriculture has declined persistently since about 1953-54. The number of commercial farms, which reached a peak in 1955-56, has also fallen. The rate of decline in farm numbers was relatively slow, however, until the late 1960s. Since then it has accelerated, the number of farms being some 11% lower in 1976-77 than in 1968-69.

<sup>(4)</sup> This figure must be regarded as an approximation. In addition to the problems associated with part-owners there is also a difficulty that some farm establishments are operated by an employed manager. The first of these factors will tend to overstate the number of employees (and understate the number of farmers) whilst the latter will cause understatement of employees.



#### APPENDIX

Definitions of the various series mentioned in the text, as they were at the commencement of the period or when the series was first published, are presented in this Appendix. Information relating to definitional changes, availability and method of collection is also given. Further details can be obtained from the references cited.

Classification	Availability and Collection	Initial Definition	Definitional Changes	References (see key below)
Rural Holdings	1975-76. No longer published. Collected in the annual agricultural	A land holding of one acre or more in extent (including sub-commercial holdings) used for agricultural production. Smaller areas farmed intensively are also included. Where two more land areas are in close proximity and are worked as one they are combined to form one holding.	From 1973-74 the minimum area criterion was raised to one hectare. In 1975-76 it became 10 hectares.	(a), various issues and (c), various issues.

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Classification	Availability and Collection	Initial Definition	Definitional Changes	References (see key below)
Commercial Holdings	Published for 1959-60, 1965-66, 1968-69, 1970-71 and 1973-74. No longer published. Collected in the annual agricultural census of 31 March.	Holdings meeting the above definition were classified as commercial if they had estimated gross receipts for all products of \$1200 or more. Holdings were classified as sub-commercial if estimated gross receipts were between zero and \$1200 and unused if no gross receipts could be calculated.	For 1965-66 the cut-off value of estimated gross receipts for the holding to be classified as commercial was raised to \$1600. This was further raised to \$2000 for 1968-69 and subsequent years. This series was also affected by the above mentioned change to the holding definition in 1973-74.	(a), 1974-75
Agricultural Enterprises	Published annually from 1974-75. Collected in the annual agricultural census.	That unit comprising all operations in Australia of a single operating legal entity engaged mainly in agricultural activities. An enterprise is regarded as being mainly engaged in agricultural activities if more than half of its income is derived from agriculture.	From 1975-76 enter- prises having an EVAO below \$1500 have been excluded.	(b), various issues.

Classification Agricultural Establishments	Availability and Collection Published annually from 1974-75. Collected in the annual agricultural census of 31 March.	Initial Definition  Covers all operations carried out by one enterprise at a single physical location where the operations are mainly in agricultural activities. i.e. more than half the income is derived from agriculture. There is provision for combining separate areas of land which are in close proximity within a State and operated under one management and one set of accounts into one establishment.	Definitional Changes  From 1975-76 establishments operated by enterprises having an EVAO below \$1500 have been excluded.	References (see key below) (b), various issues.
Commercial Holdings by Type of Activity	Published for 1959-60, 1965-66, 1968-69, 1970-71 and 1973-74. No longer available. Classification is based on information collected in the annual agricultural census.	Commercial holdings were allocated to the particular activity contributing more than 50% of total receipts. Allocation is to the composite of 'sheep and cereal grains' grouping if those activities contribute more than 75% and neither contributes more than four times the other. Farms not meeting these criteria are allocated to 'multi-purpose'.	This series was affected by the change in the definition of a holding in 1973-74.	(a), 1974-75.

Classification	Availability and Collection	<u>Initial Definition</u>	Definitional Changes	References (see key below)
Agricultural Establishments by Industry	from 1974-75. Classification is	Classification of establishments is determined annually by applying unit prices to each agricultural activity undertaken and by then assessing the predominant activity according to the value derived. The predominant activity is the activity which contributes 50% or more to total receipts. Exceptions to this rule, along the lines of those made in the previous category, are made for certain composite classes and for multi- purpose farms. The valuation procedure is designed to offset instability in classifications caused by short-term climatic and price variations. Classification into industry and industry groupings is in accordance with the methodology used in Australian Standard Industria Classification (ASIC).		(b), 1976-77 Note: A useful summary of the differences between the categories available under the alternative methods of industry classification is provided in (b), 1974-75.

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Classification	Availability and Collection	<u>Initial Definition</u>	<u>Definitional Changes</u>	References (see key below)
Persons working permanently full-time on rural holdings	Published annually from 1950-51 until 1974-75 for males (with a four-year break between 1958-59 and 1961-62 inclusive) and from 1950-51 until 1957-58 for females. No longer available. Collected in the annual agricultural census.	Includes all persons other than seasonal or casual workers, females engaged primarily in domestic duties, children attending schools and other persons working only part-time. This category is subclassified into 'owners, lessees and sharefarmers', 'relatives of owners, lessees and sharefarmers over 14 years and not receiving wages or salary' and 'employees, including managers and relatives receiving wages or salary'.	From 1971-72 relatives of owners, lessees and sharefarmers had to be over 15 years to be eligible for inclusion.	(c), various issues and (a), various issues.
Temporary Employees working on rural holdings	Published annually from 1950-51 until 1966-67 for males (with a break between 1958-59 and 1961-62 inclusive) and from 1950-51 until 1957-58 for females. No longer available. Collected in the annual agricultural census of 31 March.	Includes casual or seasonal workers, including contractor for shearing, fencing, etc.	rs	<pre>(c), various issues and (a), various issues.</pre>

Classification	Availability and Collection	Initial Definition	<u>Definitional Changes</u>	References (see key below)
Persons employed in agriculture	Published quarterly from February 1964. Data are collected in ABS quarterly population surveys.	all those who, during the survey week, (a) did any work for pay, profit,	From August 1966 classification of employed persons into agriculture or other industries was based on the classification operating at the 1966 population census. Prior to this the classification operating at the 1961 census was used. Some other minor changes were also made in August 1966. Since March 1973, classi- fication of employed persons into agriculture or other industries has been based on ASIC.	(d), various issues.

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#### REFERENCES

- (a) ABS, Rural Land Use, Improvements and Labour, Australia (annual) Reference No. 10.59. - prior to 1975-76 this publication was entitled Rural Land Use, Improvements, Agricultural Machinery and Labour.
- (b) ABS, Agricultural Sector Part 1 Structure of Operating Units (annual), Reference No. 10.82.
- (c) ABS, Rural Industries, (annual) prior to 1963-64 this publication was entitled Primary Industries Part 1 Rural Industries. Reference No. 10.29.
- (d) ABS, The Labour Force, (annual), Reference No. 6.22.