Statistical Publication

Agriculture Series

AN OFFICIAL STATISTICS PUBLICATION FOR SCOTLAND

RESULTS FROM THE
SCOTTISH SURVEY OF AGRICULTURAL PRODUCTION METHODS, 2010

18th October 2012

1. Introduction

The Survey of Agricultural Production Methods (SAPM) formed part of the 2010 EU Farm Structure Survey and recorded details of farming practices across Scotland. This was the first occasion that the SAPM had been carried out in Scotland and, consequently, time series data are not available. The data will be used to inform the development of EU and national policies on agriculture and the environment.

The survey was undertaken on a sample of around 6,000 drawn from the 34,000 holdings included in the Farm Structure Survey, with returns received from 4,400. Since the Farm Structure Survey covered mainly larger holdings, the results published here refer to these larger holdings only, and not of the entire population of agricultural holdings. These holdings however accounted for 97.8 per cent of agricultural land in 2010 so are largely representative of agricultural land use and livestock management in Scotland. More information on how the figures were produced can be found in the methodology section.

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2 Main Findings

Land Use

- Just under 90 per cent of tillage was carried out using **conventional inversion tillage** (ploughing). (Table 1)
- The most common method of **soil cover** was the utilisation of **autumn/winter crops** (44 per cent), with 15 per cent of cultivated land reported as being left bare. (Table 2)

Manure and Slurry

- 35 per cent of holdings with cultivable land **applied manure** on their holdings, compared to the 13 per cent of holdings that **applied slurry**. 15 per cent of those holdings which applied manure incorporated it immediately after application (within four hours) compared to nine per cent of those holdings who applied slurry. (Tables 4-7)
- 23 per cent of holdings had **storage facilities for solid manure**, with **covered** storage available in about one in ten of these. Twelve per cent of holdings had **storage facilities for slurry**, with just over half of these holdings having covered storage facilities for slurry. (Table 8)
- 22,000 holdings had the capacity to produce manure on their holding. Of these, six per cent **exported** a proportion off the holding. (Table 9)

Irrigation

- 501 holdings **irrigated** a total of 8,400ha of land (an average of 17ha for each holding which irrigated its land in the twelve months up to March 2010). **Potatoes** were the most commonly irrigated crop, with 74 per cent of area employing irrigation methods on the crop. (Table 10)
- 62 per cent of those holdings who reported the source of their irrigation water, reported that **off-farm surface water** was the main source of supply. (Table 11)
- Of those holdings undertaking irrigation in the twelve months up to March 2010, the majority (72 per cent) employed **sprinkler irrigation** rather than surface irrigation. No holdings surveyed used both methods on the same holding. (Table 12)
- 14.1 million m^3 of water was used for **irrigation** purposes by 897 holdings, an average of 15,762m^3 per holding. (Table 12)

Boundary features

- Ten per cent of holdings had newly established **tree lines** during the preceding three years, with hedges established in eight per cent of holdings. (Table 13)

Livestock

- Just over 3 million hectares were used for grazing in the twelve months to March 2010, 70 per cent of all the available **grazing land**. (Table 14)
- The most common form of **housing system for cattle** were **straw yards** with a solid manure system, accounting for 57 per cent of places. (Table 15)
- **Straw yards** accounted for just over half of the 410,000 **pig housing** places. (Table 16)
- At the time of the survey, **cages** accounted for 58 per cent of **poultry housing** places, most of which were **cages with a manure belt**. These figures were gathered prior to the EU Directive on cage systems which came into force in January 2012 and do not differentiate between enriched cages and those now banned. (Table 17)

3 Commentary

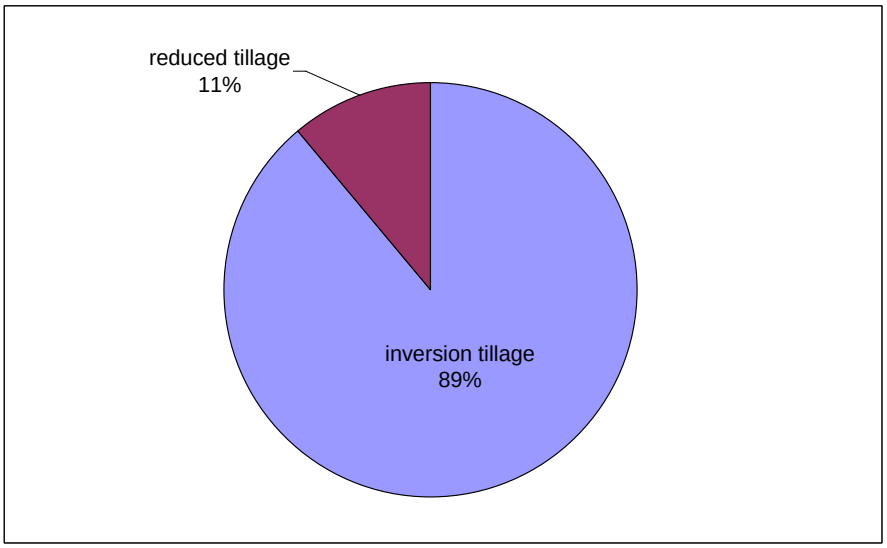
3.1 Tillage Methods (Table 1)

More intensive tillage systems, such as conventional ploughing, leave low levels of crop residue cover, whereas reduced tillage methods leave about 30 per cent or more residue cover. These reduce the amount of soil erosion, soil compaction and fuel consumption. Reduced tillage or no-till systems will increase levels of soil organic carbon, and may result in lower direct carbon emissions from the soil.

In 2010 about 960,000hectares of land was cultivated, excluding permanent crops, grassland and crops under cover. The survey asked whether respondents had used inversion tillage or reduced tillage on the area of land sown/cultivated in the twelve months up to March 2010, with data being received for just over 50 per cent of this land. It is not known how much of the remainder used zero tillage rather than providing an incomplete response. From the data provided, just under 90 per cent of land tilled was done so using inversion tillage. The remainder (11 per cent) underwent reduced tillage.

Inversion tillage appeared to be used more on larger holdings (or on larger areas within holdings), being employed at an average of 53.2 hectares per holding compared to 38.9 hectares for reduced tillage.

Chart 1: Area of arable land by tillage method during the past 12 months



Note: Figures are based on a total of 514,347 hectares. Arable land excludes glasshouse crops, permanent crops and permanent grass. More than one form of tillage may be undertaken on a given holding.

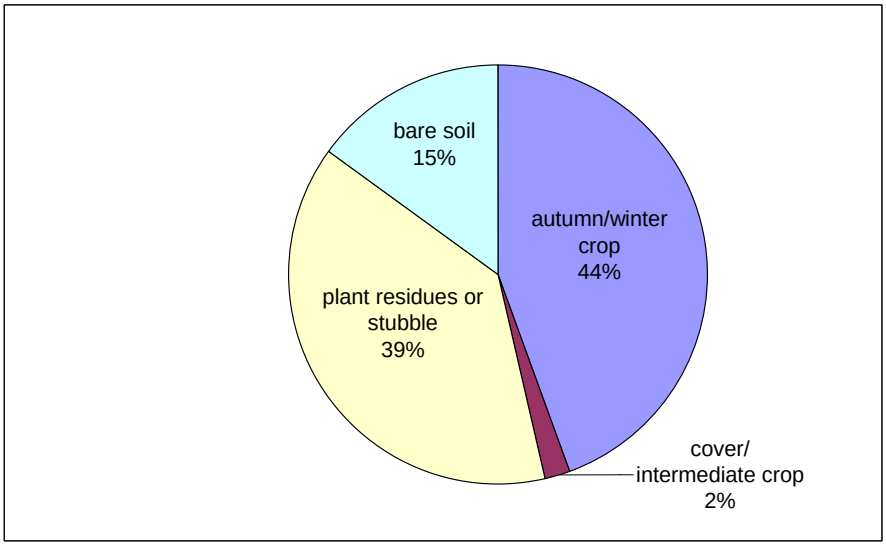
3.2 Soil Conservation (Tables 2-3)

Maintaining soil cover over the winter is a practice aimed at reducing soil erosion and the loss of particulate pollutants (e.g. plant protection products and faecal microbes), in addition to contributing to the amount of organic matter in the soil.

The survey asked about coverage of land sown/cultivated over Winter 2009/10, including if the soil had been left bare. Responses accounted for just under half of the potential 960,000hectares of land. Chart 2 provides a breakdown of the reported soil cover methods used. The most widespread cover on cultivable land was autumn/winter crops, which were used on just over half of the area of land employing soil conservation methods, with 15 per cent of

land reported as being left bare. Autumn/winter crop coverage was also used most on larger holdings or areas within holdings, averaging at 53.0 hectares per holding.

Chart 2: Area of land sown or cultivated over winter 2009/10 by soil cover method

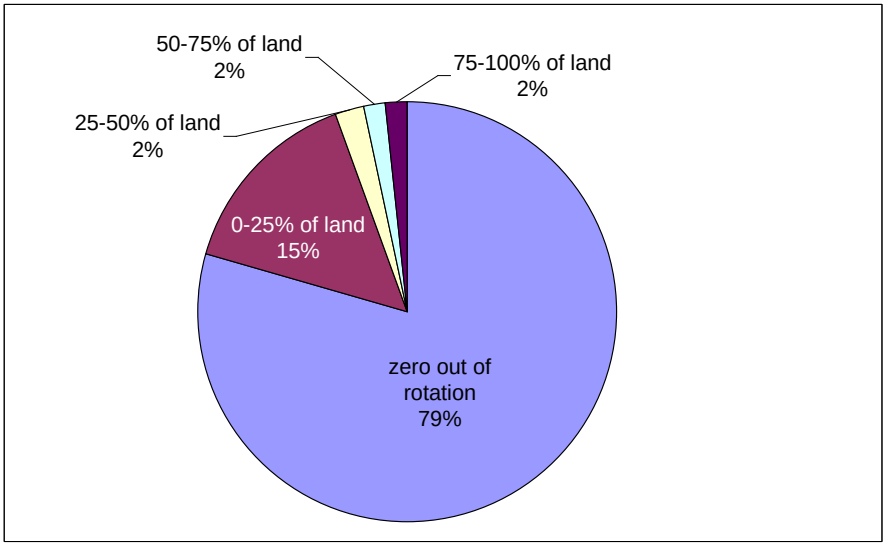


Note: Figures are based on a total of 463,044 hectares. Excludes glasshouse crops and permanent crops and permanent grass. More than one form of cover may be undertaken on a given holding.

Crop rotation is the practice of alternating annual crops grown on a specific field in a planned pattern or sequence. The proportion of arable land not included in a holding's crop rotation is intended to give an indication of the degree to which monoculture is undertaken. The use of monoculture is also linked to environmental disadvantages and can have adverse effects on the productive capacity of the land.

Chart 3 details the proportions of holdings farming agricultural land which took a share of their agricultural land out of crop rotation. The majority (79.5 per cent) did not take any land out of general crop rotation, and of those that did, about three quarters did so with only 0-25 per cent of their arable land.

Chart 3: Distribution of holdings by percentage of arable land taken out of general crop rotation

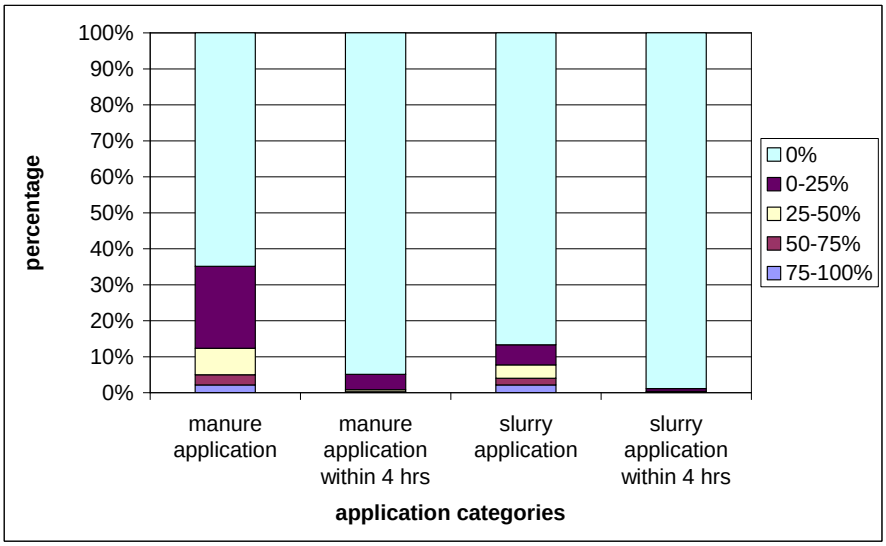


Base: 15,595 holdings
Note: Excludes glasshouse crops, permanent crops and grass

3.3 **Manure and Slurry** (Tables 4-9)

Immediate incorporation of manure and slurry, following application onto fields, can reduce environmentally harmful ammonia emissions and odours and preserves nitrogen in the soil. A threshold of four hours from the time of application to manure and slurry being ploughed in, along with immediate injection of slurry, is used to define immediate incorporation.

Chart 4: Percentage of holdings applying manure and slurry, and on what percentage of their holding.

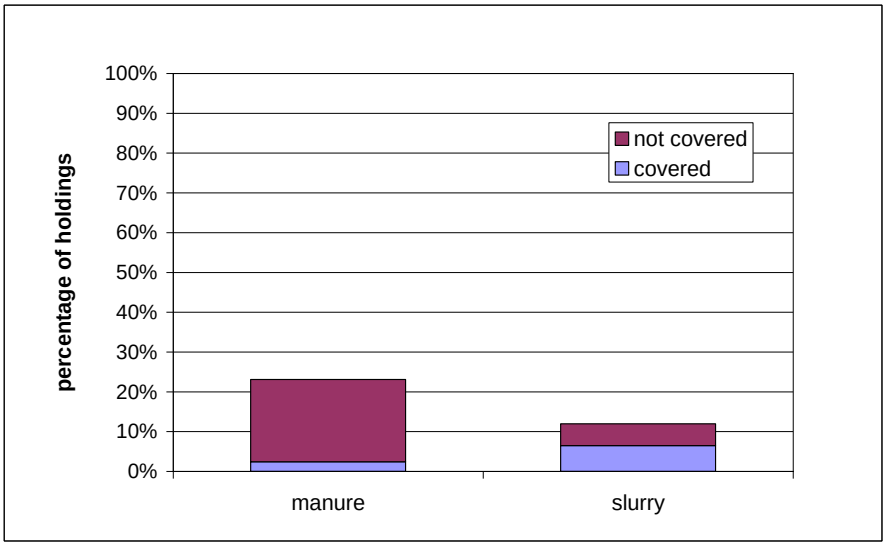


Base: 33,243 holdings

37.2 per cent of holdings applied manure or slurry to part or all of their land. Almost three times as many holdings applied manure as applied slurry on their holding, although most of those applying slurry also applied manure. Only a small proportion of holdings incorporated some or all of it immediately (14.5 per cent of manure users and 8.6 per cent of slurry users).

Covered storage facilities also reduce ammonia emissions, as well as protecting manure from rainfall. 23.1 per cent of all holdings had storage facilities for solid manure, and about one in ten of these had covered storage. 11.9 per cent of all holdings had storage facilities for slurry, with about half of these having covered storage.

Chart 5: Prevalence of storage methods



Base: 12,130 holdings

64.6 per cent of holdings in the survey had the capacity to produce manure. Table 9 details the distribution of exported manure among these holdings. 5.7 per cent of those holdings with the capacity to produce manure exported some quantity off the holding. In turn, the majority of these holdings (749 or 60.4 per cent) exported over half of their manure.

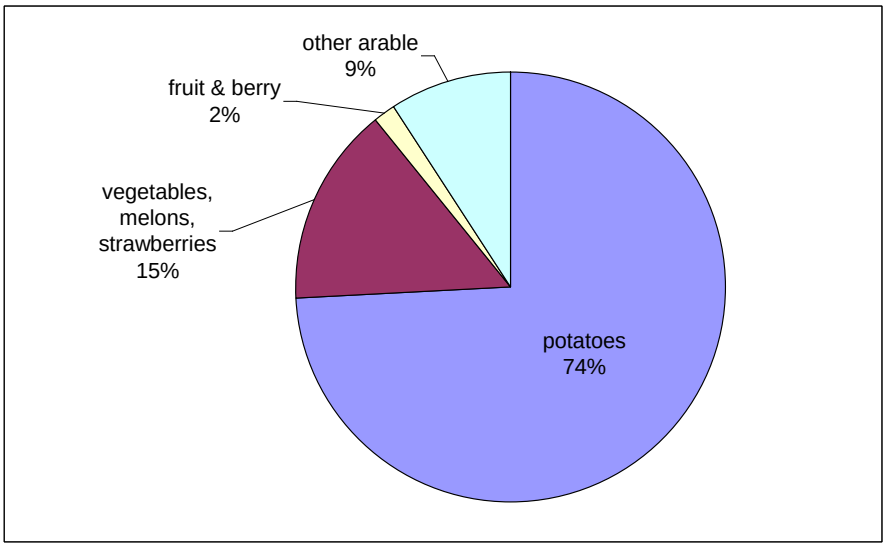
3.4 **Irrigation** (Tables 10-12)

Finding suitable sources of water for irrigation is a major problem in many countries in the EU, and is becoming more of an issue in Scotland in some eastern areas. Additionally, inefficient and unplanned use of irrigation can lead to over-wet soils which can affect yields and lead to leaching of nutrients.

Only 1.8 per cent of holdings had undertaken irrigation in the three years up to March 2010. This amounted to 622 holdings irrigating 18,435 hectares of land (an average of 30 hectares for each holding which irrigated its land in the 3 years up to March 2010).

501 holdings (1.5 per cent of all holdings) had undertaken irrigation in the twelve months up to March 2010. This amounts to 8,400 hectares of irrigated land (an average of 17 hectares for each holding which irrigated its land in the twelve months up to March 2010). Information was requested on the types of crops irrigated, water sources used and irrigation methods employed over the previous twelve months. The chart below demonstrates how this area was distributed among various crop types. The majority of irrigated crops were potatoes (74.1 per cent).

Chart 6: Irrigated area (in last twelve months) by type of crop



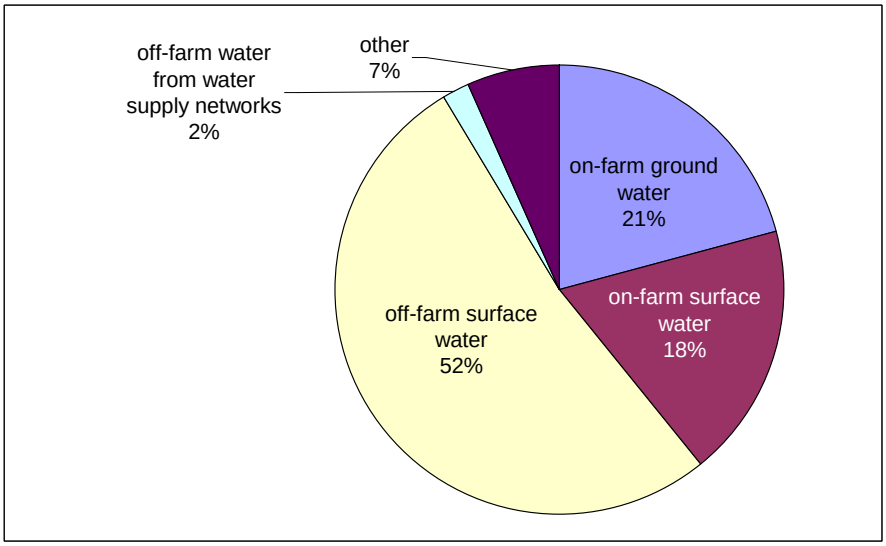
Base: 501 holdings

Responses were sought on the use of surface (flooding and/or furrows) and sprinkler irrigation methods. Holdings solely irrigating glasshouse crops and crops grown in accessible cover were excluded. 28 per cent of holdings undertaking irrigation employed surface irrigation, while the remaining 72 per cent employed sprinkler irrigation. No holdings reported using both of these methods.

Responses were also sought on the sources of water used for irrigation purposes. Please note that respondents were asked for the main source of irrigation, though some holdings reported more than one source. Holdings solely irrigating glasshouse crops and crops grown in accessible cover were excluded.

Of those who stated the source of their irrigation supply, the majority (52.5 per cent) sourced their water from off-farm surface water. On-farm ground water was the second most prevalent source (20.7 per cent) followed by on-farm surface water (18.4 per cent). The chart below details the use of irrigation sources among holdings.

Chart 7: Number of holdings by source of irrigation water



Base: 501 holdings, but with some holdings reporting more than one source

2.6 per cent of holdings reported the volume of water used on their holding for irrigation purposes (this percentage is larger than that given earlier as it also includes holdings irrigating glasshouse crops and crops grown under accessible cover). 14.1 million m^3 were used to irrigate 897 holdings: an average of 15,762m^3 per holding per year.

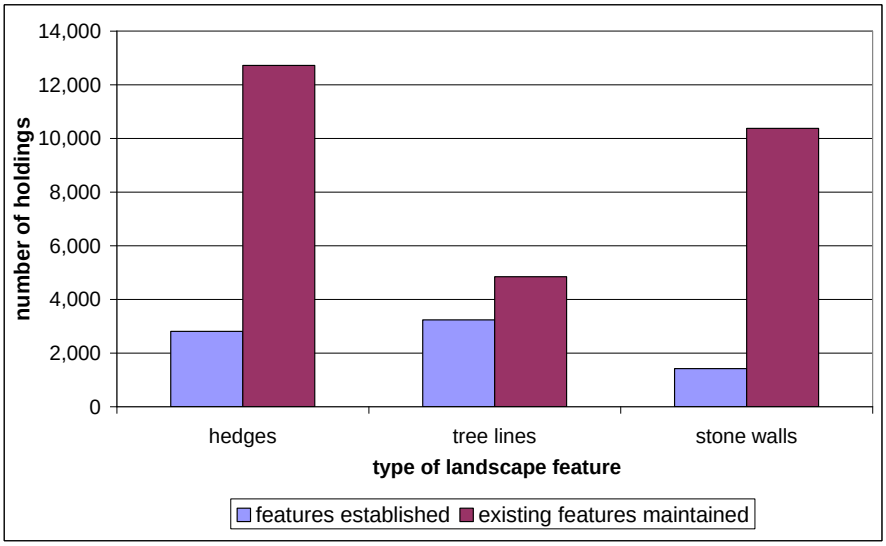
3.5 **Landscape Features** (Table 13)

The establishment and maintenance of boundaries, particularly trees and hedges, is important for providing a habitat for beneficial wildlife as well as providing shelter and shade for livestock. There are bio-security benefits of having a barrier between fields, and established field boundaries can provide a physical barrier to water movement and leaching from soil and provide a wind barrier to reduce soil erosion of bare soils.

5,616 holdings established some form of boundary on their holding during the preceding three years. Tree lines were the most commonly newly established boundary with 9.6 per cent of holdings establishing tree lines on their holding over the preceding three year period.

Overall 18,183 holdings carried out maintenance on some form of boundary in the preceding three years. Hedges were the most common form of boundary undergoing maintenance, with 37.8 per cent of all holdings maintaining (trimming, replanting, etc.) such features on their holdings over the three year period to March 2010. Data are not available on the proportion of holdings which have such features.

Chart 8: Holdings establishing or maintaining landscape features



3.6 **Grazing Livestock** (Table 14)

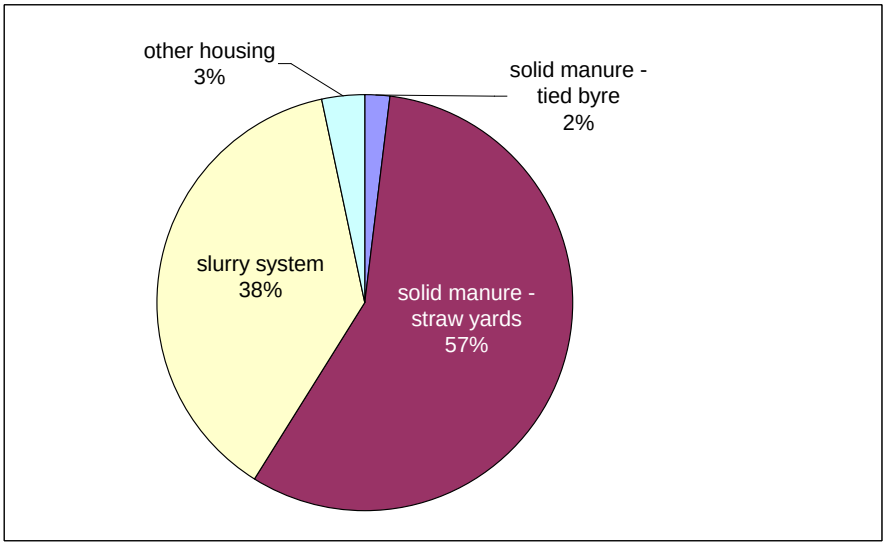
One of the risks to both the sustainability of agriculture and the environment in general in some areas of the EU is that of over-grazing. Under-grazing can also be an issue in Scotland on certain land types where a minimum level of grazing is needed to sustain the habitat for wildlife. Respondents were asked to state the area and the total amount of time cattle and sheep grazed on the holding. Just over 3 million hectares were reported as used for grazing cattle and sheep in the twelve months to March 2010, 70 per cent of all the available grazing land. Table 14 also shows that on average sheep were grazed for 9.9 months whereas cattle were grazed for 7.5 months.

3.7 **Cattle Housing** (Table 15)

The nature and quality of livestock housing is known to affect productivity, as well as having important animal welfare issues. The type of housing and slurry system used is also very important for determining methane and ammonia emissions.

The chart below covers cattle aged six months and over housed over winter 2009/10. 35.7 per cent of holdings had some form of housing for cattle. The most commonly found system was straw yards with solid manure, with 860,000 places in 9,551 holdings. However these recorded an average of 89.8 places per holding, compared to those holdings with slurry based systems which tended to utilise them on a larger scale, with an average of 144.6 places available for each holding.

Chart 9: Cattle housing places by housing type

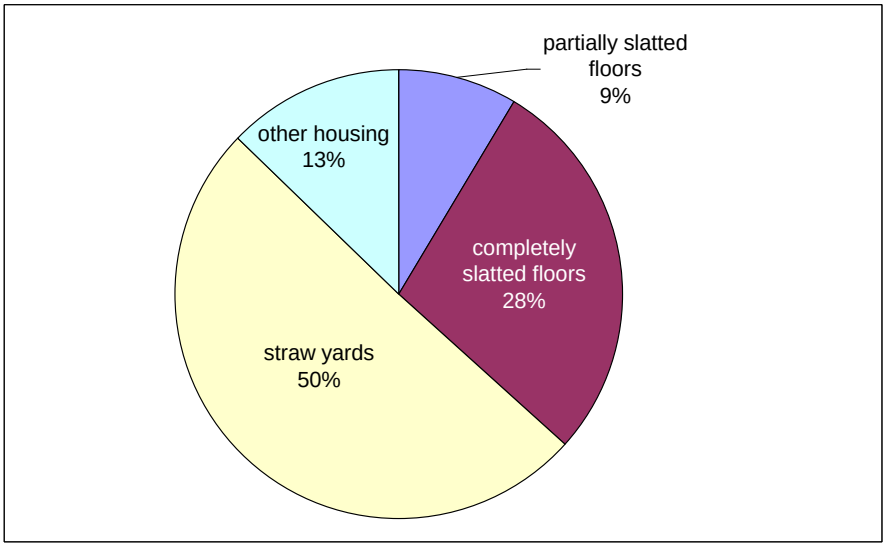


Base: 12,022 holdings
Note: Cattle aged 6 months or less are excluded

3.8 **Pig Housing** (Table 16)

The chart below relates to places for pigs older than four weeks. 3.5 per cent of holdings had housing for such pigs. Straw yards were the most commonplace form of housing, constituting around half of all pig housing places. Though fully slatted floor systems were only found in 83 holdings, these holdings tended to hold more places (1,385 per holding).

Chart 10: Pig housing places by housing type



Base: 1,189

3.9 **Poultry Housing** (Table 17)

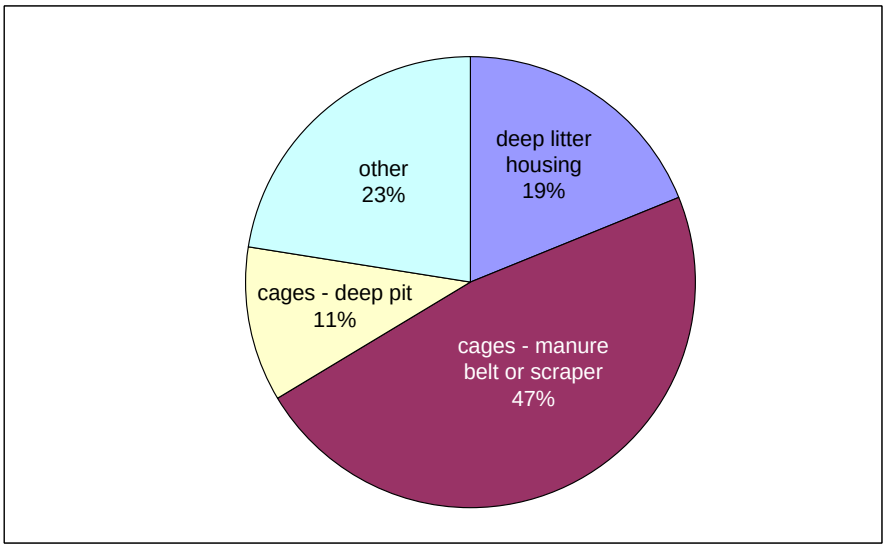
Holdings were asked for the number of laying hens kept in various housing systems. The EU Directive 1999/74/EC on laying hens stated that cage systems must have at least 750cm^2 of cage area per hen (known as enriched cages). They must also provide a nest, perching space of 15cm per hen, litter to allow pecking and scratching and unrestricted access to a feed trough measuring at least 12cm per hen in the cage. This directive came into force in January 2012. The survey did not request information to distinguish the number of places using enriched cage systems, and it is expected that some producers would have already sought to comply with the directive prior to the 2012 ban. Since the time of this survey in 2010, all cages would now have been converted, though it is likely that the overall total kept in cages has also reduced.

The total number of housing places for laying hens (6.8 million) exceeded the number of laying hens counted in the June 2010 Census (4.6 million). This difference may be due to:-

- respondents possibly supplying the number of housing places for laying hens as opposed to the number of birds.
- respondents possibly supplying data for all poultry as opposed to just those for laying hens.
- the degree of short-term variability in the poultry population, due both to market conditions or particularly where large poultry units reduce the numbers of birds on their holdings for operational reasons such as the cleaning of premises.

9.9% of holdings held housing for poultry. Cages with manure belts for collecting and transporting droppings were the most commonly reported form of housing, with 47.4 per cent of places being this type. Cage systems, specifically those with manure belts, were also the most populous housing systems, with an average of 50,000 poultry held per holding with these systems.

Chart 11: Poultry housing places by housing type



Base: 3,326

Note: Cage figures include both enriched cage systems and those types now banned. Other includes free range and barn/perchery.

4. Tables

Table 1: Area of arable land cultivated in the past twelve months using various tillage methods

	Hectares	Percentage of tillage	Number of holdings	Hectares per holding
Inversion tillage	457,125.9	*88.9*	8,589	53.2
Conservation tillage	57,221.2	*11.1*	1,471	38.9
Total	514,347.1		9,150	56.2

Note: Sum of sub-categories do not equal total holdings figure as holdings may employ more than one method of tillage. Excludes glasshouse crops and permanent crops and permanent grass.

Table 2: Area of sown or cultivable land over winter 2009/10 by soil cover method

	Hectares	Percentage of cultivable land	Number of holdings	Hectares per holding
Autumn/ winter crops	205,501.2	*44.4*	3,875	53.0
Cover/ intermediate crop	9,845.7	*2.1*	620	15.9
Plant residues or stubble	178,565.4	*38.6*	5,688	31.4
Bare soil	69,131.7	*14.9*	1,919	36.0
Total	463,044.0		8,211	56.4

Note: Sum of sub-categories do not equal base figure as holdings may employ more than one method of soil cover. Sum of percentages may not equal 100 due to rounding. Excludes glasshouse crops and permanent crops and permanent grass

Table 3: Distribution of holdings by percentage of arable land taken out of general crop rotation

	Number of holdings	Percentage of holdings
Zero	12,400	*79.5*
0-25% of arable area	2,314	*14.8*
25-50% of arable area	371	*2.4*
50-75% of arable area	235	*1.5*
75-100% of arable area	275	*1.8*
Total	15,595	

Note: Excludes glasshouse crops and permanent crops and permanent grass

Table 4: Holdings applying manure by percentage of agricultural area

	Number of holdings	Percentage of holdings
0% of agricultural area	21,569	*64.9*
0-25% of agricultural area	7,575	*22.8*
25-50% of agricultural area	2,453	*7.4*
50-75% of agricultural area	933	*2.8*
75-100% of agricultural area	714	*2.1*
Total	33,244	

Note: The total number of holdings in tables 9 and 10 do not agree due to rounding following weighting.

Table 5: Holdings applying slurry by percentage of agricultural area

	Number of holdings	Percentage of holdings
0% of agricultural area	28,821	*86.7*
0-25% of agricultural area	1,860	*5.6*
25-50% of agricultural area	1,239	*3.7*
50-75% of agricultural area	609	*1.8*
75-100% of agricultural area	714	*2.1*
Total	33,243	

Note: Sum of percentages may not equal 100 due to rounding. The total number of holdings in tables 9 and 10 do not agree due to rounding following weighting.

Table 6: Holdings ploughing in manure within four hours by percentage of agricultural area

	Number of holdings	Percentage of holdings
0% of agricultural area	31,546	*94.9*
0-25% of agricultural area	1,433	*4.3*
25-50% of agricultural area	185	*0.6*
50-75% of agricultural area	50	*0.2*
75-100% of agricultural area	29	*0.1*
Total	33,243	

Note: Sum of percentages may not equal 100 due to rounding.

Table 7: Holdings ploughing in or injecting slurry within four hours by percentage of agricultural area

	Number of holdings	Percentage of holdings
0% of agricultural area	32,865	*98.9*
0-25% of agricultural area	263	*0.8*
25-50% of agricultural area	86	*0.3*
50-75% of agricultural area	19	*0.06*
75-100% of agricultural area	10	*0.03*
Total	33,243	

Note: Sum of percentages may not equal 100 due to rounding.

Table 8: Manure and slurry storage (including covered storage)

		All holdings with storage		…of which are covered	
		Number of holdings	Percentage of all holdings	Number of holdings	As a percentage of holdings with storage
Storage for solid dung		7,762	*23.1*	816	*10.5*
Storage facilities for slurry…	in a tank	3,665	*10.9*	2,170	*54.0*
	in a lagoon	702	*2.1*		
		4,016	*11.9*		
Total		9,129	*27.1*	2,745	*30.1*

Note: Sum of sub-categories do not equal base figure as holdings may employ more than one form of storage

Table 9: Number of holdings exporting manure by percentage of manure exported

	Number of holdings	Percentage of holdings
0% manure exported	20,651	*94.3*
0-25% manure exported	331	*1.5*
25-50% manure exported	161	*0.7*
50-75% manure exported	211	*1.0*
75-100% manure exported	538	*2.5*
Total	21,892	

Table 10: Irrigated area (in last twelve months) by type of crop irrigated

	Area irrigated (hectares)	Percentage of irrigated area
Potatoes	6,222.7	*74.1*
Vegetables, melons, strawberries	1,269.5	*15.1*
Fruit & berry	136.7	*1.6*
Other	770.6	*9.2*
Total	8,399.5	

Base: 501 holdings

Table 11: Holdings by source of irrigation water

	Number of holdings	Percentage of holdings
On-farm ground water	124	*24.8*
On-farm surface water	110	*22.0*
Off-farm surface water	313	*62.5*
Off-farm water from water supply networks	11	*2.2*
Other	39	*7.8*
Total	501	

Base: 501 holdings

Note: Sum of sub-categories do not equal base figure as holdings may utilise more than one source of irrigation. Sum of percentages may not equal 100 due to rounding.

Table 12: Method and volume of irrigation

Method of irrigation (number of holdings)	
surface irrigation - flooding and/or furrows	140
surface sprinkler	361
Volume of water used (1,000 m^3)	14,133

Table 13: Percentage of holdings establishing or maintaining landscape features

		Number of holdings	Percentage of all holdings
Features established	Hedges	2,806	*8.3*
	Tree lines	3,235	*9.6*
	Stone walls	1,422	*4.2*
Existing features maintained	Hedges	12,722	*37.8*
	Tree lines	4,844	*14.4*
	Stone walls	10,375	*30.8*

Base: 33,636 holdings

Table 14: Grazing activity in the twelve months up to March 2010

	Livestock numbers	Area grazed	Average months of grazing
Cattle only	842,827	372,919	7.5
Sheep only	1,781,581	602,366	9.9
Cattle and sheep	5,904,233	2,031,979	
Total	8,528,641	3,007,264	

Base: 24,929 holdings

Table 15: Cattle housing places by housing type

	Places	Percentage of places	Number of holdings	Places per holding
Tied byre with solid manure	28,324	*1.9*	1,146	24.7
Straw yards with solid manure	857,864	*57.1*	9,551	89.8
Slurry system (e.g. cubicle systems with scraped passages, Orkney sloped floors)	566,752	*37.7*	3,920	144.6
Other housing	49,935	*3.3*	1,603	31.2
Total	1,502,875		12,022	122.9

Note: Sum of sub-categories do not equal base figure as holdings may employ more than one form of housing. Cattle aged 6 months or less are excluded

Table 16: Pig housing places by housing type

	Places	Percentage of places	Number of holdings	Places per holding
Partially slatted floors	35,100	*8.6*	53	662.3
Fully slatted or perforated floors	114,924	*28.0*	83	1,384.6
Straw yards	207,338	*50.5*	508	408.1
Other housing	52,863	*12.9*	770	68.7
Total	410,225		1,189	345

Note: Sum of sub-categories do not equal base figure as holdings may employ more than one form of housing

Table 17: Poultry housing places by housing type

		Places	Percentage of places	Number of holdings	Places per holding
Deep litter housing		1,289,704	*19.0*	104	12,401
Cages, of which have…	manure belt or scraper	3,229,095	*47.4*	65	49,678
			107	37,187	
	deep pit	749,917	*11.0*	45	16,665
Other housing (e.g. free range, barns, percheries)		1,536,846	*22.6*	3,128	491
Total		6,805,562		3,326	2,046

Note: Sum of sub-categories do not equal base figure as holdings may employ more than one form of housing. Cage figures include both enriched cage systems and those types now banned.

5. Notes

5.1 Background

The survey formed part of the 2010 EU Farm Structure Survey, which gathered information on the main activities of farm holdings alongside information on labour and diversification activities. The bulk of this was collected through an expanded June Census alongside administrative sources. The survey and the questions asked therein were determined by a European Commission requirement and were carried out across the whole of the EU. The information required for SAPM was collected via a postal survey form requesting information as at 15 March 2010.

5.2 Uses of the information

Primarily, the survey is conducted in order to satisfy information requirements of the EU, providing a source of hitherto uncollected information on production methods, livestock housing, the production and storage of manure and slurry, and irrigation. Each member state collects the data, anonymises the records and sends them to Eurostat where they are entered into the Eurofarm database. The survey results will then be used to assess the current status of agricultural production methods in Scotland and the UK, and to monitor and develop agricultural strategy.

The survey also gives the Scottish Government important baseline information in considering the environmental impact of agricultural production. In particular, many farm activities have both a positive and negative impact on Greenhouse Gas (GHG) emissions. In order to properly quantify these, and to promote effective ways of mitigating emissions and enhancing sequestrations, it is important to have robust data that can accurately assess farm practices. Repeating questions in this survey would also allow Scottish Government to monitor changes over time and progress towards the GHG mitigation targets in the Climate Change (Scotland) Act.

5.3 Methodology – data collection

The date for the survey was 15th March 2010. A date in March was chosen in order to ensure that correspondence and queries could be cleared in time for the June Census (particularly given that the June Census itself was expanded in 2010 to accommodate further questions for the Farm Structure Survey).

A holding's eligibility for inclusion in the survey was based on its meeting the threshold of any of the 14 characteristics outlined in the Annex section 6.1. In 2010 there were 33,636 holdings eligible on this basis, accounting for 97.8 per cent of agricultural land.

A sample of just under 6,000 holdings, stratified by size and type, was taken from this population and sent a SAPM form. Around 4,400 holdings returned a form, giving a response rate of 77 per cent. Responses to the SAPM survey were weighted by stratum to provide final figures based on 33,636 holdings eligible for FSS. This method weighted responses based on the ratio of holdings in each stratum in the full dataset to the number of holdings per stratum in the sample. Where numbers of holdings are provided in this publication, these are calculated using weighting factors and then rounded. Please note that, as a result the sum of holdings may not always equal 33,636.

5.4 Data Quality

Relevance

The survey provides important information about agricultural production methods which have consequences for both efficiency and the environmental impact of farming. Both the EU and

the Scottish Government are committed to reducing the environmental impact of the agricultural industry, and monitoring of practices is a vital part of this process.

Accuracy
Data undergo several validation processes as follows; (i) checking for any obvious errors on the paper forms upon receipt, (ii) auto-checking and identifying any internal inconsistencies once loaded onto the initial database, (iii) auto-checking for any inconsistencies in relation to land items in the June Census. A series of validation checks are also set out by the EU. If necessary, farmers are contacted to ensure data are correct. Additional quality assurance is provided at the later stages by utilising expert knowledge within the Scottish Government and the agriculture industry. See also section 5.3 above for details of the sampling and weighting strategies.

Timeliness and Punctuality
Results have been published at the earliest possible occasion, given available resources. However it is recognised that it is now over two years since the survey date. This delay is due to the large amount of data collected at the time, comprising the annual census and additional Farm Structure Survey questions, and the other commitments to the regular cycle of statistical publications, together with a series of data validation procedures run by the EU.

Accessibility and Clarity
These statistics are made available online at the Scottish Government's statistics website in accessible formats (html and pdf versions are available). All data tables are made available in excel format to allow users to carry out further analysis. No data will be published in a form that allows individual responses to be identified.

Comparability: This is the first time that these data have been collected and so no time series information are available.

5.5 Other Publications

Results from all Scottish Government agricultural surveys can be accessed here:

www.scotland.gov.uk/Topics/Statistics/Browse/Agriculture-Fisheries/Publications

Results from previous June Censuses can be accessed here:
www.scotland.gov.uk/Topics/Statistics/Browse/Agriculture-Fisheries/PubFinalResultsJuneCensus

Results from previous December Censuses can be accessed here:
www.scotland.gov.uk/Topics/Statistics/Browse/Agriculture-Fisheries/PubFinalResulsDecCensus

Publications relating to cereal and oilseed rape production can be accessed here:
www.scotland.gov.uk/Topics/Statistics/Browse/Agriculture-Fisheries/PubCerealHarvest

Agricultural Facts and Figures pocketbook. This provides a useful summary of the key statistics in the Scottish agriculture and food sector in a convenient pocketbook format.
www.scotland.gov.uk/Topics/Statistics/Browse/Agriculture-Fisheries/PubFactsFigures

6. Annex

6.1 EU Thresholds for the Farm Structure Survey and the Survey on Agricultural Production Methods

The table below details the thresholds required for holdings to be included in the Farm Structure Survey. A sample of these holdings were sent a Survey of Agricultural Production methods form.

Characteristics		**Threshold**
Utilised agricultural area	Arable land, kitchen gardens, permanent grassland, permanent crops	5 ha
Permanent outdoor crops	Fruit, berry, citrus and olive plantations, vineyards and nurseries	1 ha
Other intensive production	Vegetables, melons and strawberries, which are outdoors or under low (not accessible) protective cover	0.5 ha
	Tobacco	0.5 ha
	Hops	0.5 ha
	Cotton	0.5 ha
Crops under glass or other (accessible) protective cover	Vegetables, melons and strawberries	0.1 ha
	Flowers and ornamental plants (excluding nurseries)	0.1 ha
Bovine animals	All	10 head
Pigs	All	50 head
	Breeding sows	10 head
Sheep	All	20 head
Goats	All	20 head
Poultry	All	1,000 head

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