

Comparing commercial female and male farmers: different paths to management and ways of decision-making, but similar farming approaches?

Farmer Intentions Survey briefing note, March 2021

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Summary

- This note uses two major surveys of farmers in Scotland, undertaken in 2018 and 2013, to compare commercial female farmers with male commercial farmers, in terms of their background, experience and perceptions about farming and farm management. Commercial farmers were defined as such based on a stated intention to make a profit, and in 2018, this comparison is based on 382 female commercial farmers.
- Female commercial farmers were less likely to have inherited their business or holding, were more likely to be higher educated, and were more likely to have had a shorter farming career, in comparison with male for-profit farmers. These findings imply a greater diversity of routes into farming undertaken by women.
- The income sources of female commercial farmers were broadly similar to those of male commercial farmers. However, the proportions of women farmers who a) received very little income from agriculture, and b) who received no or little income from direct subsidies, were larger; potentially indicating differences in income generation strategies for some female commercial farmers, and lower engagement with payment schemes. Female commercial farmers, however, were more likely to be pessimistic about their household's economic prospects.
- Female commercial farmers appear more collaborative in decision-making than male commercial farmers: they were less likely to make decisions alone and were more likely to involve their families in decisions. Where others were involved in day-to-day decisions, women were more likely to involve men in decisions, than men were to involve women.
- Considering a suite of farm activities, the future intentions for farm management of female and male commercial farmers appeared to be similar, with no significant differences between the cohorts. This implies that female and male commercial farmers are following market trends in similar ways. However, it is notable that intentions to increase some activities (for example, investment in tourism and recreation, and investment in new technologies) were greater among women in 2018, than they were in 2013. There were also similarities in the extent to which different factors and issues affected the farm management of female and male commercial farmers. In addition, subsidy payments, labour availability, succession planning, and climate change appear to have become more important in recent years for female commercial farmers.

1.0 Introduction

In 2020, women made up 39% of all working occupiers (occupiers and spouses) on Scotland's farms (RESAS, 2020). However, there are major barriers which inhibit women's careers in farming, which include cultural norms of farm inheritance, under-representation in the leadership of major agricultural organisations, very high workloads across multiple roles, and evidence of discrimination in farming organisations (Shortall et al., 2017). More recently, the Women in Agriculture Taskforce, established following research in 2017, have produced 24 recommendations to enhance women's participation in Scottish agriculture (Women in Agriculture Taskforce, 2019)¹. In this context, survey-based research plays a crucial role in building and updating the evidence base on women in farming, including their background and entry to the industry, decision-making processes, and changes in management. Focusing on commercial (profit-oriented) farmers, this note uses two large farmer surveys to identify evidence of potential differences and inequalities between female and male farmers.

2.0 Method

The data analysis presented in this briefing note draws on the responses to two major telephone surveys of farmers in Scotland, conducted by the James Hutton Institute and Scotland's Rural College. The 2018 Farm Intentions Survey (FIS) (2,494 responses) used a spatially representative sample of 11,000 businesses, with stratification by region, business size and farm type from the June Agricultural Census (JAC). The 2013 CAP Intentions Survey (2,416 responses) used a spatially representative sample (from the JAC) of 10,000 holdings. The analysis in this note focuses on the most recent (2018) data and compares female and male farmers who intend to make a profit². Table 1 shows the relative size of these cohorts, identified from respondents who provided information on both gender and profit intention. In 2018, a majority (63.6%) of women farmed for profit, a similar proportion to the figure in 2013 (57.7%). More than four out of five male farmers intended to make a profit in 2018 (81.5%), and in 2013 (86.6%).

Table 1: Respondents in 2018 and 2013, highlighting commercial farmers in bold: showing numbers of respondents in each cohort, with percentages in brackets.

Cohort	2018	2013
Female – not farming for profit	219 (8.9%)	124 (6.2%)
Female – farming for profit	382 (15.6%)	169 (8.4%)
Male – not farming for profit	343 (14.0%)	231 (11.5%)
Male – farming for profit	1,507 (61.5%)	1,492 (74.0%)

Note: all respondents were the main decision-maker on the business/holding.

A majority of both of the cohorts were associated with the 'LFA Cattle & Sheep' farm type, which applies to 58.4% (n = 382) of female commercial farmers and 56.3% (n = 1,507) of their male

¹ These recommendations are within the themes of Leadership; The Equality Charter for Scottish Agriculture; Training; Rural Childcare; Succession; New Entrants; Health and Safety; Crofting; and Overall Recommendations.

² In 2018, respondents were asked "Taking all your sources of income into account, do you aim to make a profit from this business?". In 2013, the comparable question was "Is this enterprise operated for profit?".

counterparts. In 2013, similarly, most commercial farmers were based on this type of farm: 65.1% of women (n = 169), and 63.1% of men (n = 1,492).

This note identifies where there are significant, meaningful differences between male and female commercial farmers in 2018. These were identified using statistical tests of association (chi square, Fisher's Exact Test). Data from the 2013 survey were also identified, and comparisons of the 2013 and 2018 results can be made where the same (or at least comparable) questions were asked in both surveys. Some questions were not viewed as comparable across the two surveys (i.e. type of role) and others were only available in the 2018 survey (i.e. the gender of other decision makers). The analysis described below followed some data recoding and removal of invalid values, and due to differences in response rates and the number of valid responses across the questions, the statistics are based on the maximum data available on a question-by-question basis.

3.0 Results

3.1 Key differences between female and male commercial farmers

There are several significant differences between female and male commercial farmers in terms of demographic characteristics and farming experience, the sources of income for their business or holding, and decision making. These are summarised in Table 2, and it is notable that comparable results from 2013 show that some of these differences were also apparent in the earlier survey, suggesting persistent differences over time. For example, **male commercial farmers remain more likely to have inherited their farms:**

- while a majority (56.8%) of female commercial farmers reported in 2018 that they had inherited their business or holding, male commercial farmers were significantly more likely to have inherited (70.4% had done so)
- the 2013 survey, where the same question was asked, found very similar results - 57.4% of commercial female farmers had inherited, compared with 70.1% of commercial male farmers

This is reflected in the longer length of time in which male commercial farmers tended to have been involved in management:

- in 2018, female commercial farmers were less likely to have been involved in management for a long time: slightly over half had been involved more than 20 years, compared with about seven of every ten male farmers
- just over a quarter (25.7%) of female commercial farmers had been involved in management ten years or less, compared with only 13.5% of the male for-profit farmers
- in 2013, respondents were asked how long they had been involved in the business or holding (rather than its management), but differences between female and male commercial farmers were also significant

Female commercial farmers were also more likely to have a university level education, and were less likely to be educated to school level only, compared with male commercial farmers; similar differences were also apparent in 2013.

In addition to these contrasts, there are statistically significant differences in the importance of alternative income sources to businesses and holdings. While a majority of female commercial farmers (57.1%) and similar male farmers (56.5%) received more than three quarters of their income from agricultural production in 2018, around one in five of the female cohort received less than a quarter of their income from this source, a somewhat higher figure than for men. Similarly, there is a significant difference in the proportion of income received from direct subsidies. Female for-profit farmers were more than twice as likely as men to report that it was zero, and just below half (49.5%) received less than a quarter of income from these subsidies, while this was the case for 39.4% of male commercial farmers. Although these differences are relatively small, they are statistically significant, and similar findings were apparent in 2013: for example, 20.1% of the female commercial cohort received zero income from the Single Farm Payment, compared with 10.7% of men. **These figures suggest that a larger proportion of female commercial farmers are linked to diversified businesses, and suggests evidence of lower access to, or uptake of, subsidies.**

There are also differences in the nature of decision-making on the business or holding. While one in ten female commercial farmers indicated that no other people were involved in decisions, this was the case for over a third of male for-profit farmers. In 2013, the question on decision-making was worded somewhat differently, but data suggests a higher tendency for lone decision-making on the businesses/holdings of male commercial farmers (57.8% indicated that decisions were made by one person, compared with 40.2% of female commercial farmers). In 2018, female commercial farmers were more than twice as likely as their male counterparts to respond that their partner or spouse was also involved in day-to-day decision making, and a large majority (84.3%) indicated that their partner or spouse, or other family members, were involved; the latter was the case for a somewhat lower proportion (58.9%) of the male commercial farmers. In 2013, although the question wording and response options were different, half (49.7%) of female commercial farmers indicated that their household or extended family made decisions on the business/holding, while this was the case for a lower proportion (35.4%) of male commercial farmers. Finally, where applicable, the 2018 survey asked farmers about the gender balance of other people involved in day-to-day decision making. It is notable that about half of the female commercial farmers noted that other decision maker(s) were men (or one man), but only 17.0% of male commercial farmers identified other decision makers as all women (or one woman). Similar proportions of both cohorts (slightly below half) reported a mixed gender balance among other decision makers.

Table 2: Summary of significant differences between female and male commercial farmers in 2018, in terms of demographic characteristics and farming experience, income sources, and the nature of decision-making on farms. 2013 survey analysis also described in brief: 'CV' = was there a comparable variable from the 2013 survey data? 'S' = if there was a comparable variable from 2013, was there a significant association with commercial farmer gender?

Variable from 2018 survey	Commercial farmer cohort		2013 survey	
	Female	Male	CV	S
Selected response(s) to illustrate differences				
Business or holding inherited from previous generation				
Yes	56.8	70.4	Yes	Yes
Years involved in management of business/holding*				
more than 20 years	53.1	70.5	Yes	Yes
Highest level of education				
School	27.6	35.3		
University or higher	39.2	24.0	Yes	Yes
% of total income from business/holding from agricultural production				
Less than 25%	12.0	8.7		
Zero	7.5	3.0	Yes	Yes
% of total income from business/holding from direct CAP subsidies				
Less than 25%	36.0	33.5		
Zero	13.5	5.9	Yes	Yes
No other people involved in decision-making on the business/holding				
Yes/chosen	10.0	34.1	Yes	Yes
Partner/spouse involved in decision-making on the business/holding				
Yes/chosen	67.5	30.7	No	
Household or family (i.e. partner/spouse, other family members) involved in decision-making on the business/holding**				
Yes/option(s) chosen	84.3	58.9	Yes	Yes
Gender of others involved in day-to-day decision-making				
A mix of men and women	46.8	47.9		
All men (or one man)	50.9	35.2		
All women (or one woman)	2.3	17.0	No	
Variables not significantly associated with commercial farmer gender in 2018: age group, four variables on people involved in decision-making on the business/holding, Identification of potential successor to take over management of business/holding				

Table 2: All variables significantly associated at $p < 0.05$ (2018 survey). '**' – categorical variable created from number of years recorded in survey. The classification was based on 2013 survey categories. '***' – variable calculated from both 2018 and 2013 data, to improve comparability.

Table 3 (below) highlights significant differences for variables related to the perceived financial health of the farm household and the role that respondents perceived themselves to have. **There is a significant difference in perceived economic prospects apparent in 2018, with female commercial farmers being slightly more likely to be pessimistic (have a 'bad' or 'poor' outlook) compared with male for-profit farmers.** In 2013, economic prospects were not significantly different between the two cohorts of farmers, although 14.2% of female commercial farmers had a 'bad' or 'poor' outlook compared with 9.5% of men). A comparison of data for 2013 and 2018 show that for both female-led and male-led commercial farms, the proportion of respondents who were pessimistic has increased (women: 14.2% in 2013, 22.6% in 2018; men: 9.5% to 15.5%) while the proportion who were optimistic decreased (women: 36.1% had an 'excellent' or 'good' outlook in 2013, 32.0% in 2018; men: 42.8% to 34.7%).

In 2018, while a considerable majority of both groups of commercial farmers considered themselves to be a farmer, women were slightly less likely to do so (Table 3). Women were also more than twice as likely to consider themselves a smallholder, compared with men, and were about half as likely as men to identify as a contractor; however, these roles were not common for either cohort.

Table 3: Summary of significant differences between female and male commercial farmers in 2018, in terms of the perceived financial health of the household and perceived role. 2013 survey analysis also described in brief: 'CV' = was there a comparable variable from the 2013 survey data? 'S' = if there was a comparable variable from 2013, was there a significant association with commercial farmer gender?

Variable from 2018 survey Selected response(s) to illustrate differences	Commercial farmer cohort		2013 survey	
	Female	Male	CV	S
Economic prospects for household in next five years				
Bad or Poor	22.6	15.5		
Fair	45.4	49.8		
Excellent or Good	32.0	34.7	Yes	No
Considers self to be a farmer				
Yes/chosen	73.8	80.3	No	
Considers self to be a smallholder				
Yes/chosen	8.1	3.3	No	
Considers self to be a contractor				
Yes/chosen	3.1	6.2	No	
Variables not significantly associated with commercial farmer gender in 2018: Current economic position of household, three variables on perceived role				

3.2 Past and intended changes to farm management

In 2018, farmers were asked whether and how they had changed the management of their business or holding in the last five years, considering 15 types of farm activities: for most of the activities, farmers could respond that they had increased, decreased or not changed these. Similarly, farmers were also asked about the changes that they intended to make in the next five years. **Notably, there were no significant differences in past management behaviour between female and male commercial farmers, for any of the activities in the survey.** A very similar pattern was found in the 2013 survey: there were no significant differences in past changes (those made since 2005) between the two cohorts of for-profit farmers, considering 13³ farm activities in turn.

Figure 1 (below) summarises the intended farm changes of female for-profit farmers and comparative male farmers, considering the next five years from 2018: it shows the percentage of each cohort who intend positive changes (increases) in activities. The 'linear' appearance of the graph suggests that female commercial farmers had generally similar intentions to male commercial farmers, and there are no significant differences between the intentions of these two cohorts for any of the 15 activities. The two most commonly intended positive changes for female commercial farmers were increased investment in new technologies (44.0% intended this) and increased production intensity (36.6%); these were also the most popular intended changes for male for-profit farmers. 'Unpopular' intentions for female commercial farmers were also unpopular among the male cohort: the two activities where activity was least likely for the female cohort were increasing the amount of land let out (7.7% intended this) and changing commodities produced (planned by 15.3%). Respective figures among commercial male farmers were very similar (7.5%, 16.4%).

Considering the farmer intentions expressed in the 2013 survey, which matched or were closely comparable to the activities included in 2018 (in 2013, respondents were asked to consider the period to 2020), male and female commercial farmers had significantly different intentions only for changes to farm size, and forestry. When surveyed in 2013, female commercial farmers were slightly less likely to intend to increase business or holding size (17.2% did, compared with 25.7% of male commercial farmers) and were more likely to intend no change (the intention of 74.6%, compared with 63.1%). Additionally, female commercial farmers were more likely to intend to increase the area of forestry by 2020 (16.8% did, compared with 10.4% of male commercial farmers).

Nonetheless, the very similar intentions in 2018 indicates that gender is not a distinguishing variable between the behaviour of commercial farmers.

Comparative questions asked in the 2013 survey also suggest that, for some activities, female commercial farmers intend greater levels of activity post-2018, compared with the post-2013 period. Intentions to increase activity grew most (percentage points) for investment in tourism and other recreation: 34.2% intended to increase this after 2018, up from a respective figure of 18.3% in 2013. The second largest growth in intended activity was for investment in new technologies (44.0% of female commercial farmers planned to increase this in 2018, compared with 29.0% in the first survey). Third, increases in agri-environmental activity were of greater interest in 2018 (34.4%) compared with 2013 (19.9%).

³ Two further activities were not included as they were not included on all surveys, also 'Other' activities are not included.

Figure 1: Comparison of the proportions of male and female commercial farmers who intend to increase farm activities in the next five years.



Note: The figure for 'The commodities you produce' is the % who indicated that they would change this.

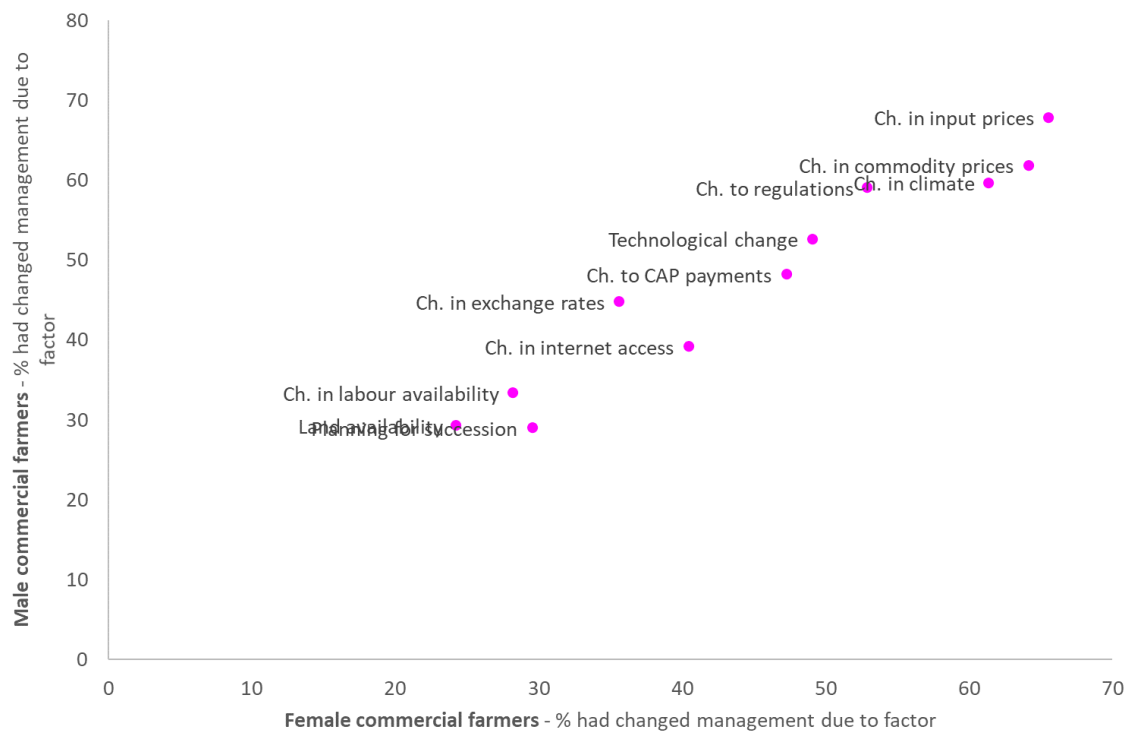
3.3 The factors and issues affecting farm management

Figure 2 (below) summarises commercial farmers' perceptions (in 2018) of whether eleven different factors or issues had changed the way they managed their business or holding, in the last five years. Female commercial farmers were significantly less likely than male farmers to have been affected (either 'slightly' or 'significantly') by changes in exchange rates (35.6% vs. 44.8%) and were also significantly less likely to have been influenced by changes in regulations (52.9% vs 59.0%). However, a broad overview shows that the factors which were influential for a high proportion of female commercial farmers, had also affected a large number of male commercial farmers. The most 'influential' factors to the farm management of female commercial farmers had been changes in input prices (affected 65.6%), changes to commodity prices (64.2%) and climate change (61.4%). Where similar issues and factors were included in the 2013 survey (farmers were asked to consider the period since 2005), **it is apparent that some factors have increased in importance for female commercial farmers.** These increases were largest (in percentage points) for changes to CAP subsidy payments, affecting 47.3% of this cohort in the five years before 2018, a considerable increase from the 24.9% of female commercial farmers affected by changes to the Single Farm Payment before 2013. The second largest increase related to changes in labour availability, which affected 28.2% prior to 2018, compared with 14.8% affected by changes in trained staff availability before 2013. Thirdly, planning for succession also appears to have become more influential, affecting 29.6% of commercial female farmers before 2018, compared with 19.5% before 2013. Notably, climate

change has also seen a growth in influence on farm management for female commercial farmers: 61.4% reported that this had affected them in 2018, compared with 52.7% in 2013.

Finally, in the 2013 survey, changes to input and commodity prices, and changes in technology, were influential for large proportions of female commercial farmers (they affected the farm management of 66.9%, 63.3%, and 50.3% of this cohort, respectively), but these issues each affected male commercial farmers to a significantly greater degree. Interestingly, there were no significant differences noted for these factors in the 2018 survey.

Figure 2: Comparison of the proportions of male and female commercial farmers whose farm management had been changed by different factors in the last five years.



Note: Available responses in the survey were 'No', 'Slightly' or 'Significantly'. The latter two categories were combined.

4.0 References

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Acknowledgements

This work was funded by the Rural & Environment Science & Analytical Services Division of the Scottish Government, as part of the Strategic Research Programme 2016-2021 (RD2.4.2). The opinions expressed in this report do not necessarily reflect those of the Scottish Government or RESAS. We wish to thank participants in the telephone surveys, the Agricultural Statistics team for use of the June Agricultural Census data, and RPID for subsidy data. Thanks to Michael Spencer for his work with the survey datasets. Any errors in analysis or interpretation are those of the authors.

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