Canolfan Organig Cymru
Organic Centre Wales

Welsh Organic Producer Survey 2016

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Executive summary

The 2016 Welsh organic producer survey was undertaken by telephone interview during November 2016. A total of 585 Welsh organic producers were identified, and 454 producers were contacted of whom 421 responded (72%), 34 declined. This resulted in 405 completed interviews as 16 producers had decertified from organic farming or retired during 2016. Comparisons with Defra CB data refer to data collected from control bodies for holdings inspected and certified at any time during 2016.

Welsh organic land and livestock

Land use data collected through the producer survey and organic control body (CB) data available through Defra are summarised in Table A below. The survey data recorded approximately 57,000 hectares (ha) of land from 405 respondents. Using the overall survey response rate of 72%, the survey figures were then multiplied up to estimate the total land area of the Welsh organic sector. It was estimated that the sector comprised of approximately 79,000 ha in November 2016 (equivalent to a little over 4% of Welsh agricultural land). This estimate, and that for forage area, correspond closely with the Defra CB data for 2016. While the area of land certified organic fell again in 2016, there was an increased interest in conversion as well as an increase in the number of Glastir Organic agreements and applications.

Table A Welsh organically managed land areas by enterprise and organic status (hectares)

Enterprise	Survey responses				Estimated total from Nov 2016 survey			Defra CB data (2016)		All Wales land*	
	Holdings	Organic	In-conv.	Total	Organic	In-conv.	Total	Holdings	Area	Area	Organic %**
Forage	400	50117	2542	52659	69607	3531	73138	n/a	75697	1663884	4.5%
Arable	58	2261	57	2318	3140	79	3219	129	2571	87436	2.9%
Hortic	38	84	0	84	121	0	121	141	993***	1599	n/a***
Other		1729	109	1839	2402	152	2554	n/a	2197	89959	2.4%
Total	405	54192	2708	56899	75271	3761	79032	618	81458	1842878	4.4%

* Extracted from Welsh Agricultural Statistics 2015 Tables 1.1, 1.4 and 1.5

** Calculated using Defra 2016 CB data

*** Defra 2016 value much higher than previous years and current survey estimates, which may indicate possible overstatement of area

The number of Welsh organic livestock was also surveyed (shown in Table B below). As with the land areas, total livestock figures for the Welsh organic sector were also estimated using the overall survey response rate of 72%, as well as by using the individual enterprise response rates (e.g. 64%) for beef cattle. These estimates were then compared to Defra CB data, giving comparable results for breeding sheep and dairy cows. Depending on livestock type, typically 3-4% of Welsh livestock were managed organically in 2016.

Table B Welsh organic and in-conversion breeding livestock (head)

	Survey recorded data	Total estimated by survey sector response % (Nov 2016)		Total estimated by overall survey response % (Nov 2016)		Defra CB data (2016)	All Wales livestock* (2015)	
							Number	Organic %**
Breeding cattle	5919	64%	9248		8221	n/a	208586	3.9%
Breeding sheep	105517	69%	164870		146551	141513	4742901	3.0%
Dairy cows	7095	69%	11086	72%	9854	10690	300451	3.6%
Laying hens	23968	42%	37450		33289	50505	1553055	3.3%
Sows	18	33%	28		25	11	3232	0.3%

* Extracted from Welsh Agricultural Statistics 2015 Tables 1.1, 1.4 and 1.5

** Calculated using Defra 2016 CB data except breeding cattle where total estimated using overall response % used

Sales

Table C presents numbers of organic livestock sold, including survey responses and estimates for the total Welsh organic sector. The results indicate that in 2016 Welsh organic farms produced an estimated 5,800 finished beef, 140,000 finished lambs and more than 59 million litres of milk. The proportion of livestock sold organically was similar between years, with 42% of fully organic finished lambs (58,190 lambs), 38% of store cattle (1,906 head), and 69% of store lambs (20,688) sold into conventional supply chains due to a lack of organic market, low organic price premiums or livestock not meeting organic market requirements.

Table C Welsh organically managed livestock sales by enterprise and organic status
(survey recorded and total Welsh organic sales estimated from 72% survey response rate)

	Survey responses					Estimated number of livestock sold *			
	Organic	In-conv.	Non-organic	Total	% Non-organic	Organic	In-conv	Non-organic	Total
Finished cattle	3801	93	267	4161	6%	5279	129	371	5779
Store cattle	1930	298	1372	3600	38%	2681	414	1906	5000
Finished lambs	49560	9301	41897	100758	42%	68833	12918	58190	139942
Store lambs	4590	2012	14895	21497	69%	6375	2794	20688	29857
Milk (thou' litres)	42363	250	300	42913	1%	58838	347	417	59601
Eggs (thou' doz.)	547	0	0	547	0%	760	0	0	760
Pigs (all classes)	120	6	6	132	5%	167	8	8	183

*Estimated total calculated with overall survey response rate of 72%

Future intentions of producers

Figure A shows the level of satisfaction of organic producers with the current prices. The figure indicates that pig producers were the least satisfied with current prices, followed by finished lamb producers. Milk, eggs, horticulture and arable producers as well as producers selling directly to consumers were generally more satisfied. For most sectors, the price perceptions were similar or more positive than the previous year, with only pig and dairy producers responding more negatively.

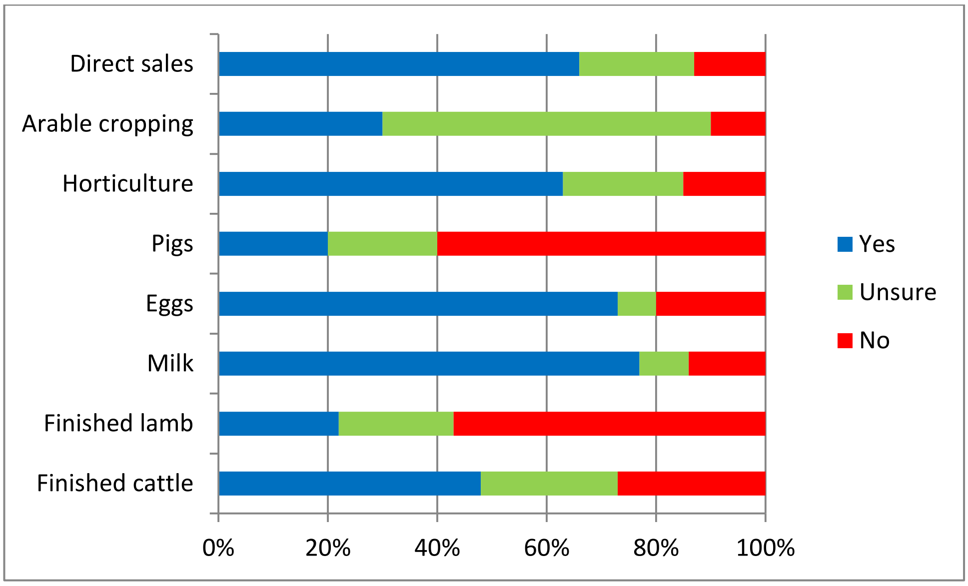

Figure A Are current prices high enough to continue organic production?

The results in Figure B below show that the majority of 2016 survey respondents indicated their commitment to organic farming for more than 10 years, as in 2015, although there is evidence of increasing uncertainty over longer terms prospects.

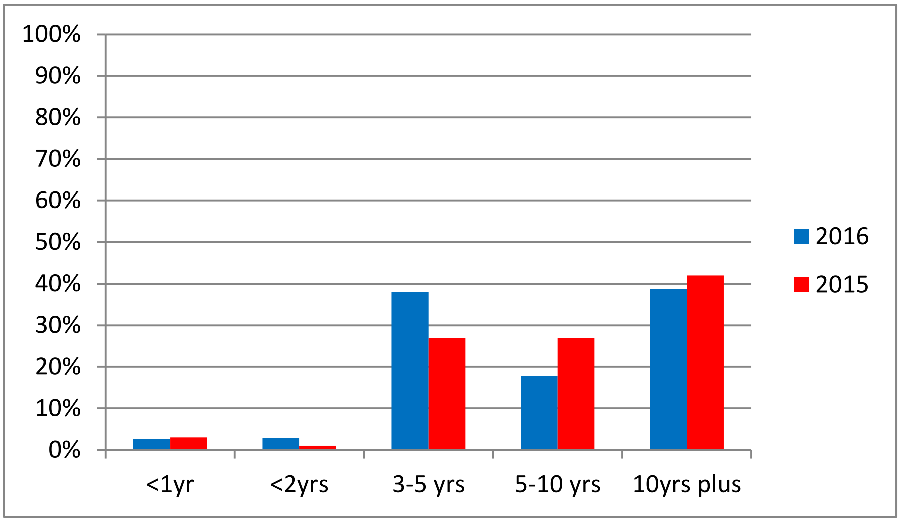

Figure B How long are you intending to continue organic production?

Conclusions

The 2016 survey continued to receive a good response rate from the telephone-only survey method, even though the response rate decreased from 78% in 2015 to 72% in 2016. The majority of beef, milk and cropping outputs are sold into certified organic markets, although the sheep sector and store beef sales continue to suffer losses to the conventional sector at point of sale.

Despite the recent losses within the sector, organic sales remained strong and there was optimism in most sectors, with the exception of the finished lamb and pig sector. The optimism of the surveyed dairy producers in 2015 was confirmed in 2016. The optimism for the future of the overall organic sector has slightly decreased compared to 2015, however still 39% of producers who were surveyed indicated an intention to remain in organic production for 10 years or more and a further 38% for 3-5 years.

Acknowledgements

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- All the producers who participated in the survey – we are aware how much the organic sector is over-surveyed and therefore we hope that this report, and any actions that stem from it, will go some way to making your time input worthwhile!
- The Institute of Biological, Environmental and Rural Sciences, Aberystwyth University staff who helped with the phone interviews and collating the survey responses: Tegid Roberts, Rowland Davies, Nick Reeves, Ian Williams, Huw Williams, Dylan Jones, Eric Jones, Eileen Edwards, Brenda Jones and Nigel Chapman, as well as Tony O'Regan for making their input possible.
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Whilst every effort has been made to ensure the accuracy of the results presented in this report, responsibility for any errors rests with the authors and feedback is always welcome. However, the quantification of the scale of the Welsh organic sector is still an imprecise art and there are significant margins for error.

This report is necessarily a summary of a large quantity of data. Readers wishing for information behind the tables and figures provided are welcome to contact Nic Lampkin at the Organic Research Centre. Also, readers with suggestions for information which would be useful in future reports should contact us.

Contents

Figures

Tables

1 Introduction

This 2016 report is the continuation of a series of annual surveys of organic production in Wales, made possible this year thanks to RDP funding from the Welsh Government. The report aims to provide the Welsh organic sector with up-to-date annual, comparable statistical information and provide data that are otherwise not available from other sources. The survey also aims to provide a means for producers to relay their views on the current state of organic farming to Organic Centre Wales partners and policy makers.

2 Methods

The survey was designed and analysed by the Organic Research Centre based on previous surveys by Organic Centre Wales, with the telephone survey undertaken as previously by specialist farm survey staff within the Farm Business Survey (FBS) unit of IBERS, Aberystwyth University.

The survey contact database was formed through a combination of two data sources: organic certified holdings data supplied to Defra by Control Bodies for 2015, and the OCW producer database, resulting in a database of 585 producers. The survey questionnaire was developed during September and October 2016 with minimal changes to allow comparison with previous years, comprising of an opening section to capture producers' general views about organic farming, a land area and livestock data section and then sections specific to each enterprise, e.g. beef, sheep etc.. As in recent years, the survey was conducted entirely via telephone, although all producers on the contact list were sent a letter outlining reasons for the survey and the type of questions before the phone calls commenced. The survey was conducted in November 2016.

Data collation and analysis was carried out using the same methodology as in previous years, with all survey data extracted to from a database of responses for analysis, and results presented in this report. Where possible, data from the previous year are presented alongside for comparison although, due to slight changes in the survey questions, results may not always be strictly comparable.

Survey-collected data are useful, but to fully understand the implications of the data collected, it is valuable to have figures for the whole organic sector in Wales. Therefore to give estimated results at Welsh organic sector level, it is necessary to multiply up the survey-collected figures to attempt to represent a 100% response level. In the past and for this report, the survey response rate is used to scale up data. This is achieved by dividing the actual survey data by the response percentage. The survey response rate for each enterprise was calculated by dividing the number of each enterprise survey responses by the number of enterprises indicated within the Defra certification data (see Appendix 1). The overall survey response rate was also used to calculate data and is shown for comparison.

Although this methodology assumes representativeness of the sample, it is subject to error and caution should be used when using the data. For the 2016 report, estimates of the 100% organic sector data are shown using both overall survey response and individual enterprise response rates.

3 Defra 2016 organic certification statistics

Organic Centre Wales receives certification data from Defra on an annual basis (see Appendix 1). These data are collected through annual inspection visits to producers by the organic certification bodies (CBs) and are reported to Defra as required under EU organic legislation. Using this data, we undertook a detailed analysis, providing an estimate of the area of organic and in-conversion land and numbers of livestock within Wales, with results shown in Table 1, below. Based on certification data collected during 2016 and Welsh agricultural data for 2015 published by the Welsh Government, the figures show a 12% decrease in the Welsh organic land area during the last two years, to 81,458ha, equivalent to 4% of Welsh agricultural land. The land for organic cereal and potatoes suffered a decrease by more than 30% each.

Table 1 Welsh certified organic and in-conversion holdings and land use (ha), end 2011 to end 2014 (Source: Defra certification data)

		2011	2014	2016	14>16 change	All Wales 2015*	Org. % of Welsh total
Certified organic holdings	No.	964	661	618	-6.5%	24766	2.5%
Total agricultural area	Ha	122718	92922	81458	-12%	1842878	4.4%
Cereals	Ha	2863	2292	1492	-35%	49763	3.0%
Other arable/fodder crops	Ha	2638	414	1079	161%	34827	3.1%
Potatoes	Ha	41	8	6	-31%	2846	0.2%
Horticulture	Ha	271	181	987**	n/a	1599	n/a
Total tillage area	Ha	5854	2895	3564	23%	89035	4.0%
Temp grass	Ha	9662	8622	8601	-0.2%	157501	5.5%
Arable land (inc temp grass)	Ha	15517	11517	12165	5.6%	246536	4.9%
Permanent grass/rough grazing	Ha	105517	81399	67096	-18%	1506383	4.5%
Woodland/other	Ha	1684	n/a	2197	n/a	89959	2.4%

* Extracted from Welsh Agricultural Statistics 2015 Tables 1.1 and 1.4, no. excludes dormant holdings

** Defra 2016 value much higher than previous years and current survey estimates, which may indicate possible overstatement of area

Welsh organic livestock data from control bodies are shown in Table 2, indicating an increase in dairy cows and laying hens (up 53%) since 2014, but a 12% decrease in total cattle numbers, a 23% decrease for breeding ewes and a 35% decrease in sow numbers.

Table 2 Welsh certified organic and in-conversion livestock (head), 2011, 2014 and 2016

	2011	2014	2016	14>16 change	All Wales 2015*	Organic % of Wales total
Beef cows	14111	11928	n/a***	-12% (total cattle)	208586	7%
Dairy cows	13868	10000**	10690		300451	4%
Other cattle	32516	24834	15819***		609942	3%
Ewes	255182	182695	141513	-23%	4742901	3%
Other sheep	275851	190538	143746	-25%	4761076	3%
Laying hens	38251	33013	50505	53%	1553055	3%
Table birds	104394	137017	139569	2%	1632534	9%
Other poultry	9651	38059	38 695	2%	1632534	2%
Sows	72	17	11	-35%	3232	0%
Other pigs	357	177	165	-7%	22063	1%
Other livestock	3604	2777	187	-93%	no data	

* Extracted from Welsh Agricultural Statistics 2014 Tables 2.1, 2.6, 2.10 and 2.11

** estimate as discrepancy in Defra data supplied.

*** cattle for slaughter – beef (suckler) cow numbers not available in 2016

4 Glastir Organic uptake

Despite the decline in the certified land area recorded by Defra, Welsh Government data shows increasing interest in the Glastir Organic scheme, with 567 agreements (covering more than 90% of certified holdings and 85% of certified in-conversion and organic land) operational from January 2017. However, less than a quarter of applicants in the 2016 Glastir Organic window were able to obtain agreements from 2017, and the Welsh Government does not plan, at the time of writing, to reopen the scheme in 2017 for 2018 agreements, unlike the situation in England and Scotland.

Table 3 Welsh certified organic and in-conversion livestock (head), 2011, 2014 and 2016

Contract Year	Active agree-ments	Area (capped) (ha)	Organic status	Rate 1 Horticulture (ha)	Rate 2 Enclosed land (ha)	Rate 3 Upland/Rough grazing (ha)
2015	498	63,391	In Conversion	16.61	6,140.75	2,125.34
			Maintenance	331.12	41,137.58	13,639.68
2016	537	65,130	In Conversion	28.77	7,534.04	2,747.40
			Maintenance	255.33	40,759.61	13,804.53
2017	567	69,158	In Conversion	21.95	4,634.68	1,692.01
			Maintenance	262.15	46,649.27	15,898.31

5 2016 survey results for farms, land use and livestock numbers

5.1 Survey response rates

Table 4 below indicates that the survey achieved a 72% response rate from 421 out of a possible 585 producers contacted. Of these, the survey team identified 13 producers who had decertified from organic production within the last 12 months and three who had given up farming giving 405 useable responses. The 585 producers contacted were based on a contact list provided by Defra of producers certified at the end of 2015. Taking into account the reversions and retirements (which make up 3.7% of the sample, a substantial reduction on previous years), 96% of the population can be assumed to be still farming organically at November 2016, which is consistent with the data supplied by Defra for holdings certified during 2016.

Table 4 Survey responses

	Number	%
Organic producer contact list	585	
Producers contacted	454	
Declines	34	
Producers who responded	421	72.0%
Reverted to conventional farming*	13	3.1%
Given up farming	3	0.7%
Survey completed	405	96%

Approximately 25% of the 455 producers contacted elected to use the Welsh language as a medium of communication for the survey.

The survey comprised of a general section and then various enterprise specific sections e.g. beef, lamb, milk etc. To enable scaling up of survey results to full Welsh organic sector level, survey response rates of different enterprises were calculated. The number of completed enterprise sections is divided by the number of enterprises identified from the Defra data (see Table 1 and Table 2 above). The 2016 survey showed an overall reduction in the number of enterprise sections completed though their percentage completion rates (based upon Defra CB data) showed a similar or increased completion rate. The number of producers completing the direct sales section was similar, despite the reduction in numbers of producers.

Table 5 Completed survey sections

Enterprise type	2016 survey	2015 survey	2014 survey	Defra CB data end			Survey completion rate		
				2016	2014	2013	2016	2015	2014
Beef	219	238	241	339	416	435	65%	57%	55%
Sheep	248	266	271	354	460	468	70%	58%	58%
Dairy	54	56	55	76	84	86	71%	67%	64%
Pigs	6	4	6	15	19	31	40%	21%	19%
Eggs	18	18	19	43	50	61	42%	36%	31%
Fruit & vegetables	38	34	33	195	122	133	19%	28%	25%
Grains & pulses	58	64	69	129	171	185	45%	37%	37%
Direct sales	40	41	56	-	-	-	-	-	-

5.2 Organic and in-conversion farms

5.2.1 Reasons for reversion to non-organic farming in Wales

During 2013 to 2016, a number of producers de-certfied from organic production although the numbers decertifying are reducing. 150 respondents confirmed their de-certification through the 2013 survey, a further 63 and 54 respondents informed the 2014 and 2015 survey respectively that they had decertified. 13 respondents confirmed that they had reverted to non-organic farming in 2016 (see Table 4). Producers indicating that they had reverted were briefly asked why they had taken this decision, with results presented in Table 6 below. The primary reasons for de-certification were the lack of organic market and the expectation of future OFS to be low, whereas in 2015 respondents indicated lack of organic premium as the main reasons for decertifying (note that producers could give more than one reason hence there are 31 responses from the 13 farmers interviewed who had reverted).

Table 6 Reasons for reverting to non-organic farming

Responses	31
High feed price	10%
Lack of organic premium	13%
Lack of organic market	16%
Certification costs	10%
OFS agreement ending	10%
Expect future OFS to be low	16%
Technical issues	0%
Other	26%

5.2.2 Glastir Organic

Of the 405 producers who completed the 2016 survey, 87% were in the Glastir organic scheme, 40% were in Glastir Entry and 43% were in Glastir Advanced. A further 4% of the 405 indicated that they plan to register with Glastir Organic in the future, while 5% indicated they will not.

5.3 Organic and in-conversion land area

As indicated in the previous section, the organic certification data supplied to Defra was collected over a 12 month period in 2016; therefore the data are always retrospective. The 2016 producer survey continued to request producers to provide basic information about their land, its use and organic status. The compiled land data shown in Table 7 provides information for both aggregate land types and individual crops in 2015/16.

Table 7 Organic and in-conversion land area (ha) in Wales (actual survey results)

Crop Type	Fully organic		In-conversion		Share by status	
	Area (ha)	Share	Area (ha)	Share	Organic	In-conv
Grassland (inc. rough grazing)	50117	92.5%	2542	94%	95.2%	4.83%
Fodder crops (inc. legumes, roots)	468	0.9%	12	0%	97.5%	2.53%
Arable forage	778	1.4%	45	2%	94.6%	5.41%
Arable crops (combined)	1015	1.9%	0	0%	100.0%	0.00%
Arable (total)	2261	4.2%	57	2%	97.5%	2.46%
Potatoes	3	0.0%	0	0%	100.0%	0.00%
Horticulture	84	0.2%	0	0%	100.0%	0.00%
Other	1729	3.2%	109	4%	94.1%	5.94%
Total	54195	100%	2708	100%	95.2%	4.76%

The land area data collected through the survey was scaled up to estimate Welsh organic sector totals for the various land categories, based on the overall survey response rate of 72% (see Table 8). The majority of land (ca. 93%) is grassland (temporary, permanent and rough grazing) with the arable area accounting for most of the remainder. The Welsh horticultural area according to the survey results remains very small, although the estimate is affected by the actual low response rate for horticulture. The area of land in-conversion was estimated to be 3761 ha (4.8%) with the Defra figures indicating a higher proportion (almost 10%), representing an increase in the land are currently in conversion compared with previous year.

When compared with 2014 Defra data Table 8 shows the reduction in organic land area.

Table 8 Organic and in-conversion land area (ha) in Wales (total estimated areas and CB data)

Crop Type	Estimated total areas (based on survey response rate of 72%)			Defra 2016 CB data		
	Organic	In-conv	Total	Organic	In-conv	Total
Grassland (inc. rough grazing)	69607	3531	73138	68368	7330	75697
Fodder crops (inc. legumes, roots)	650	17	667	687	195	882
Arable forage	1081	63	1142	-	-	-
Arable crops (combinable)	1410	0	1410	1631	58	1689
Arable (total)	3140	79	3219	2466	932	2571
Potatoes	4	0	4	6	0	6
Horticulture	117	0	117	907*	79	987*
Other	2402	152	2554	2075	122	2197
Totals	75271	3761	79032	73674	7784	81458

* Defra 2016 value much higher than previous years and current survey estimates, which may indicate possible overstatement of area

5.4 Organic and in-conversion livestock

Respondents were asked to provide details of organic and in-conversion livestock retained on their holdings at 31st October 2016. Responses are shown in Table 9 below.

Table 9 Survey recorded organic/in conversion breeding stock retained in 2016 and 2015

	Organic 2016		In-conversion 2016		Total 2016	Total 2015
	Head	Farms	Head	Farms	Head	Head
Breeding cattle	5919	175	168	7	6087	7298
Growing cattle	11000	202	164	7	11164	11859
Replacement beef heifers	860	108	115	7	975	929
Breeding sheep	105517	225	6714	17	112231	118756
Growing sheep	24107	136	1742	11	25849	22397
Ewe lamb replacements	26453	205	1146	12	27599	29581
Dairy cows	7095	51	80	1	7175	8029
Dairy heifers	4223	51	25	1	4248	4679
Laying hens	23968	18	0	0	23968	25594
Sows	18	4	0	0	18	11

The 2016 data generally shows a slight decrease in livestock numbers recorded through the producer survey. From the survey-collected data, estimated total livestock numbers at Welsh organic sector level were then calculated. For comparison, this calculation was undertaken both by calculating the response rate per individual enterprise, as well as by using the overall survey response rate of 72%. Table 10 (estimates from sector-specific response rates) and Table 11 (estimates from overall survey response rate) indicate the estimated Welsh organic sector stock numbers.

Table 10 Total Welsh organic and in-conversion livestock (head), estimated using individual sector response rates

	Sector response rate	Organic 2016	In-conversion 2016	2016 Total (Rounded)	2015 Total (Rounded)
Breeding cattle	65%	9162	168	9300	12800
Growing cattle		17027	164	17200	20700
Replacement beef heifers		1331	115	1450	1600
Breeding sheep	70%	150617	6714	157300	205400
Growing sheep		34411	1742	36200	38700
Ewe lamb replacements		37760	1146	38900	51200
Dairy cows	71%	9986	80	10100	12000
Dairy heifers		5943	25	6000	7000
Laying hens	42%	57257	0	57000	71000
Sows	40%	45	0	45	50

2015 estimates were calculated at 2015 sector response rates (see 2015 Producer Survey report)

Table 11 Total Welsh organic and in-conversion livestock (head), estimated using the 72% overall survey response rate

	Organic 2016	In-conversion 2016	2016 Total (Rounded)	2015 Total (Rounded)
Breeding cattle	8221	233	8500	9400
Growing cattle	15278	228	15500	15200
Replacement beef heifers	1194	160	1350	1200
Breeding sheep	146551	9325	155900	152400
Growing sheep	33482	2419	35900	28800
Ewe lamb replacements	36740	1592	38300	38000
Dairy cows	9854	111	10000	10300
Dairy heifers	5865	35	5900	6000
Laying hens	33289	0	33000	33000
Sows	25	0	25	15

2015 estimates were calculated at 2015 77.9% overall survey response rate

Organic and in-conversion livestock numbers, summarised in Table 12, indicate survey collected numbers and estimated Welsh totals, in addition to 2016 certification data from Defra for comparison. For beef, dairy and laying hens the enterprise specific estimates match the Defra CB data more closely.

Table 12 2016 survey-collected and estimated total Welsh organic and in-conversion livestock data, with 2016 Defra CB data for comparison

Livestock category	Actual survey data	Total estimated by sector response %		Total estimated at overall response %		Defra 2016 CB data
Breeding cattle	6087	65%	9300	72%	8500	30532
Growing cattle	11164		17200		15500	
Replacement beef heifers	975		1450		1350	
Breeding sheep	112231	70%	157300	72%	155900	141513
Growing sheep	25849		36200		35900	143746
Ewe lamb replacements	27599		38900		38300	
Dairy cows	7175	71%	10100	72%	10000	10690
Dairy heifers	4248		6000		5900	-
Laying hens	23968	42%	57000	72%	33000	50505
Sows	18	40%	45	72%	25	11

5.5 Farm diversification

Farm diversification is often a significant source of income for organic farms. Table 13 indicates that in 2016 the number of organic farms surveyed committed to diversification increased for all the diversification activities considered. In particular, diversification into renewable energy has increased in importance in the sector.

Table 13 Reported level of diversification within Welsh organic and converting farm businesses

	2016		2015	
	%	n	%	n
On farm processing	7%	17	4%	15
On farm retailing	8%	18	3%	14
Educational activities	5%	12	0%	2
Tourism activities (with food)	8%	19	2%	9
Tourism activities (without food)	14%	34	11%	46
Agricultural contracting	11%	25	3%	12
Renewable energy	42%	99	26%	108
Other	5%	13	3%	13
Multiple diversification enterprises	-	-	9%	38

6 2016 survey results for organic sales

Certified organic crops and livestock may be sold to organic outlets or non-organic outlets at conventional prices. This section analyses the quantities and proportions of output marketed as organic.

6.1 Livestock sales

Livestock sales recorded through the producer survey are presented in Table 14. Sales were recorded as those sold as certified organic, those sold as in-conversion and those sold conventionally, e.g. due to a lack of organic market. Survey recorded data indicated that reported organic sales were higher in 2016 than 2015 for finished cattle, finished lambs and pigs, but lower for store cattle, store lambs, milk and eggs. The pig numbers should be treated with caution due to the low response rate and small sample size. In-conversion status sales were minimal.

Table 14 Reported livestock sales 2016 (with 2015 data for comparison)

	Organic		Non-organic sales				Total		Responses	
			In-conversion		Other reason				n	
Year	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
Finished cattle	3578	3801	70	93	212	174	5863	4068	94	105
Store cattle	2688	1930	275	298	1040	1074	3573	3302	167	133
Finished lambs	44366	49560	6880	9301	41249	32596	83433	91457	224	203
Store lambs	5379	4590	2190	2012	13418	12883	19546	19485	105	103
Milk (thou' litres)	43285	42362	0	250	0	52	40742	42664	55	54
Eggs (thou' doz.)	788	547	0	0	20	0	461	547	18	18
Pigs (all classes)	84	120	4	6	0	0	194	126	4	6

Results shown in Table 15 indicate that total non-organic sales as a percentage of total sales were higher in 2016 compared to 2015. When analysing the reasons given for selling non-organically, it can be seen from Table 15 that the majority of non-organic beef and lamb sales in 2016 were partly due to difficulties meeting the organic specification or because the organic premium was minimal, and partly also due to a lack of organic market especially for store cattle and store lamb.

Table 15 Reported non-organic livestock sales (excluding in-conversion) and % split, 2015 and 2016

	Reported non-organic sales (excl. in-conv.)		Non-org sales as % of total sales		Due to finishing spec / high conv. prices		Due to lack of organic market		Due to other reasons	
	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016
Finished cattle	212	174	5%	7%	89%	53%	10%	39%	0%	8%
Store cattle	1040	1074	26%	42%	42%	30%	30%	62%	28%	8%
Finished lambs	41249	32596	45%	46%	43%	63%	48%	27%	9%	10%
Store lambs	13418	12883	64%	76%	55%	34%	29%	39%	16%	27%
Milk (thou' litres)	0	52	0%	1%	0%	0%	0%	100%	0%	0%
Eggs (thou' doz.)	20	0	3%	0%	0%	0%	100%	0%	0%	0%

As with the retained livestock data (see Table 9), the actual livestock sales recorded by the survey were scaled up to estimate total sales at Welsh organic sector level, with values calculated by two methods (overall and sector specific response rates). Table 16 shows data multiplied up by the individual sector response rates. Table 17 shows data multiplied up by the overall survey response rate of 72%. Data in Table 16 and Table 17 indicate similar organic sales for the dairy sector in 2016 compared with 2015, but lower organic sales of finished cattle.

Table 16 Estimated total Welsh produced organic livestock sales (based on sector specific response rates)

	Sector response rate	Organic		Non-organic sales: In conversion		Non-organic sales: Other non-organic		Total	
		2015	2016	2015	2016	2015	2016	2015	2016
Finished cattle	65%	6300	5500	100	150	400	300	6700	5950
Store cattle	65%	4700	4100	500	450	1800	1650	7000	6200
Finished lambs	70%	77000	63400	12000	13300	71000	46600	160000	123300
Store lambs	70%	9000	7700	4000	2900	23000	18400	36000	29200
Milk (thou' litres)	71%	64900	61000	0	400	0	100	64900	61500
Eggs (thou' doz.)	42%	2200	1900	0	0	100	0	2200	1900
Pigs (all classes)	40%	400	210	0	10	0	0	400	220

* 2015 estimates calculated at 2015 sector specific response rates (see 2015 producer survey report)

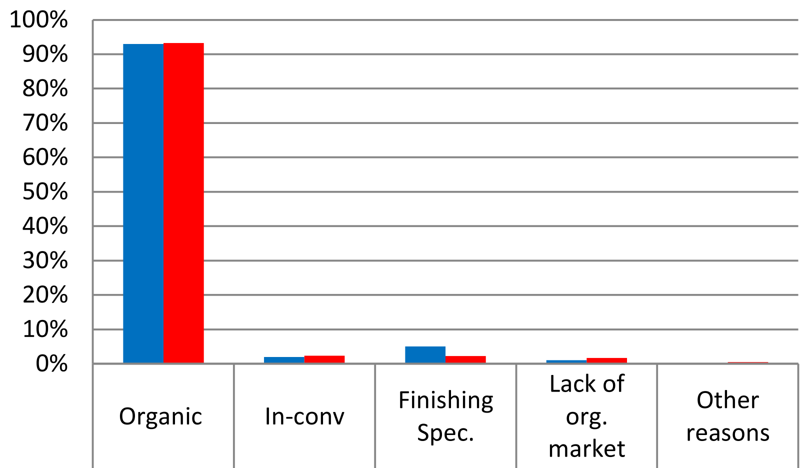
Table 17 Estimated total Welsh produced organic livestock sales (overall survey response rate)

	Survey response rate	Organic		Non-organic sales: In conversion		Non-organic sales: Other non-organic		Total	
		2015	2016	2015	2016	2015	2016	2015	2016
Finished cattle	72%	4600	5300	100	100	300	200	5000	5600
Store cattle		3500	2700	400	400	1300	1500	5100	4600
Finished lambs		57000	69000	9000	13000	53000	45000	119000	127000
Store lambs		7000	6400	3000	2800	17000	17900	27000	27000
Milk (thou' litres)		56000	59000	0	300	0	100	56000	59300
Eggs (thou' doz.)		1000	800	0	0	0	0	1000	800
Pigs (all classes)		100	170	0	0	0	0	100	170

* 2015 estimates based on a 77.9% survey response rate overall

6.1.1 Cattle sales

Figure 1 indicates that virtually almost all finished cattle were sold into organic markets in 2016, with about 5500 cattle sold, fewer than in 2015. Store cattle sales were also lower overall and organic sales fell from 67% in 2015 to 58% in 2016.

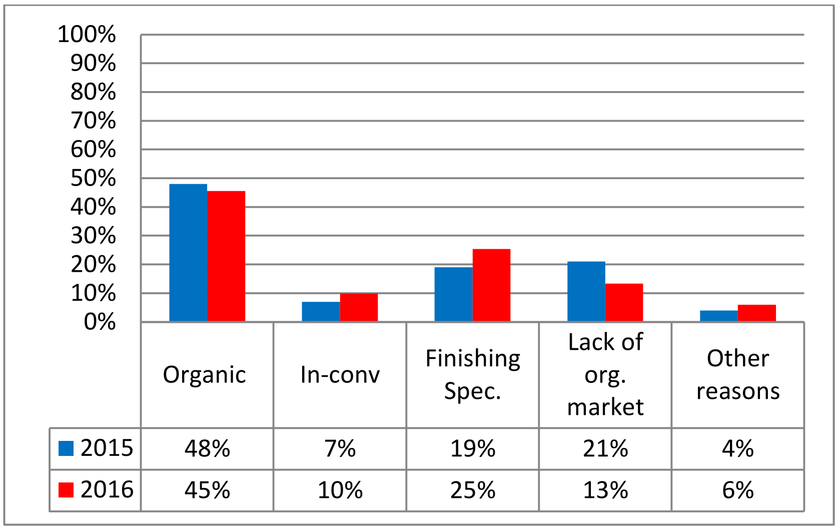


	Organic	In-conv	Finishing Spec.	Lack of org. market	Other reasons
2015	93%	2%	5%	1%	0%
2016	93%	2%	2%	2%	0%

Figure 1 Finished cattle sales 2016 and 2015

6.1.2 Sheep sales

Depending on the approach taken to estimating total finished lamb sales, numbers sold as organic were in the range of 63-69 thousand. The percentage of total organic finished lambs sold organically was about 45% in 2016. The percentage of non-organic sales (excluding livestock in-conversion) was again 44% as in 2015, with most of this being sold conventionally due to finishing specification or high conventional prices and a minority due to a lack of organic market. Total lamb sales across all categories were estimated at about 150,000, fewer than in 2015.



	Organic	In-conv	Finishing Spec.	Lack of org. market	Other reasons
2015	48%	7%	19%	21%	4%
2016	45%	10%	25%	13%	6%

Figure 3 Finished lamb sales 2016 and 2015

The proportion of store lambs sold non-organically fell from 74% in 2015 to 71% in 2016, although 13% were due to in-conversion status.

6.1.3 Milk sales

Milk sales data from the survey indicate that overall organic milk sales were about 60 million litres in 2016. While no non-organic sales were reported in 2015, 300-400 thousand litres of organic milk were sold as conventional in 2016, mostly as in -conversion.

Organic milk price data are still not readily available, but surveyed producers in 2016 indicated the average price at 35.3 ppl, the same price indicated by the 2015 survey.

6.1.4 Egg sales

Organic egg sales appeared to be slightly reduced in 2016 compared with 2015, although due to the small sample and large scale of some producers the margin of error can be quite large and the two estimation approaches yielded large differences in values ranging from 800 to 1900 thousand dozen. The average price received was higher in 2016 at £3.06 per dozen, compared with £2.79 in 2015 but this varied greatly between producers selling in bulk (typically £1.50/doz.) or direct to the public (e.g. £3 plus/doz.).

6.1.5 Pig sales

Organic pig sales appeared to be similar to 2015 sales, however the response rate was very low which affects the robustness of estimates. Both methods resulted in similar estimates close to 200 pigs sold as organic.

6.1.6 Livestock marketing routes

Sales from beef and sheep livestock enterprises were recorded by their marketing route, indicating the sales split between different marketing routes for finished stock (Table 18) and store stock (Table 19).
The 2016 survey indicates an increase in the percentage of finished stock that was sold direct to an abattoir for finished cattle and for finished lamb, with a corresponding reduction in sales through producer groups.

Table 18 Marketing route of organically produced finished beef and lamb sales (2011 to 2016)

	Finished cattle			Finished lamb		
Year	2016	2015	2011	2016	2015	2011
Responses	103	95	150	140	230	372
Direct to Abattoir	77%	73%	69%	86%	61%	57%
Producer Group	7%	9%	14%	3%	3%	6%
Livestock mart.	5%	4%	7%	11%	30%	34%
Direct to public	11%	13%	11%	0%	6%	3%

The store marketing routes for cattle and lamb highlight the high reliance upon marketing through livestock markets, and whilst producer groups encourage sales and purchases through their producer linkages these remain minimal in terms of overall numbers.

Table 19 Marketing route of organically produced store cattle and lamb sales (2011 to 2016)

	Store cattle			Store lamb		
Year	2016	2015	2011	2016	2015	2011
Responses	130	160	246	102	94	166
Producer Group	4%	4%	2%	6%	2%	4%
Livestock mart.	62%	65%	70%	70%	67%	73%
Direct to another producer	34%	31%	28%	24%	31%	22%

6.1.7 Livestock feed and fodder

Purchased and home-grown feed usage is shown in Table 20, with most of the beef sector's feed requirements continuing to be sourced as straight cereals with compound feed comprising only 35% of total requirements. Compound feed continued to comprise a much higher percentage of total feed used for sheep production at 74% of the total. The organic dairy sector continued to use large quantities of compound feed, as well as straights, with almost 10,388t of feed recorded through the survey.

Based on the overall response rate for the survey (72%), it can be estimated that total organic ruminant concentrate feed requirements for Wales were around 19,000 tonnes, similar to 2015. Feed availability was typically rated as good or sufficient, showing a slight improvement on the previous year.

Table 20 Organic livestock concentrate feed use, proportion bought-in, prices and availability

		Feed used		Feed source			Feed prices		Feed availability*	
		t	n	Home-grown	Bought-in	n	£/t	n	rating	n
Beef	Cereal	1180	36	89%	11%	36	211	4	1.22	18
	Protein	26	7	40%	60%	5	587	5	2	5
	Compound	657	89	-	-		364	89	1.66	73
Sheep	Cereal	339.5	27	73%	27%	26	182	8	1.69	13
	Protein	24	7	67%	33%	3	450	5	1.33	6
	Compound	1026.125	148	-	-		386	142	1.55	110
Dairy	Cereal	2108	17	88%	12%	17	240	2	1.43	7
	Protein	518	7	40%	60%	5	452	5	2	7
	Compound	7762	47	-	-		337	47	1.53	40
Poultry	Cereal	10.4	2	100%	0%	1	508	1	1.5	2
	Protein	0	0	-	-	0	-			
	Compound	1096.4	18	-	-		423	18	1.43	14

*Feed availability rated from 1=Good, 2=Sufficient, 3=Difficult, 4=Poor, 0=Don't know/no view

The proportion of home-grown ruminant feed varied from as high as 89% for cereals fed down to 0% for compound fed to beef cattle and sheep. Compound and cereal prices varied from £182/t for cereal for sheep to £587/t for protein for beef cattle. Due to small sample sizes, estimating the total organic feed requirements for the poultry sector was difficult, but using the overall survey response rate of 72% indicated an estimated total of 1537t. This result must be treated with great care, however, as the sample is quite small.

6.1.8 Livestock technical issues

Table 21 highlights the technical issues identified by producers within their organic livestock production system. Forage production remained a concern within the ruminant systems, and health was also a concern in sheep and dairy systems. For beef and sheep producers there was little change in the issues identified compared with 2015, though forage production issues rose in importance for all livestock producers in 2016.

Table 21 Technical issues identified with organic livestock production (2015 and 2016)

	Beef		Lamb		Milk	
	2015	2016	2015	2016	2015	2016
Responses	55	55	67	65	26	19
Forage	6%	9%	2%	6%	13%	15%
Health	4%	4%	10%	10%	14%	9%
Concentrate (energy)	3%	3%	4%	4%	4%	4%
Biosecurity	0%	1%	0%	0%	0%	0%
Concentrate (protein)	2%	0%	1%	1%	4%	0%
Breeding (choice of breed)	3%	4%	1%	2%	2%	2%
Infrastructure	1%	0%	1%	0%	2%	0%
Other	5%	4%	6%	3%	9%	6%

6.2 Horticulture and arable cropping

6.2.1 Horticulture

Data collection within the horticultural sector has proved difficult due to the small number of producers and the large variety of crops, as well as the varying markets supplied. Table 22 indicates the areas of differing horticultural crop types and the average marketing route for that crop type. It was not possible to quantify output due to the high number of crops and varying scale of operations. Holdings producing mixed market crops were the most prevalent, with a high percentage of produce sold direct to the public although a majority of fruit and potatoes were sold via wholesalers or in bulk.

Table 22 Horticulture production, prices and market split

	Responses	Area (ha)	Marketing routes		
			Direct to public	Wholesale	Bulk
Mixed market garden	15	28.2	53%	42%	5%
Potatoes	2	2.2	33%	33%	33%
Field veg	2	2.2	77%	23%	0%
Fruit	11	23.2	76%	12%	12%
Other crops	5	2.6	67%	33%	0%
Total	35	58.4			

Table 23 indicates that few responding horticultural growers experienced difficulties in controlling weeds during the 2016 growing season, but climate change was an increasing challenge as was labour. Producers were asked about any marketing difficulties they had experienced: there were 13 responses of which 4 indicated that lack of market was an issue.

Table 23 Percentage of horticultural producers experiencing difficulties with various factors

Year	2016	2015	2011
Responses	17	17	29
Weeds	12%	12%	41%
Seeds	0%	9%	14%
Disease	6%	3%	3%
Labour	18%	3%	3%
Climate change	29%	12%	7%
Machinery	0%	0%	7%
Other	35%	12%	24%

6.2.2 Arable cropping

Table 24 indicates that in 2016 the largest arable crop areas continued to be barley, oats and wheat. Due to the very small sample sizes it is difficult to comment on prices. Average prices obtained by producers for oats were higher in 2016 at £213/t compared with £188/t in 2015, however this may be a reflection of the small sample sizes.

Table 24 Arable production, prices and marketing route (2016 harvest)

	Area (ha)	Total production (t)	Sales volume (t)	Price (£/t)		Marketing routes			
				2015	2016	Direct to farmer	Direct to processor	Bulk buyer	n
Responses	79	78	14		18				
Wheat	188	940	62	-	280	33%	33%	33%	3
Barley	333	1428	14	-	207	100%	0%	0%	3
Oats	208	806	330	188	213	67%	22%	11%	9
Triticale	32	120	-	-	-	-	-	-	
Peas or beans	25	74	-	-	-	-	-	-	
Cereal/legume	130	436	-	-	-	-	-	-	
Other crops	12	23	5	-	625	0%	100%	0%	1
Total/Average	928	3827	411						

There was a substantial increase in producers experiencing difficulties in controlling weeds during the 2016 growing season (Table 25), with other factors also affecting some producers, including access to machinery. Unlike the previous year, no challenges from climate change were reported.

Table 25 Percentage of arable producers experiencing difficulties with various factors

Year	2016	2015	2011
Responses	20	33	47
Weeds	70%	27%	60%
Seeds	0%	6%	0%
Disease	5%	2%	0%
Labour	0%	0%	0%
Climate change	0%	9%	6%
Machinery	10%	2%	13%
Other	15%	6%	21%

Producers were asked about any marketing difficulties they had experienced, but few responded, preventing publication of their views.

6.3 Direct sales

The number of respondents in 2016 indicating direct to public sales was similar to 2015, corresponding to 40%. Table 26 shows that overall this share decreased in recent years, as producers with direct sales represented 52% in 2012. As in previous years, meat continued to be the most widely directly sold product, together with direct vegetable and egg sales.

Table 26 Main type of produce sold (*listed in order of importance in 2016*)

	% of direct sellers		
Year	2016	2015	2012
Responses	40	41	52
Meat	58%	51%	48%
Vegetables	23%	24%	29%
Eggs	13%	12%	8%
Mixed Content	0%	7%	4%
Fruit	3%	5%	6%
Dairy	3%	0%	6%

Table 27 indicates the high importance of direct sales to the majority of the producers involved. Whilst around a quarter of producers with direct sales did not heavily rely on these sales, 57% respondents produced more than 60% of their total business turnover this way. However this share decreased slightly compared to the previous years.

Table 27 Percentage of total business turnover from direct sales

Year	2016	2015	2012
0-20%	17%	16%	23%
20-40%	7%	12%	4%
40-60%	19%	7%	6%
60-80%	12%	14%	13%
80-100%	45%	51%	54%

Table 28 indicates a decrease in producers experiencing increased direct sales during the last 12 months; 20% had seen a decrease, against 14% in 2015.

Table 28 Direct sales changes during the previous 12 months

Year	2016	2015	2011
Responses	41	42	58
Up by 10%+	12%	21%	12%
Up by 1-10%	17%	21%	16%
No change	51%	43%	55%
Down by 1- 10%	15%	7%	6%
Down by 10%+	5%	7%	12%

7 Future intentions of producers

As part of the survey, producers were also asked for their views on whether the current (2016) prices for products were high enough to continue producing organically (shown in Table 29).

Beef producers' responses were more positive compared to 2015, with 48% of finished producers considering that current prices were probably or definitely high enough, and 41% of store cattle rearers saying the same.

Perceptions among lamb producers were more positive, though still negative overall, in 2016, with only 22% of finished lamb producers and 18% of store lamb producers expressing positive views. 57% of finished lamb producers and 61% of store lamb producers indicated that the current lamb price wasn't high enough to continue organic production.

The organic dairy sector was less optimistic in 2016, with 77% of producers positive about current prices compared with 94% in 2015.

Egg producers' views in 2016 were similar to the previous year, with 73% of the responses indicating a positive opinion of current prices.

Horticulture producer views were more positive in 2016 than in 2015, with 63% being happy with current prices. Responses from arable producers in 2016 were similar to 2015, with only 30% being optimistic. Producers undertaking direct organic sales in 2016 were identically positive to 2015, with 66% indicating that prices were high enough to continue operating organically.

Table 29 Are current (2016) prices for products sufficiently high to continue producing them organically?

	Definitely		Probably		Not Sure		Probably Not		Definitely not		2015	2016
Year	2015	2016	2015	2016	2015	2016	2015	2016	2015	2016	n	n
Finished cattle	2%	3%	32%	45%	20%	25%	25%	20%	21%	7%	121	118
Store cattle	3%	1%	37%	40%	15%	20%	22%	26%	23%	13%	150	126
Finished lamb	0%	2%	16%	20%	20%	21%	19%	23%	45%	34%	198	173
Store lamb	0%	1%	9%	17%	21%	21%	21%	20%	49%	41%	117	109
Milk	32%	20%	62%	57%	4%	8%	0%	12%	2%	2%	50	49
Eggs	41%	33%	35%	40%	12%	7%	12%	13%	0%	7%	17	15
Pigs	0%	20%	75%	0%	25%	20%	0%	40%	0%	20%	4	5
Horticulture	6%	14%	42%	49%	32%	22%	16%	8%	3%	8%	31	37
Arable cropping	12%	5%	20%	25%	49%	60%	12%	8%	8%	2%	51	40
Direct sales	21%	15%	45%	51%	21%	21%	11%	8%	3%	5%	38	39
Average (weighted)	6%	11%	28%	34%	20%	23%	18%	18%	28%	14%		

When asked how long they intend to remain as a certified organic producer, the 2016 results in Table 30 indicate how the sector has changed in recent years. Although the total number of producers has fallen, the percentage of producers committed to farming organically for 5 or more years rose from 30% in 2012 to 89% in 2014 (linked to the introduction of Glastir Organic) but has fallen to 57% in 2016, indicating that Brexit and other issues may be affecting thinking about what will happen when current 5-year Glastir organic agreements come to an end from 2020.

Table 30 Length of time producer intends to remain organic

Year	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Responses	375	399	398	444	566	561
<1yr	3%	3%	8%	20%	26%	-
<2yrs	3%	1%	0%	19%	21%	-
3-5 yrs	38%	27%	4%	31%	23%	-
5-10 yrs	18%	27%	83%	11%	8%	22%
10yrs plus	39%	42%	6%	19%	22%	36%

Table 31 Intention to increase, decrease or keep the same level of production in 2017

	Responses	Increase	Keep the same	Decrease
Beef	193	19%	71%	10%
Sheep	225	13%	75%	12%
Milk	49	43%	53%	4%
Eggs	14	14%	86%	-
Pigs	5	20%	80%	-
Fruit and vegetables	25	48%	4%	48%
Arable	40	13%	83%	4%
Direct sale	30	43%	-	57%

For most sectors, producers planned to keep production levels similar or at higher levels, with dairy producers indicating most willingness to expand. However, both horticultural and direct sales respondents (often the same businesses) indicated intentions to reduce production in 2017, indicating particular challenges for this sector.

8 Conclusions

The 2016 survey continued to receive an excellent response rate from the telephone only survey method.

A high percentage (90%) of producers indicated that they had joined the new Glastir Organic scheme, with about half of these combining their agreements with Glastir Entry or Glastir Advanced.

The majority of beef, milk and cropping outputs are sold into certified organic markets, although the sheep sector and store beef sales continue to suffer losses to the conventional sector at point of sale.

Despite the recent losses within the sector, organic sales remained strong and there was optimism in most sectors, especially the dairy sector in 2016, and encouragingly some signs of optimism returning to the finished lamb and cattle sectors. There is also optimism for the future of the sector as 39% of producers who were surveyed indicated an intention to remain in organic production for 10 years or more, but with some concerns emerging for those currently committed only for the duration of their Glastir Organic agreements.

In the context of a rapidly growing UK organic domestic and export market for organic products, the ability of Welsh producers to respond alongside their English counterparts will depend on new farmers converting, and on equivalent access to conversion support, which is currently absent in Wales.

Appendix 1 – Defra Certification Body Data

As at end year		2006	2007	2008	2009	2010	2011	2012	2013	2014	2016	Change
Holdings	N	710	857	1048	1013	1006	964	952	786	661	618	-6.5%
Land use												
Area	ha	78973	95865	114393	123623	121093	122718	118699	100754	92922	81458	-12%
Cereals	ha	2144	2361	3002	3591	3191	2863	2907	2191	2292	1492	-35%
Other arable	ha	1557	1618	3164	3428	3317	2638	2116	1590	414	1079	161%
Potatoes	ha	99	96	99	45	38	41	41	5	8	6	-31%
Horticulture	ha	244	322	362	432	379	312	338	274	181	987**	n/a**
Total tillage	ha	4044	4397	6627	7495	6926	5854	5401	4059	2895	3564	23%
Temp grass	ha	10564	11286	10125	9904	9474	9662	10074	8946	8622	8601	-0.2%
Arable land (inc temp grass)	ha	14608	15683	16752	17399	16399	15517	15475	13004	11517	12165	5.6%
Perm. grass/ rough grazing	ha	63103	78976	95961	104024	102464	105517	101214	86255	81399	67096	-6%
Woodland/ other	ha	1262	1206	1679	2200	2229	1684	2010	1494	n/a	2197	n/a
Livestock numbers												
All cattle	head	41612	45096	54281	49388	52040	60495	56866	50238	47000*	41222	-12%
Dairy cows	head	9346	11069	11372	13670	12478	13868	11340	10434	10000*	10690	nd
Est. milk output	M litre	50	61	63	75	69	76	62	57	55	59	7%
Beef cows	head	8470	8985	12119	9627	11530	14111	13541	11155	11928	n/a	n/a
All sheep	head	279361	367597	531209	293930	358100	531033	521905	409299	373233	285259	-24%
Ewes	head	148935	179122	262639	143510	177062	255182	246559	204231	182695	141513	-23%
Other sheep (incl. lambs/yearlings)	head	130426	188475	268570	150420	181038	275851	275346	205068	190538	143746	-25%
Poultry	head	153800	120689	265647	265752	252518	152296	134281	201864	208089	228769	10%
Laying hens	head	45823	28102	57135	51409	38405	38251	25442	26615	33013	50505	53%
Est. eggs	M doz	1.1	0.7	1.3	1.2	0.9	0.9	0.6	0.6	0.8	1.2	50%
Table birds	k head	80	84	99	105	105	104	100	137	137	140	2%
Other poultry	head	28059	8837	109112	109676	109446	9651	8647	38185	38059	38695	2%
Sows	head	16	82	49			72	99		17	11	-35%
Other pigs	head	194	649	173	412	359	357	378	393	177	256	45%
Goats	head	35	28	23	17	25	8	27	32	70	23	-67%
Other (deer, camelids, equids)	head	1012	1684	1808	1767	2427	3596	461	643	2707	73	n/a

* Estimate as discrepancy in data received

** Defra 2016 value much higher than previous years and current survey estimates, which may indicate possible overstatement of area

2015 data not available at time of writing