

SDR 182/2009

10 November 2009

June 2009 Survey of Agriculture and Horticulture: Results for Wales

This First Release contains the headline results from the June 2009 Agricultural and Horticultural Survey for Wales. These results provide broad estimates for the key variables in the industry across Wales as a whole. More detailed results will be published in due course and further details of these can be found in this Release.

Headlines

- The number of sheep and lambs fell by 3 per cent between June 2008 and June 2009. The current total is 8.2 million. The sheep population peaked at 11.8 million in 1999. Since this point, it has shown a broad gradual decline to the position reflected in this Release.
- The total number of cattle and calves fell by 1 per cent between June 2008 and June 2009. This was reflected among both dairy breeds and non-dairy breeds. Dairy female numbers have fallen each year since 2004 whilst the number of beef females has fallen each year since 2005.
- The overall area of agricultural land in Wales risen by 2 per cent to just under 1.7 million hectares in June 2009.
- For the third year, cattle data has been taken from the Cattle Tracing System rather than collected as part of the survey (see note on page 2). It is hoped that other administrative data can be used in the near future.

Main Results

The following tables are presented:

Table 1: Use of agricultural land with comparisons to 1997, 2007 and 2008.

Table 2: Agricultural labour with comparisons to 1997, 2007 and 2008.

Table 3: Numbers of sheep and lambs with comparisons to 1997, 2007 and 2008.

Table 4: Cattle numbers, based on data taken from Cattle Tracing System for the years 2006 to 2009.

Table 5: Numbers of other livestock with comparisons to 1997, 2007 and 2008.

Charts 1 to 5: Charts showing the values of the main agricultural livestock and land use variables in long-term historical time series.

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Next Update: November 2010 (provisional)

Background

The Agricultural and Horticultural Survey provides estimates for all c39,000 holdings in Wales on an annual basis. Approximately 10,600 holdings were included in the survey in June 2009 and returns were received from 69 per cent of these holdings. Data on pigs and poultry were obtained from targeted, specialist surveys which showed much higher response rates.

The Welsh Assembly Government would like to thank all farmers who responded for their co-operation in this survey.

Collection of Cattle Data from Administrative Systems in 2009 (Table 4)

This is the third year in which an element of the June Agricultural Survey data has been collected from administrative systems rather than estimated from returned survey forms. The reasons for this are:

- The Cattle Tracing System covers all holdings with cattle and not just a proportion as is collected in a sample survey. This comprehensive coverage should therefore provide far more accurate results.
- It honours the Welsh Assembly Government's commitment to reduce the burden of paperwork on farmers and other data providers. It is hoped that in future years, additional information will similarly be obtained from other administrative systems to further reduce this burden.

Table 4 shows summaries of this data which are presented by age group and the sex of the animal. Females are defined as being either a dairy breed or other breed, depending on the breed code. In the cases where an animal is classed as dual purpose, its classification as dairy or other is based on the predominant cattle type found on its parent holding.

Modifications to the collection of Labour Data (Table 2)

The labour questions on the June form were changed significantly in 1998 and have also been subject to modifications in their layout since 2000. The main change in 1998 was the inclusion of spouses of principal farmers, directors and business partners (provided that they worked on the holding). This should be borne in mind when making time series comparisons with earlier years' data.

The modifications to the layout of the questions were made following feedback from the validation of previous years' returns where it was apparent that there was a significant element of mis-reporting of data on the forms. An example of this would be in principal farmers also listing themselves as full-time regular workers. The re-design of this aspect of the form is intended to reduce (if not eliminate) these reporting errors but the reader should also take note of this point when making time series comparisons.

Agriculture in the Longer Term Context

Data from this survey (which was conducted as an annual census up until 1995) was first collected in 1867. Charts 1 to 5 present these time series from this date to the present day for sheep, cattle, pigs, poultry and land use. In each case the average value for the variable over the period is shown as a horizontal line on the chart.

Changes to definitions and methods of collection over this long period limit the range of what can be presented. However this set of broad variables does present a broad illustration of changes in the industry during this time.

TABLE 1: LAND AREA (thousand hectares)	1997	2007	2008	2009	% change 2008-2009
Total agricultural area	1,680	1,640	1,635	1,670	2%
Total area on agricultural holdings	1,499	1,460	1,455	1,489	2%
Total crops (inc bare fallow)	75	66	74	82	11%
- Wheat	15	13	20	20	-
- Winter barley	17	7	7	6	-6%
- Spring barley	17	13	15	18	21%
- Oats	4	4	4	4	-4%
- Maize	5	10	11	13	13%
- Potatoes	3	2	2	3	17%
- Crops for stock feeding	6	9	8	9	23%
- Other crops and bare fallow	7	8	8	10	23%
Total vegetables, fruit, horticulture and glasshouse	1	1	1	1	16%
Permanent grassland (a)	913	1,001	1,017	1,027	1%
Grass under 5 years old	151	95	87	88	1%
Sole rights rough grazing	299	210	200	213	7%
All other land (b)	61	87	76	78	2%
Common rough grazing	180	180	180	180	0%

(a) Grassland at least 5 years old

(b) Farm woodland and all other land (eg paths, farm buildings, non-agricultural land)

TABLE 2: LABOUR (thousands)	1997	2007	2008	2009	% change 2008-2009
Total farmers and workers	52.6	57.0	57.6	56.6	-2%
Principal farmers, spouses and partners	35.0	43.3	43.9	43.8	-
Full-time	n/a	20.1	19.5	19.5	-
Part-time	n/a	23.1	24.4	24.3	-
Salaried managers	0.2	0.3	0.4	0.3	-11%
Regular workers	9.7	8.3	8.0	8.0	-
Male full-time	4.4	2.5	2.6	2.6	-
Male part-time	3.5	3.4	3.1	3.2	5%
Female full-time	0.6	0.9	0.9	0.9	-8%
Female part-time	1.2	1.6	1.4	1.3	-4%
Casual and gang labour	7.7	5.1	5.3	4.5	-16%

TABLE 3: SHEEP & LAMBS (thousands)	1997	2007	2008	2009	% change 2008-2009
Total sheep and lambs	10,915	8,987	8,518	8,238	-3%
Breeding ewes	5,488	4,529	4,196	3,996	-5%
Other sheep (aged over 1 year) (a)	317	231	189	204	8%
Lambs (aged under 1 year)	5,110	4,227	4,133	4,038	-2%

(a) Includes rams for service

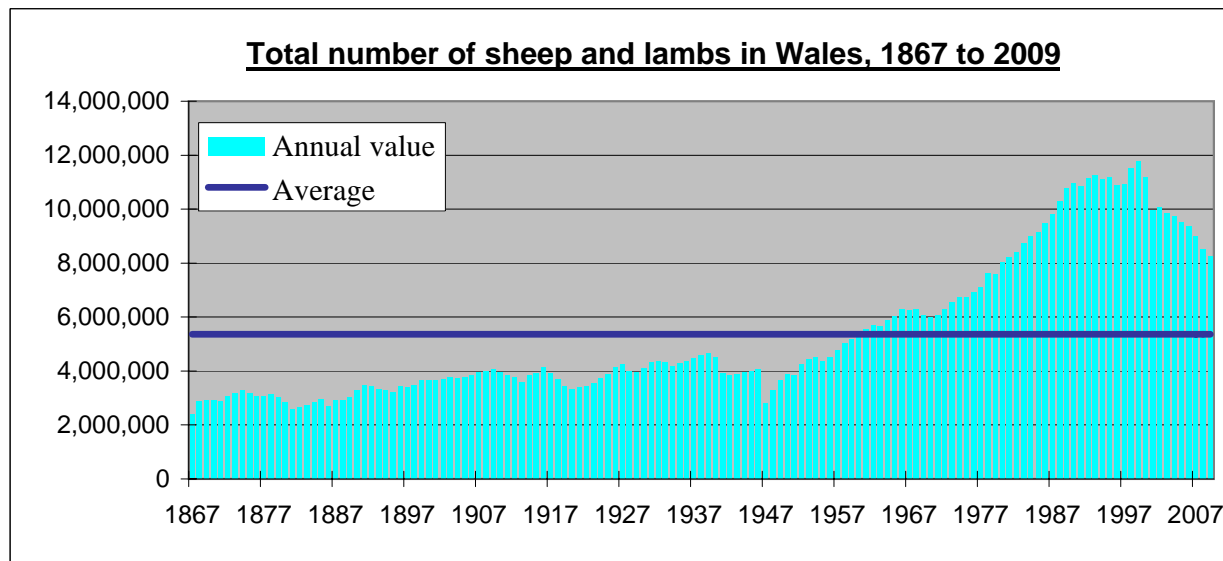
TABLE 4: CATTLE (thousands)	2006	2007	2008	2009	% change 2008-2009
Total cattle and calves	1,216	1,164	1,143	1,130	-1%
Cattle aged 2 or more years	610	585	573	560	-2%
Females - dairy breeds	298	289	282	274	-3%
Females - non-dairy breeds	259	247	242	237	-2%
Males	53	49	48	49	1%
Cattle aged 1-2 years	275	264	256	258	1%
Females - dairy breeds	54	51	53	53	-
Females - non-dairy breeds	104	101	98	95	-3%
Males	117	111	105	109	4%
Calves under 1 year	332	316	314	313	-1%
Females - dairy breeds	52	55	55	62	12%
Females - non-dairy breeds	129	121	117	110	-6%
Males	151	140	143	141	-1%

source: Cattle Tracing System

TABLE 5: OTHER LIVESTOCK (thousands)	1997	2007	2008	2009	% change 2008-2009
Total pigs	99	24	21	22	7%
Breeding pigs	13	4	3	4	10%
Fattening pigs (a)	86	20	18	19	6%
Total horses	37	46	43	45	6%
Total goats	8	9	7	7	-5%
Farmed deer	1	1	1	1	9%
Total fowls and poultry	8,364	7,510	7,170	7,251	1%
Hens, pullets and chicks kept for egg production	1,121	1,555	1,193	1,484	24%
Table chicken (inc table chicks)	6,204	5,644	5,427	5,621	4%
Cocks and cockerels	24	46	44	18	-59%
Turkeys	1,015	215	59	57	-4%
Other poultry		49	51	72	41%

(a) Includes barren sows for fattening

Chart 1: Sheep

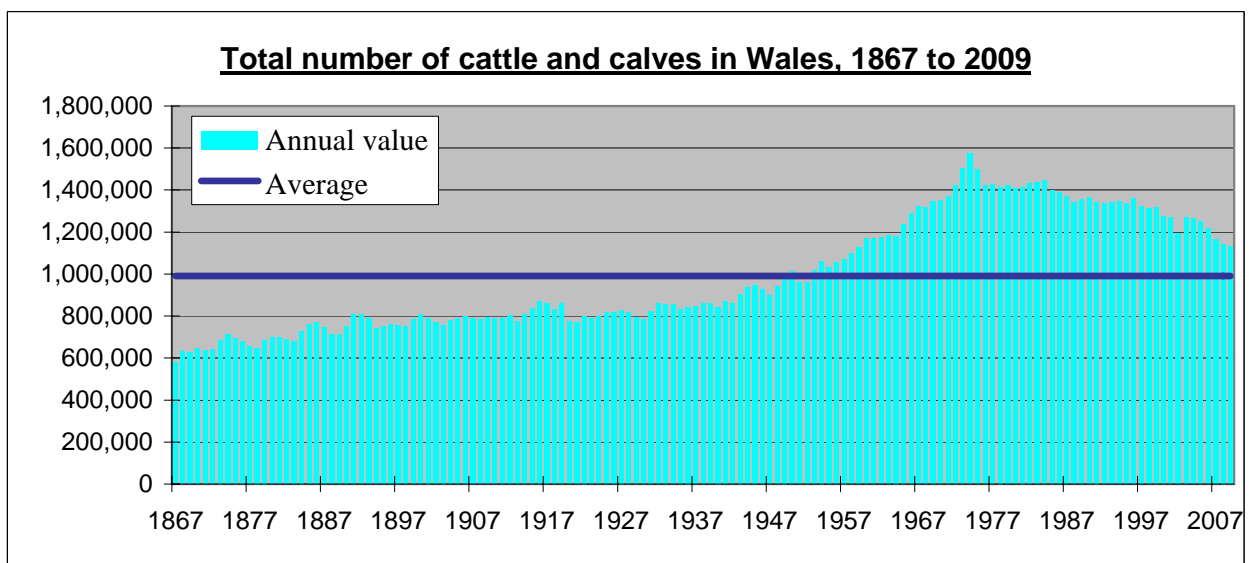


Results from the Welsh Agricultural Survey at June each year

Figures include all sheep and lambs of both sexes and all ages

The average figure shows the annual average over the period 1867 to 2009

Chart 2: Cattle



Up to June 2003 results from the Welsh Agricultural Survey at June each year

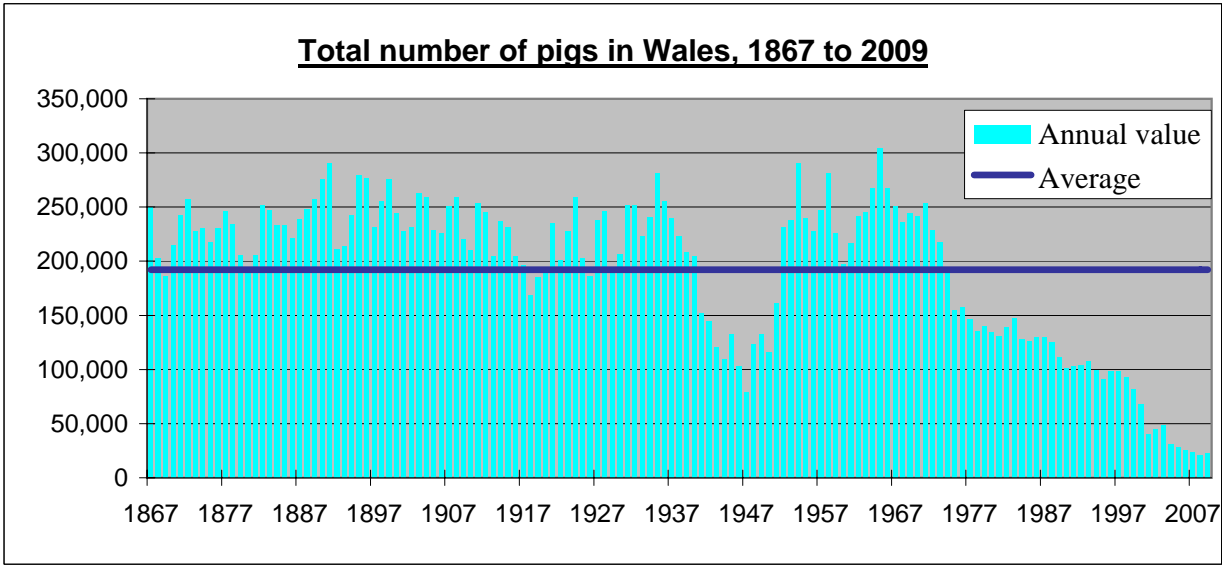
Results from June 2004 onwards are based on data from the Cattle Tracing System

Figures include all cattle and calves of both sexes and all ages

Includes animals used for dairy and beef purposes

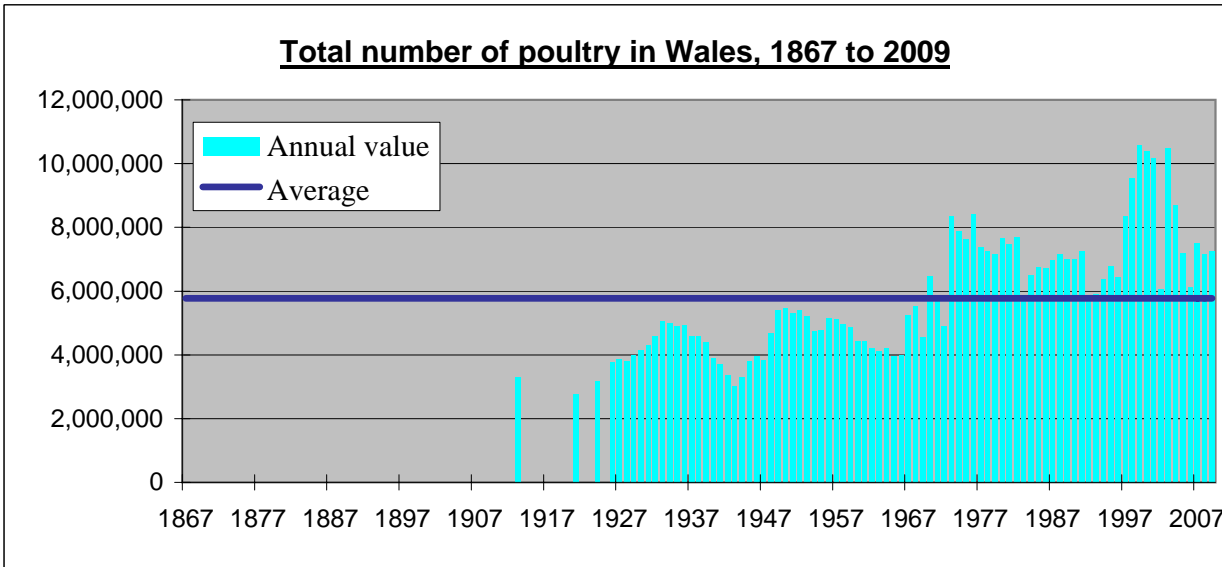
The average figure shows the annual average over the period 1867 to 2009

Chart 3: Pigs



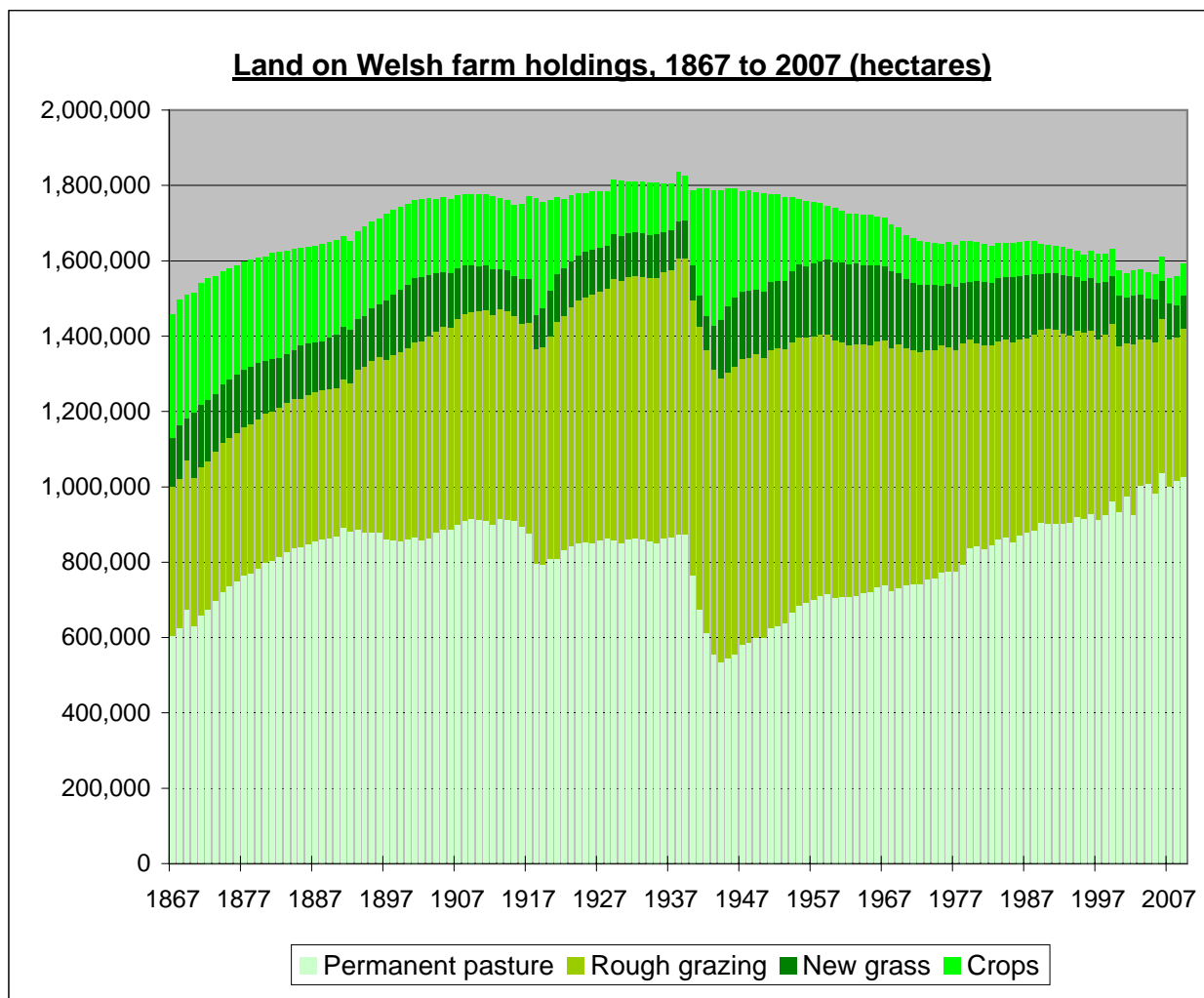
Results from the Welsh Agricultural Survey at June each year
Includes breeding and fattening pigs of both sexes and all ages

Chart 4: Poultry



Results from the Welsh Agricultural Survey at June each year
Includes all types of poultry - chickens for laying or meat, turkeys, ducks, geese
Data are missing or incomplete until 1926

Chart 5: Land



Results from the Welsh Agricultural Survey at June each year

Excludes common land (around 180,000 hectares in 2007)

"Permanent pasture" is grassland aged at least 5 year

"Rough grazing" sole rights rough grazing excluding use of common land

The distinction between permanent pasture and rough grazing is made by the farmer

"New grass" is grassland less than 5 years old

"Crops" is mainly cereals but includes all other crops for human consumption or for stockfeed

Key Quality Information

The sample size and the associated response rate are sufficient to produce broad estimates at a Welsh or regional level. A description of the sample and the method used to produce the estimates is given in Appendix A. The level of detail published in this release has been deliberately selected to give robust figures over a range of years. Additional and more detailed data is available if required but is more liable to suffer from poor data quality.

June Final Results for the Rest of the UK

UK Provisional results were published by DEFRA on 24 September 2009. As of 2008 separate provisional results are not released for Wales since the changes between these and the final results are minimal. Final results of the June 2008 Agricultural Survey for the other UK countries were published or are announced to be published, on the following dates:

- **England** on 19 November 2009 by the Department of Environment, Food and Rural Affairs. It is published on the DEFRA website (www.defra.gov.uk) accessible through the Internet;
- **Scotland** on 23 September 2009 by the Scottish Executive Rural Affairs Department, Economics and Statistics Group, Pentland House, 47 Robb's Loan, Edinburgh, EH14 1YT (Telephone: 0131 244 6149 or www.scotland.gov.uk/topics/statistics);
- **Northern Ireland** on 19 November 2009 by the Department of Agriculture and Rural Development for Northern Ireland, Press Office, Dundonald House, Belfast, BT4 3SB (Telephone: 02890 524528 or www.dardni.gov.uk/econs);
- **United Kingdom** on 10 December 2009 by the Department of Environment, Food and Rural Affairs. It will be published on the DEFRA website (www.defra.gov.uk) accessible through the Internet.

Further Information

More detailed statistics for agriculture in Wales can be found on the statistics pages of the Welsh Assembly Government website. The statistics home page is shown on the front page.

Other than this release, the main outputs relating to agricultural statistics are listed below:

- **Welsh Agricultural Statistics:** an annual reference publication that contains information relating to a range of agricultural areas. This comprises data beyond that collected as parts of statistical surveys and consequently involves a great deal of preparatory work and collation.
Next release due May 2010.
- **Farming Facts and Figures:** a much-abridged version of Welsh Agricultural Statistics that is intended as a quick reference for high level data. Farming Facts and Figures is also published annually.
Next release due June 2010.

- **Agricultural Small Area Statistics:** this presents the most detailed results from the June Agricultural Census each year. To meet the increasing needs for detailed agricultural statistics, this bulletin outlines the trade-off between detail and data quality and provides the user with a data set which attempts to strike a balance between these ends.
Next release due December 2008.
- **December Survey of Agriculture:** this survey is run each December and collects information on numbers of livestock at that time (plus other incidental questions). The information is used to provide an indication of livestock numbers at a time of year when animal movements are at a minimum. Results of this survey are published at the end of the survey.
Next release due March 2010.
- **Agricultural Land Prices in Wales:** this is an annual series which presents summary information on the prices of agricultural land in Wales based on notifications of sales to the Valuations Office Agency. The series is presently suspended due to a fault in the system used for processing sales details.
- **Farm Incomes in Wales:** this annual bulletin presents the results of the Farm Business Survey which is carried out by the University of Wales, Aberystwyth on behalf of the Welsh Assembly Government.
Next Release end November 2009.

For further information on agricultural statistics for Wales, please contact Stuart Neil at the address shown on the front page. The Welsh Assembly Government has agricultural statistics for Wales, which are available over a long historical record.

More general information relating to agriculture can be found on the website of the Assembly's Department for Environment, Countryside and Planning:

www.countryside.wales.gov.uk

Appendix A : Technical notes on the June 2009 survey

Sampling

The sampling framework used for the June 2009 survey was based on a stratified sample of all holdings that were still registered as active as at May 2009. However before sampling, three groups of holdings were excluded from the sampling frame:

1. Specialist Pig Producers: The majority of pigs in Wales can be found on a relatively small number of holdings. (It is estimated that holdings with 40 or more pigs account for over 90 per cent of the pig population of Wales). Since 2004 these holdings have been sent a customised form (with pig questions on the front page. By focussing on the return of these forms in particular we have sought to achieve a higher response rate and thus a more robust estimate for the number of pigs in Wales. This has again been achieved with a response rate of over 90 per cent.

2. Specialist Poultry Producers: In a similar manner to pigs, the majority of poultry is to be found on a small number of holdings. In previous years these holdings were excluded from the main June Survey and the data collected separately in a Poultry Special Exercise. Up to and including 2006 this was carried out by DEFRA for England and Wales with Welsh results being provided to the Welsh Assembly Government. In 2007 the exercise was modified so that DEFRA continued to sample large-scale poultry producing companies with Welsh Assembly Government contacting large individual producers. It also ensured better coverage of the industry as a whole, uncovering some previously unknown holdings. The results were then combined to produce the final poultry estimates.

3. SGM Zeros: These are holdings with no economic agricultural activity. The majority of such holdings are holdings on which the landowner lets all of the land out on a short-term let, though there can be other reasons why no activity is taking place. The number of such holdings has increased significantly in recent years: the current number of such holdings is c14,500. At present they are excluded from the June Survey sample. Instead these holdings are contacted periodically to check whether or not activity has resumed.

The remaining holdings are then divided into five strata based on the size of their SGM. These range from very small hobbyists (eg people with fields adjoining the property with a handful of pet goats) to the very large agricultural operations (eg industrial dairy units). The majority of holdings in Wales tend to fall in the small and medium sized size bands. As examples, a holding falling in the middle of the "Medium" size band could be a sheep farm with a flock of 3,000 animals or farm with a dairy herd of 120 cattle.

The SGM is based on the data associated with a holding from the June 2008 survey (whether returned or imputed). Holdings appearing on the register since that survey will not have any data and thus no SGM. Such holdings are classed as "New" and all of these are included in the sample.

Thus the sampling frame is as follows:

SGM Size Group	Holdings in Population	Sampling Rate	Number Sampled
New	447	100%	447
Very small	12,545	33%	4,182
Small	6,796	40%	2,718
Medium3	2,812	60%	1,688
Large	1,001	100%	1,001
Very large	387	100%	387
			10,423

Result raising

The purpose of the raising process is to obtain estimates for the population totals of each item on the survey form. These estimates will include responders, non-responders and those holdings not surveyed. Result raising is carried out separately for each section of the form (eg crops, sheep, cattle). Before raising, all outliers in that section are identified and are excluded from the raising process.

The raising works by calculating a trend between the sample data and the base data. This trend is then applied to the base data for the missing holdings (ie those who were not sampled or who did not respond). The raising is carried out for each individual item on the survey and produces two estimates.

The first estimate is derived by splitting holdings into their strata (the SGM groups above plus new holdings and ex-minor holdings) and raising an individual estimate for each stratum. These estimates are then aggregated to produce the overall estimate for the item. The second estimate raises a single estimate for the item (irrespective of strata).

The two estimates, along with their associated standard errors, are then compared and the better (in most cases that with the lower error) is chosen. The data not included in the raising (outliers, holdings with outstanding validation errors, new holdings, small holdings and SGM Zeros) are then added to the estimate.