Overview and prioritisation of main themes from the Farming Connect baseline survey, 2017

Cate L. Williams

Farming Connect Knowledge Exchange Hub, IBERS, Aberystwyth University

Introduction

The Farming Connect baseline survey has been run in 2016 and2017.. This report concerns the results of the 2017 questionnaire, which surveyed 1085 farmers and their businesses from across Wales.

The key findings of the report indicate that farmers are engaging in activities provided by Farming Connect and are able to interpret the resulting information for application to their farm business. Feedback suggests that members would like more frequent communication/advertisement about Farming Connect events, courses and opportunities. Results also indicate a possible deficit in farm businesses with a written business plan, with many participants indicating that they had clear ambitions for their business but the minority actually having a written plan in place. The report to follow gives an indication of farmer behaviours and on-farm activities, both in general and as a result of the Farming Connect programme. Further conclusions may be possible with additional analysis and comparison with 2016 and future 2018 survey data.

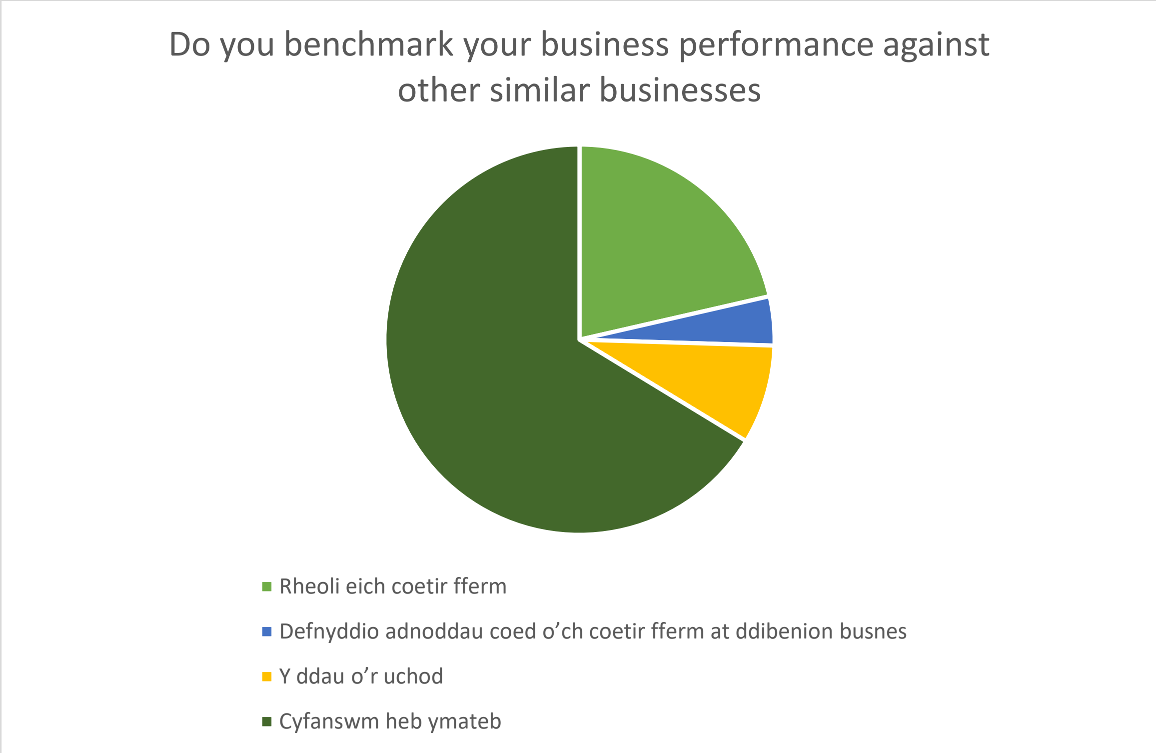
NB. For some question results, the total number of responses is greater than 1085. This is a consequence of respondents offering more than one answer to a given question (which may be up to four different options, depending on the question).

Survey Results

1. (a). Do you benchmark your business performance against other similar businesses for any of the following?

Type of benchmarking	**Number**
Physical only	78
Financial only	99
Physical and financial	247
Total responders	424
Total non-responses	661

Overall, the majority of those surveyed (61%) did not respond to this question, possibly indicating that they do not undertake any benchmarking activity at all. Of the remainder of responses, 23% answered that they undertake both physical and financial benchmarking with only 7 and 9% undertaking one type of benchmarking on its own. As results indicate the majority of participants do not undertake benchmarking, increasing the number and availability of specific discussion groups may help. The sharing of financial and business information does require a certain degree of trust, something that may best be built upon in a more social setting such as a local discussion group (Jack, 2009).



1. (b) Have you started benchmarking as a result of taking part in any of the following Farming Connect activities in the last year (multiple answers can be given per response)?

FC activity	Number of Responses
Discussion groups	183
Aberystwyth University/Farm Business Survey	29
Agrisgop	14
Agri Academy	8
ADHB	2
Waitrose	2
Other	35
Total responders	254
Total non-responses or N/A	831

The majority of those surveyed (76.5%) did not answer this question, accounting for those that do not undertake any benchmarking activity as indicated in the previous question as well as those that do not benchmark as a result of Farming Connect activities specifically. Of those that do benchmark their business as a result of Farming Connect activities, 72% did so after participating in a Farming Connect discussion groups. Other influential activities include interaction with the Farm Business Survey and the Agrisgôp programme.

This result suggests that farmers have found discussion groups beneficial and are adopting new practices as a result. Peer education is a highly effective method of training/teaching as participants are often more receptive to learning from others that have tried and tested a new concept, thus providing a sense of credibility that can easily be related to. In the practice of farming, this concept is essential, where knowledge is often passed on from generation to generation or in tight-knit communities (Foster and Rosenzweig, 1995; Franz *et al.*, 2010).

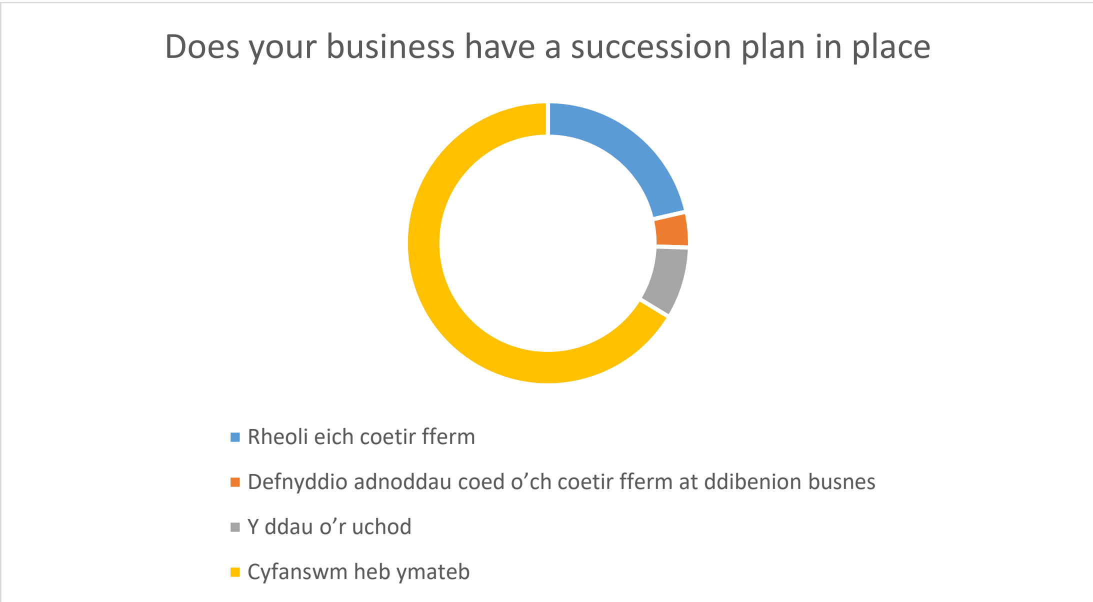
1. (c) Have you used your benchmarking figures to make changes in the way you manage your farm in the last year?

Response	Number of responses
Yes	252
No	186
Total responses	440
Total non-responses	645

As previously, the majority did not answer this question. When non-responses were added to those that answered “No” this equated to 76% which corresponds to the previous proportion of farmers that did not answer the question and therefore likely do not benchmark. In total, 23% of those surveyed agreed that they used their benchmarking figures to make changes to management in the past year.

2. Does your business have a succession plan in place (someone to take over from you when you retire)?

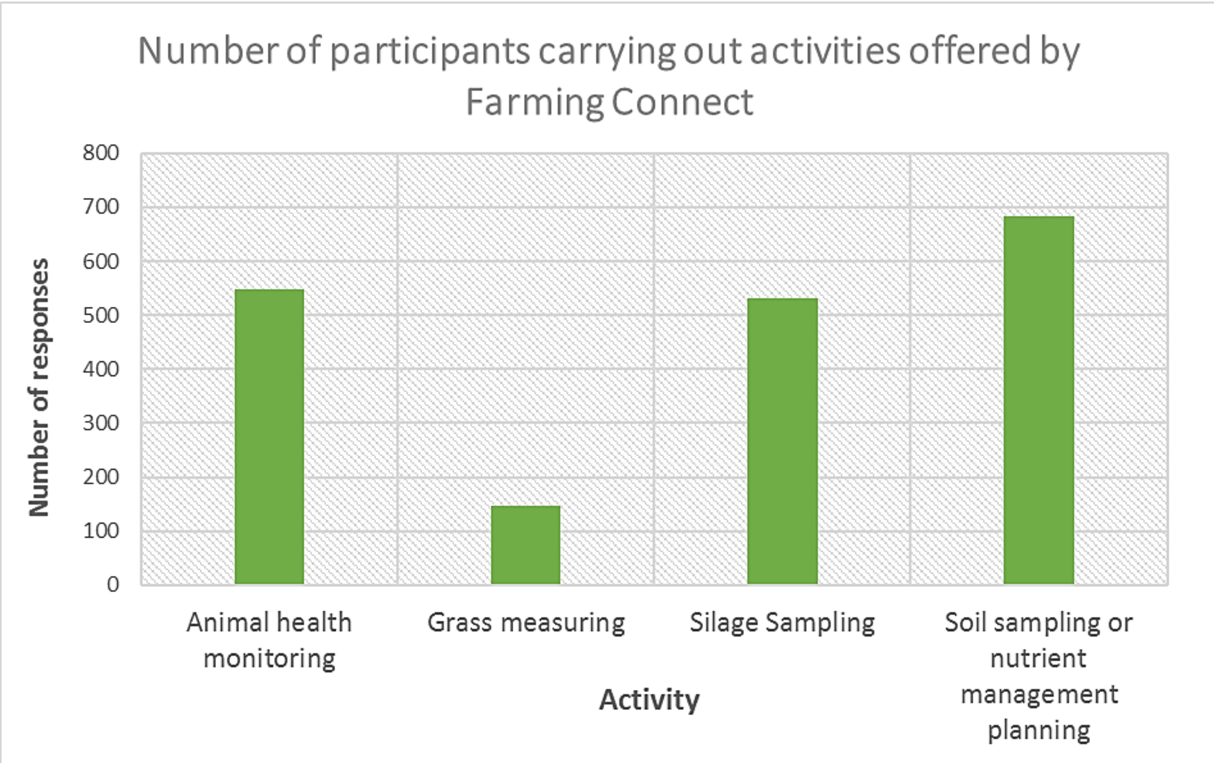
Response	Number of responses
Yes	579
No	353
Not relevant	147
Total responses	1,079
Total non-responses	6



Over half (53%) of responses to this question were positive – suggesting that of those surveyed, most have a succession plan in place where relevant. This question received high levels of engagement, with only 6 non-responses (99% response rate).

3. (a) Have you carried out any of the following on your farm during the last year (select all that apply)?

Activity	**Number of responses**
Animal health monitoring	548
Grass measuring	147
Silage Sampling	532
Soil sampling or nutrient management planning	683
One activity indicated	236
Two activities indicated	326
Three activities indicated	238
Four activities indicated	74
Total responses	881
Total non-responses	204



The most popular Farming Connect activity here was soil sampling or nutrient management planning, with 683 responders taking part in this activity. The majority of those surveyed also took part in two or more Farming Connect activities (two or more: 72%; 3 or more: 35% and 4: 8%). A good level of engagement in activities has been achieved, although there is room for improvement, as 23% of the surveyed cohort did not participate in any of the above activities.

3. (b) If you selected any of the above, have you used this information to make changes in the way you manage your farm in the last year.

Response	Number of responses
Yes	770
No	86
Total non-responses	227
Total responses	856

A similar amount of people did not answer this question as in 3(a) (a difference of 23 responses is observed which may be due to disengagement). Overall, the majority (90%) of respondents indicated that they had used the information from Farming Connect activities to make changes in management. This result suggests that farmers are not only participating in activities offered by Farming Connect, but are interpreting and utilising the data they receive.

4. Do you have a clear ambition for your business over the next 3-5 years?

Response	Number of responses
Yes	832
No	247
Total non-responses	6
Total responses	1078

A high level of engagement was achieved in this question, with only six non-responses (99% response rate). The majority (77%) of responses indicated that those surveyed did have a clear ambition or aim in mind for their business over the next 3-5 years.

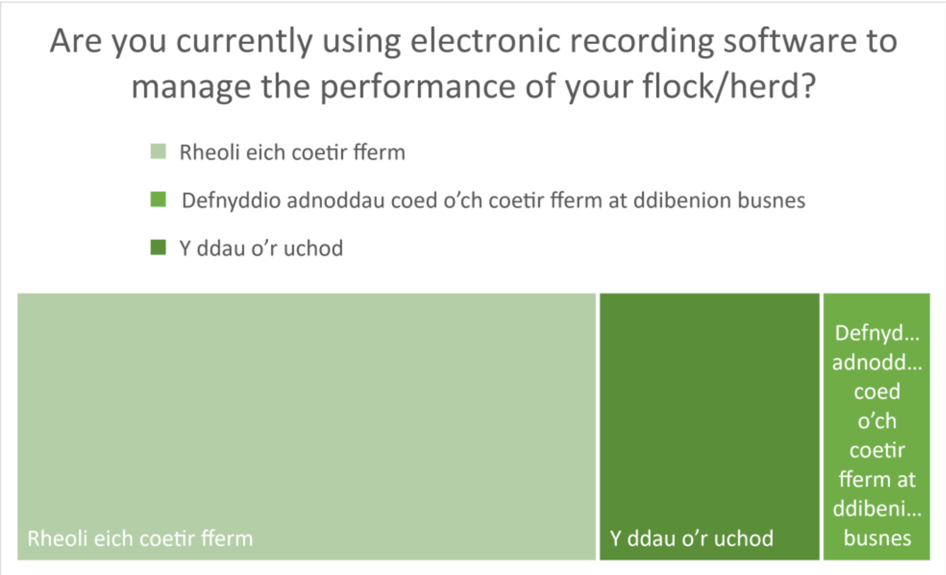
5. Do you have a written business plan outlining how you will deliver your ambition?

Response	Number of responses
Yes	328
No	751
Total non-responses	5
Total responses	1079

Again, this question received a high (99%) response rate; however, the majority (70%) indicated that they did not have a written plan. This suggests that of those who answered yes to having a clear aim previously, only 40% also have a written business plan outlining how they will achieve this. Farming Connect currently offers access to farm business planners as well as funding, perhaps additional advertisement is needed to engage participants in this service and help members realise their ambitions.

6. (a) Are you currently using electronic recording software to manage the performance of your flock/herd?

Response	Number of responses
Yes	358
No	713
Total non-responses	14
Total responses	1071



Question 6(a) was well answered with a 98% response rate and just 14 non-responses. The results indicate that for the most part, those surveyed do not use EID (66%). EID is a relatively new technology and studies suggest that whilst EID could help increase profitability and resource use it is not widely used (Lima *et al*., 2018). The study by Lima *et al.,* (2018) surveyed UK farmers on the use of EID and found that more than half of those surveyed did not use EID, nor did they intend to in the future. This number roughly correlates to results shown here; indicating that perhaps, communication of the evidence of positive effects of EID (e.g. reduced flock lameness levels) or on-farm demonstrations may be helpful.

6. (b) If "yes", please provide a description of the type of system you operate.

EID Software	Number of responses
Agri data	16
Agri-net	4
Allflex	10

Alta	3
BCMS	7
CIS/CIF recording	7
Farm Plan	6
Farm Wizard	6
FarmIT	12
FarmWorks	4
i-Livestock	4
Inter-herd	10
Milk Recording/NMR	17
Psion	3
Scales/weighing	4
Shearwell EID	56
Summit	4
TrueTest	3
Uniform Agri	3
Unnamed collars	7
Unspecified ear tags/readers	54
Unspecified EID reader	78
Unspecified EID stick reader	30
Other	41
Total Responses	335
Total non-responses	750

In question 6(b) the number of non-responses (750) roughly equates to the number of non-responses + those that do not use EID in 6(a) (727). The increase of 25 non-responses is perhaps indicative of a slight knowledge gap where farmers are not concerned with the type or brand of EID that they use. Overall, the most popular brand of EID used by farmers surveyed was Shearwell (17%). The majority that answered did not specify the brand of EID, but the type of EID (collar: 2%; stick/wand: 9%; EID reader: 23% and Ear tag + reader: 16%).

7. Would you consider undertaking training online via e-learning courses?

Response	Number of responses
Yes	730
No	348
Total non-responses	7
Total responses	1078

Question 7 was well answered, with a 99% response rate, where most (68%) participants indicated that they would consider undertaking an E-learning course.

8. (a) Do you have woodland on your farm?

Response	Number of responses
Yes	695
No	371

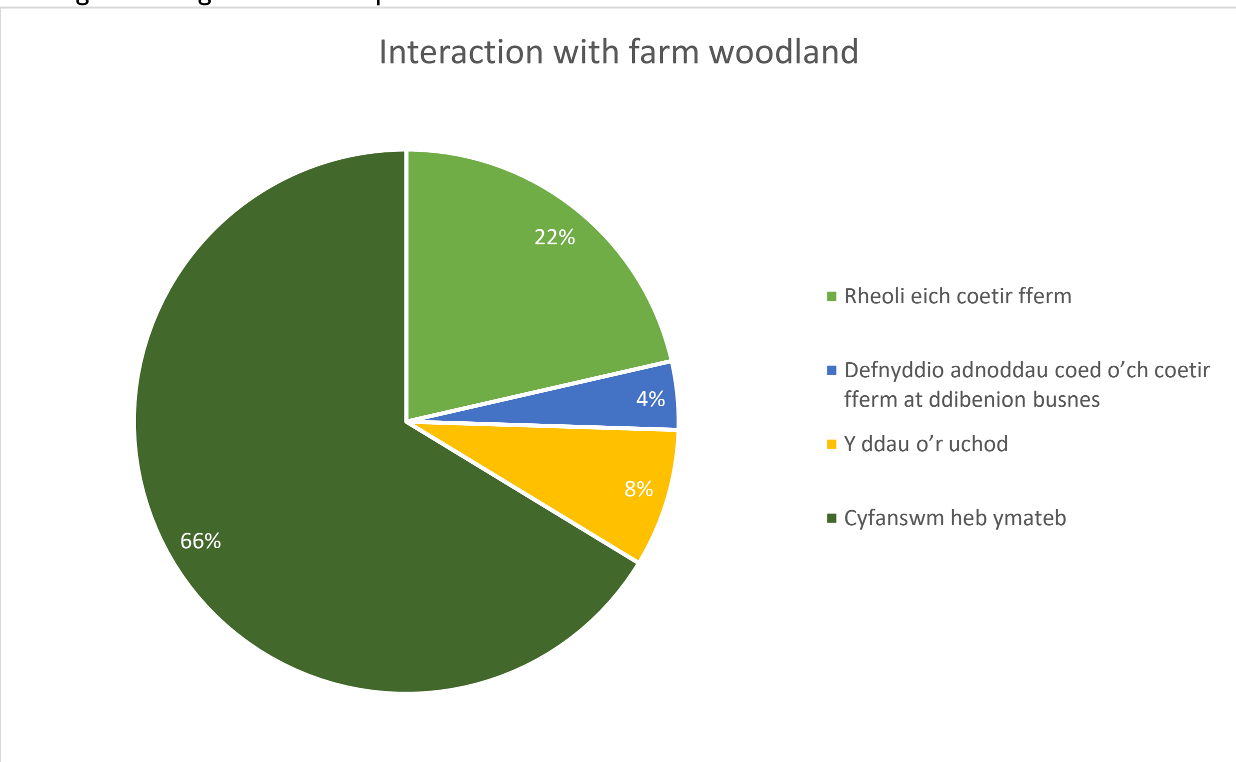
Total non-responses	19
Total responses	1066

8. (b) If "yes", do you currently do any of the following?

The percentage of participants indicated that they have woodland on their farm was 65%, more than half of total responses.

Response	**Number of responses**
Manage your farm woodland	232
Utilise any of the timber resources from your farm woodland for business use	44
Both of the above	89
Total non-responses	718
Total responses	365

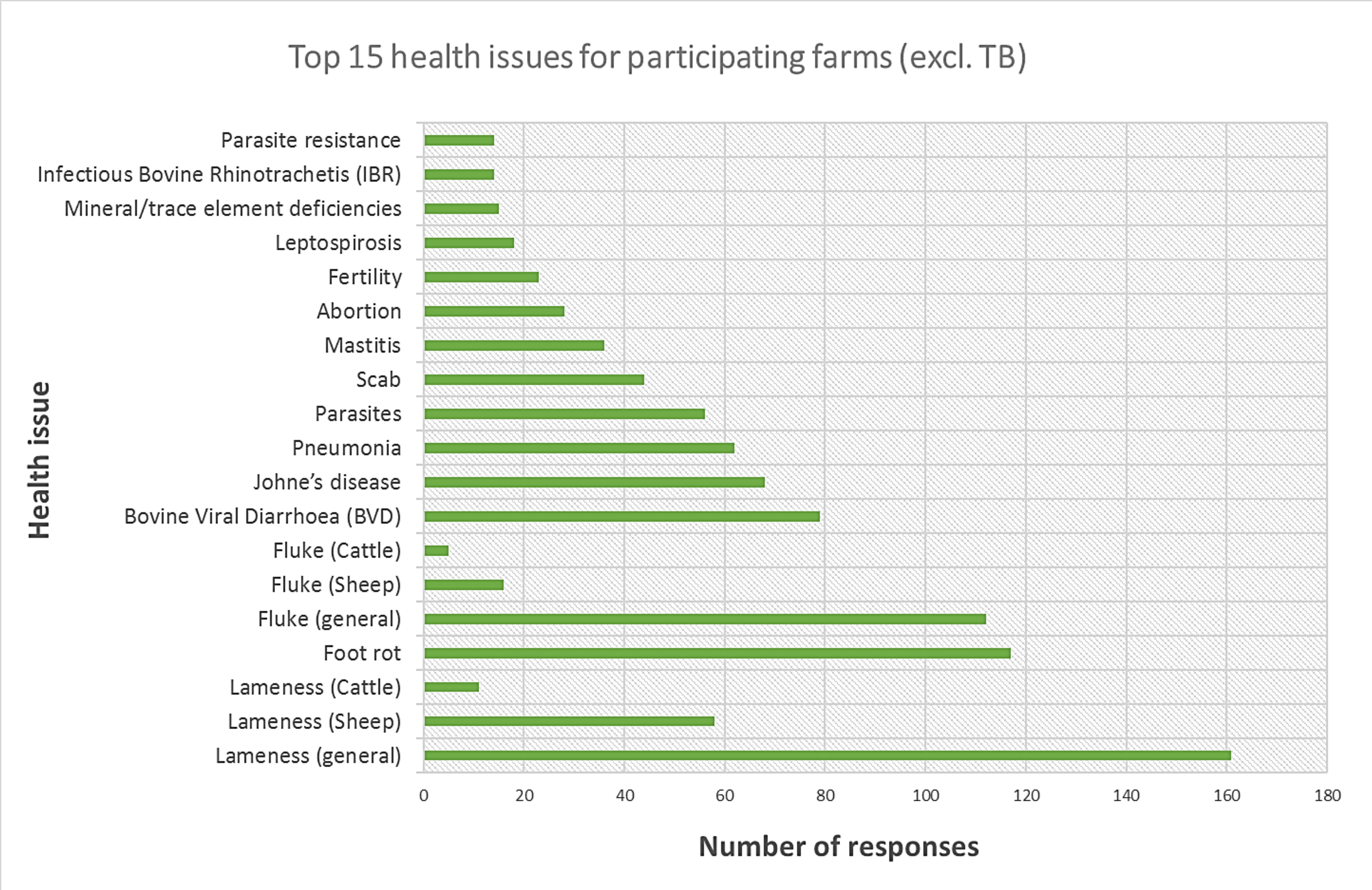
Nevertheless, only 34% of participants indicated that they utilised or managed their farm woodland. Of those that answered positively to having woodland on their farm in 8(a), in question 8(b) approximately, 53% are utilising timber or managing their areas of forest. Perhaps this is an indicator that participants need information on how to go about using their timber resources or training on management techniques.



9. Other than Bovine Tuberculosis, what is the biggest animal health issue, at the moment, relevant to your holding?

Health issue		No. responses
Lameness		161
	Sheep	58
	Cattle	11
Footrot		117
Fluke		112
	Sheep	16
	Cattle	5
Bovine Viral Diarrhoea (BVD)		79
Johne's disease (chronic enteritis)		68
Pneumonia		62
Parasites		56
	Sheep	15
Scab		44
Mastitis		36
Abortion		28
	Sheep	10
	Pigs	1
	Enzootic	10
Fertility		23
Leptospirosis		18
Mineral/trace element deficiencies		15
Infectious Bovine Rhinotracheitis (IBR)		14
Parasite resistance		14
Ticks		14
CODD (Contagious Ovine Digital Dermatitis)		13
Avian Flu		11
Scouring		11
Schmallenberg virus (SBV)		11
Coccidiosis		10
Maggots		10
Toxoplasmosis		9
Digital dermatitis in cattle		8
Lice		7
Neospora		7
Fly strike		7
Lamb losses/mortality		5
Salmonella		4
Other		36

Total responses		**813**
Total non-responses		**271**

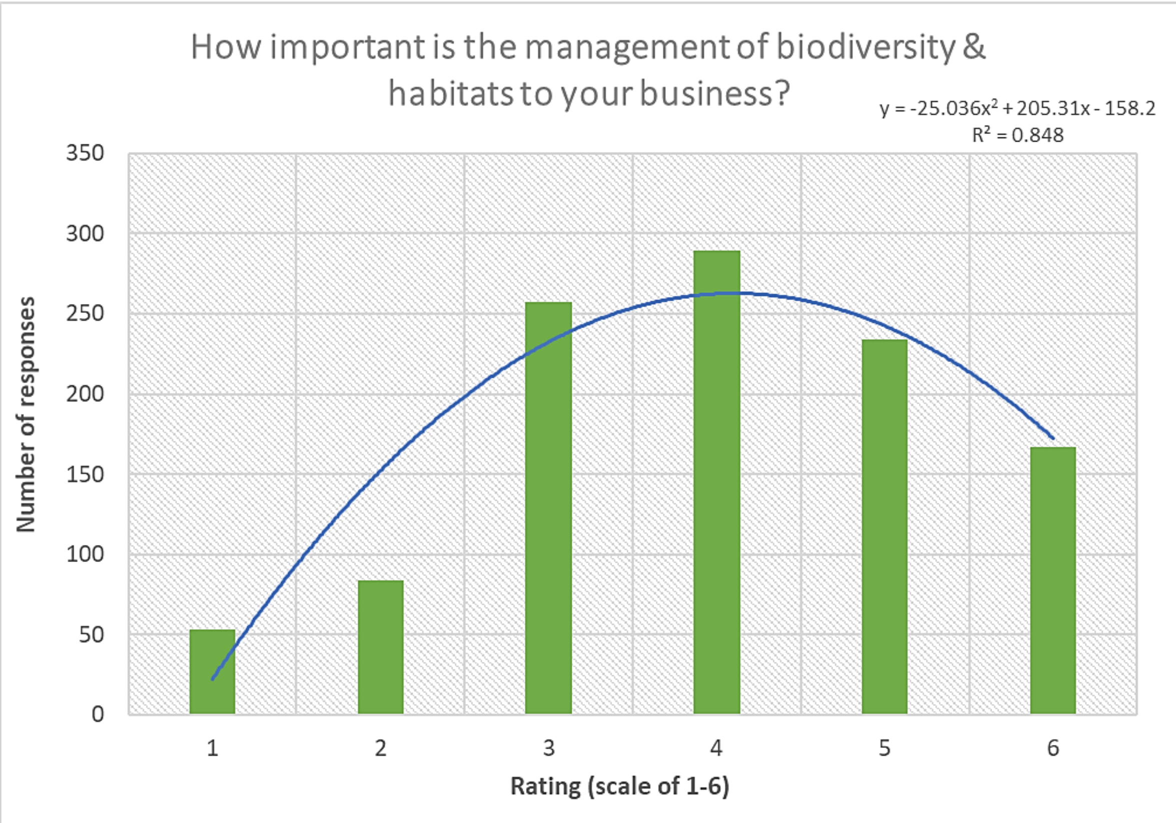

Top 15 health issues for participating farms (excl. TB)
Parasite resistance
Infectious Bovine Rhinotrachetis (IBR)
Mineral/trace element deficiencies
Leptospirosis
Fertility
Abortion
Mastitis
Scab
Parasites
Pneumonia
Johne's disease
Bovine Viral Diarrhoea (BVD)
Fluke (Cattle)
Fluke (Sheep)
Fluke (general)
Foot rot
Lameness (Cattle)
Lameness (Sheep)
Lameness (general)
Health issue
0
20
40
60
80
100
120
140
160
180
Number of responses

The response rate for this question was 75%; with the remaining 25% indicating that Bovine TB is either their only concern currently or disengaging with the question. The most common health concern was lameness in general (20%; unspecified if in sheep or cattle) although a greater majority were concerned about lameness in sheep (7%). Responses also indicated that footrot in sheep is of concern to 14% of respondents and fluke in general (unspecified if in sheep or cattle) was an issue for 13.5% of participants. Of moderate concern were Bovine Viral Diarrhoea (BVD; 10%), Johne's disease (chronic enteritis in sheep caused by *Mycobacterium avium* subsp. *paratuberculosis*; 8%) and pneumonia (7%) (Whittington *et al.*, 2017).

10. On a scale of 1-6, how important is the management of the following to your business: (one meaning not important, six being very important):

a) Biodiversity and habitats

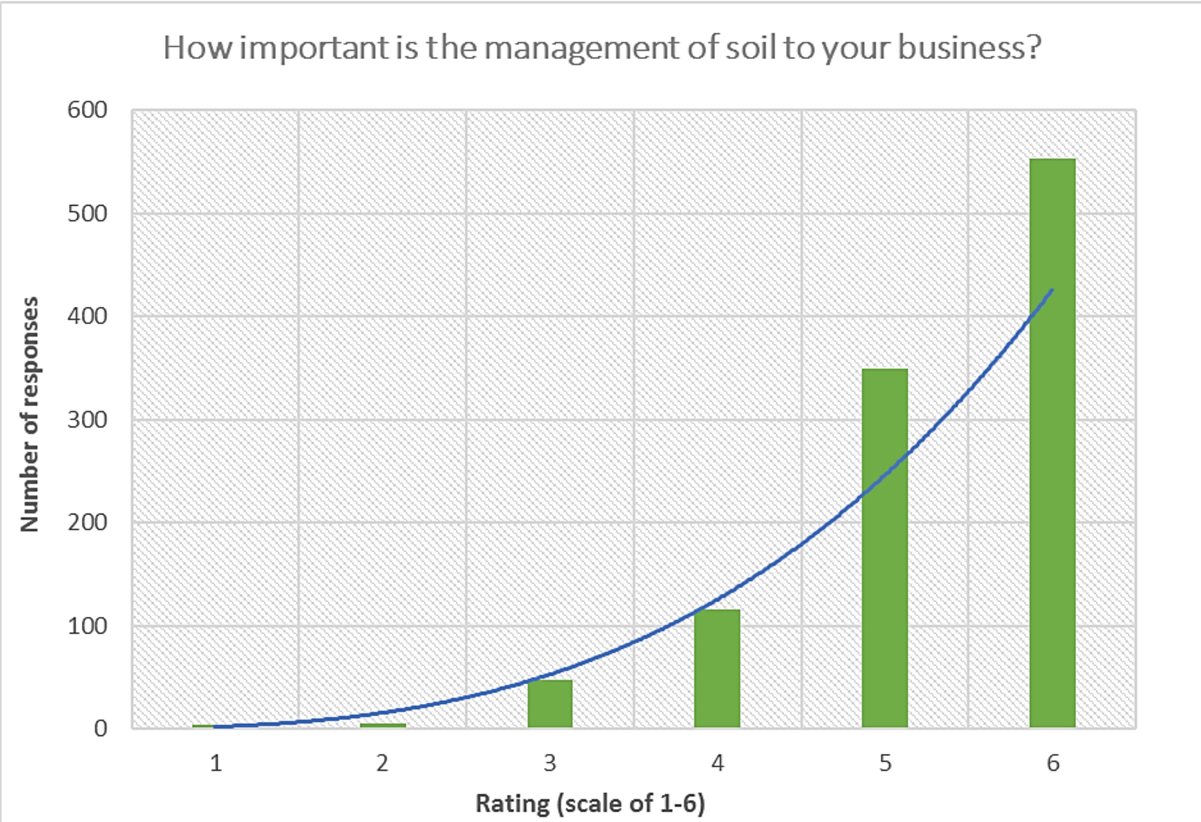
Value	Number of responses
1	53
2	84
3	257
4	289
5	234
6	167
Total responses	1084
Total non-responses	1



Engagement with this question was high, with only one non-response (99.9% response rate). The spread of responses conform to a standard normal or bell curve distribution with the majority of responses occurring in the centre (scores 3-5) and decreasing at the extremes (1, 2 and 6) with a slight skew towards the upper end (see graph). Of total responses, 72% fall into the three central options (3, 4 and 5). The skew towards the higher end (15% selecting 6) suggests that participants are aware and concerned with biodiversity and wildlife on their farms.

b) Soil

Value	Number of responses
1	4
2	5
3	47
4	116
5	349
6	553
Total responses	1074
Total non-responses	11



When asked how important the management of soil is to their farm business, participants responded strongly, with just over half (51%) selecting the highest number on the scale. A different, more direct linear relationship can be seen here, which strongly suggests that the management of soil is a primary concern to participants (84% of those surveyed rated soil quality as 5 or 6 in terms of importance). This result is encouraging as it suggests a good understanding of the need to monitor and maintain soil in order to maximise productivity and profits

c) Water quality

Value	Number of responses
1	10
2	22
3	83
4	153
5	395
6	421
Total responses	1084
Total non-responses	1

The response to water quality is similar to that of soil, although a little less pronounced 89% of respondents ranked water quality at four or higher on the scale of importance. The question received a high (99.9%) response rate, with just one non-response.

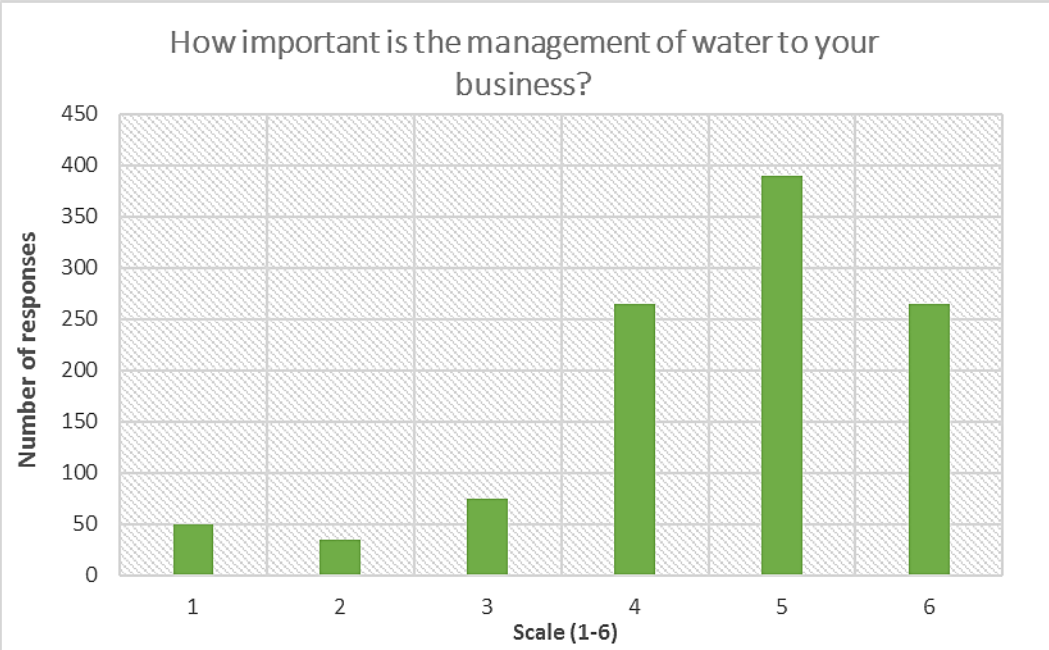
d) Landscape

Value	Number of responses
1	16
2	26
3	107
4	248
5	398
6	286
Total responses	1081
Total non-responses	4

The importance of managing landscapes to participants in the survey is similar to that of biodiversity and habitats, showing a normal distribution skewed towards the upper end. This suggests that participants are moderately concerned with maintaining their landscape although it is not as important as soil or water quality. Such a response is encouraging, as the iconic landscape of Wales is recognised as a public good, with the vast majority being managed and maintained by farmers (Welsh Government, 2017). Currently, this is recognised through the Glastir scheme, which works as an incentive to involve farmers in the preservation of the natural landscape, with the approach of BREXIT it is important that the UK government continue to offer motivation and protect the Welsh countryside (Welsh Government, 2018).

e) Water

Value	Number of responses
1	49
2	35
3	75
4	265
5	390
6	264
Total responses	1078
Total non-responses	7



When asked about the importance of managing water overall, participants responded in a similar way to question (d) regarding landscape. The majority (36%) selected five on the scale of importance and 85% of total responses fell between four and six on the scale. Slightly fewer non-responses were recorded for this question, likely due to disengagement as participants moved through the questionnaire towards the end.

f) Air quality

Value	Number of responses
1	45
2	87
3	129
4	218
5	330
6	269
Total responses	1078
Total non-responses	7

The importance of managing air quality to participants was again comparable to the responses to questions (d) and (e). The majority of responses fell at the upper-middle end of the scale (75% selected four, five or six on the scale) and most (30%) selected a level five of importance.

g) Waste

Value	**Number of responses**
1	5
2	14
3	67
4	155
5	428
6	413
Total responses	1082
Total non-responses	3

When asked about the importance of managing waste, participant's responses showed a more linear pattern, the majority (40%) indicating a level 5 of importance on the scale. Overall, most (78%) responses were recorded at the upper end of the scale (5 and 6). The management of waste in the agricultural industry is extremely important, as poor management can lead to leaching into the environment causing contamination or land and water sources. Not only is excreted material found in waste but sometimes also antibiotics, chemicals, packaging and plastics. It is important that farmers are aware of and are following regulations for the correct disposal of agricultural waste to help preserve the environment and reduce contamination (CIWM, 2006).

11. What other assistance would you like from Farming Connect to help improve the efficiency and productivity of your business?

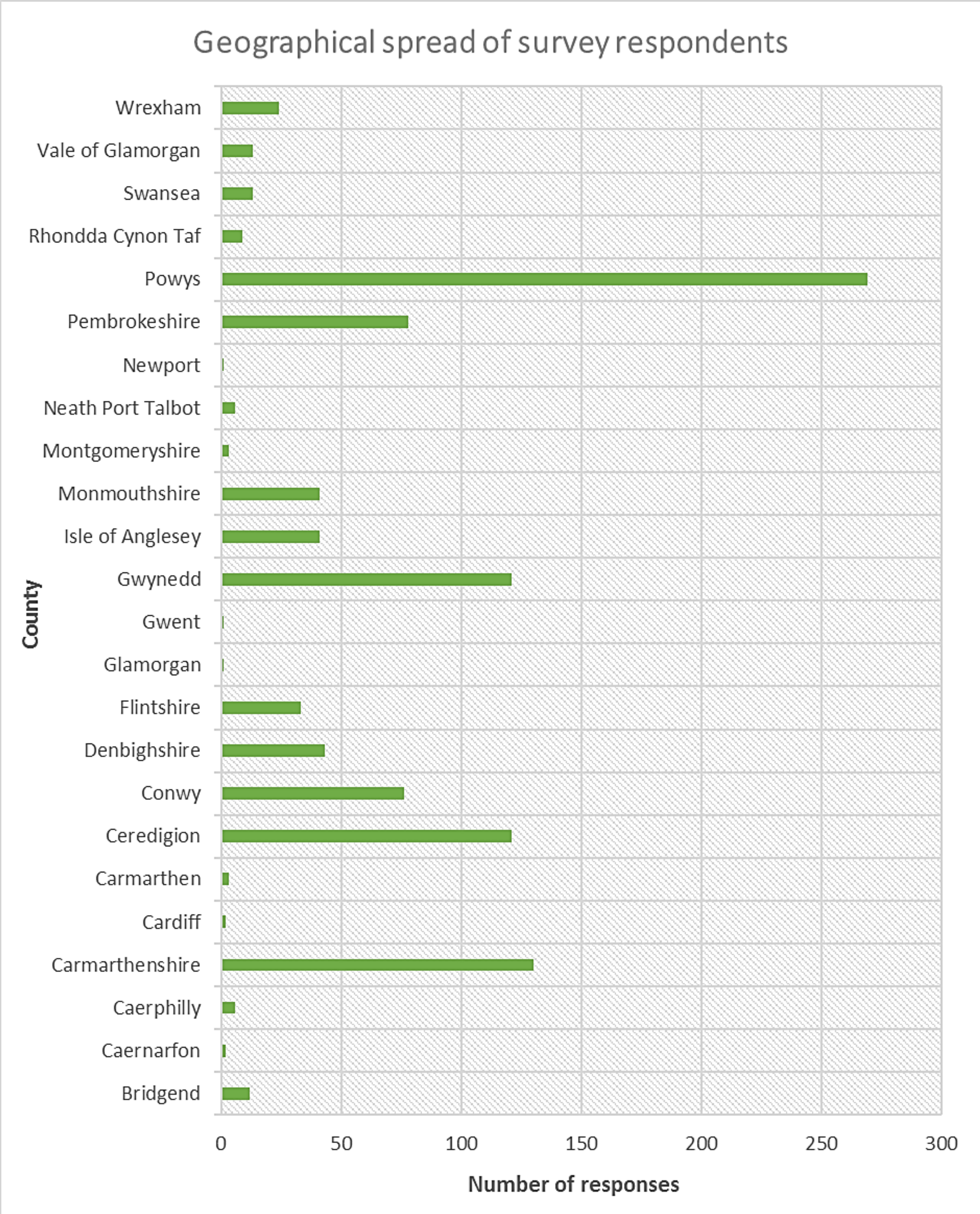
Feedback response		**No. responses**
Advice about BREXIT		9
Accredited courses		5
More diverse courses		39
More accessible courses (times/days)		6
Easier registering for courses		6
Events in more locations		13
Diversification		22
Animal health		25
One-to-one sessions		8
Personal support		3
Better communication & advertising	General	42
	More in the post	7
	More online	5
Advice on tourism		8
More grants		50
IT and computer training		34
Business advise & planning		15
Training & advice on finances		13
Marketing		11
Renewable energy sources & recycling		7
Succession		10
Help/support for young farmers		35
Advice on laws, rules and regulations		8
Advice on benchmarking		9
More on-farm events/demo farms		20
More discussion groups		19
More soil sampling		32
Woodland management		5
Nothing/As is		105
Total responses		484
Total non-responses		601

Question 11 requests a short written response from participants. The response rate for this question was 44%, suggesting that the remaining 56% of participants either did not have feedback that they would like to share or did not engage with the type of question (short written answer as opposed to previous MCQ style questions). Overall, the highest recorded response was nothing/as is, indicating that 21% of participants who responded are satisfied with the services that Farming Connect provides. Additionally, positive feedback was frequently given alongside this response, e.g.: "I have been pleased with the help and mentoring FC has organised for my business", "Just keep up the good work and helpful support" and "Carry on with courses, finds them very useful". Indicating that many participants are engaging in activities and benefitting. Of total responses, 9% mentioned the need for improved/more communication and advertisement of events, courses and funding. However, the preferred method for receiving communications was not clear, with five requesting more postal material and seven, more online communication. Participants (8%) requested a more diverse range of courses, including subjects such as shearing, sheepdog training and drystone walling. Of total responses, 7% requested for more help and support for young farmers, in both a financial and advisory capacity. Further, around 7% of responses requested IT/computer training or help with new technology. This is perhaps indicative of a knowledge deficit, which may be more of a concern currently due to changes in the law regarding VAT. Farm businesses will be required to keep digital records and submit with VAT returns directly from their financial software, online as of April 2019 (HMRC, 2019). A compounding factor to this issue is that many rural areas suffer from poor internet connections and in some cases none at all.

Some notable suggestions for additional activities include a collective buying and selling group, a meeting for retired farmers, access to personal support and online chat forums.

12. The geographical spread of respondents

County	**Number of responses**
Bridgend	12
Caernarfon	2
Caerphilly	6
Carmarthenshire	130
Cardiff	2
Carmarthen	3
Ceredigion	121
Conwy	76
Denbighshire	43
Flintshire	33
Glamorgan	1
Gwent	1
Gwynedd	121
Isle of Anglesey	41
Monmouthshire	41
Montgomeryshire	3
Neath Port Talbot	6
Newport	1
Pembrokeshire	78
Powys	269
Rhondda Cynon Taf	9
Swansea	13
Vale of Glamorgan	13
Wrexham	24
Total non-responses	30
Total responses	1055



The majority (25%) of participants in the 2017 survey were from the county, Powys. Counties Carmarthenshire, Ceredigion and Gwynedd were also well represented by 11-12% of participants each.

Concluding remarks

A good level of engagement by farmers with Farming Connect activities is indicated in the survey responses, more than 80% of farmers surveyed are utilising the opportunities on offer and making practical changes to their businesses.

Whilst the survey revealed that the vast majority of participants had clear ambitions for their farm business, it also revealed that very few have a written business plan in place. As Farming Connect already offers access to business planners, it may be valuable to increase the promotion of this service. Another key area to consider is communication; many respondents would like more and clearer communication about what Farming Connect can offer as well as via different routes. Many rural communities rely on postal communication, as internet connectivity is problematic and the use of computers is low, as such, postal communication with the option to "go paperless" may be an effective strategy. Additional support using computers, online processes (e.g. VAT) and databases may also be valuable.

References

Chartered Institute of Waste Management (CIWM) (2006), Waste Management (England and Wales) Regulations 2006 (accessed 21/02/19 at: http://www.legislation.gov.uk/uksi/2006/937/pdfs/uksi_20060937_en.pdf).

Foster. A. D and Rosenzweig. M. R (1995), Learning by doing and learning from others: Human capital and technical change in agriculture, *Journal of Political Economy*, **103**(6): 1176-1209.

Franz. N, Piercy. F, Donaldson. J, Richard. R and Westbrook. J (2010), How farmers learn: Implications for agricultural educators, *Journal of Rural Social Sciences,* **25**(1): 37-59.

Jack. L (2009), Benchmarking in food and farming: creating sustainable change, *Gower Publishing, Surrey, UK.*

Lima. E, Hopkins. T, Gurney. E, Shortall. O, Lovatt. F, Davies. P, Williamson. G and Kaler. J (2018), Drivers for precision livestock technology adoption: a study of factors associated with the adoption of electronic identification technology by commercial sheep farmers in England and Wales, *PLOS One,* **13**(1).

Whittington. R. J, Begg. D. J, de Silva. K, Purdie. A. C, Dhand. N. K and Plain. K. M (2017), Case definition terminology for paratuberculosis (Johne's disease), *BMC Veterinary Research*, **13**(328).

Welsh Government (2017), Future Landscapes: Delivering for Wales (accessed 22/02/19 at: https://www.afwdl.cymru/wp-content/uploads/2018/02/170508-future-landscapes-delivering-for-wales-en.pdf).

Welsh Government (2018), BREXIT and our land: Securing the future of Welsh farming (accessed 22/09/19 at: https://beta.gov.wales/sites/default/files/consultations/2018-07/brexit-and-our-land-consultation-document_0.pdf).