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AHDB

HORIZON

# Assessing the impact of the Sustainable Farming Incentive on farm businesses

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# FOREWORD

**Farmers in England are experiencing what is probably the most rapid period of change that any of us have known since accession to the EU back in 1973. With the removal of Direct Payments and the phasing in of the Environmental Land Management Scheme (ELMS), farm businesses will need to change and adapt to ensure they can benefit financially from the environmentally positive actions they take, while ensuring any actions are right for the business as a whole.**

One of the most important roles that AHDB can play during this transition is to ensure our levy payers have up-to-date information regarding policy changes, and that they fully understand the implications of those policy changes for their farm businesses.

The information in this Horizon publication has been produced by AHDB and Harper Adams University. It examines farmers' attitudes and intentions regarding the Sustainable Farming Incentive (SFI) pilot scheme and the 2022 roll-out.

As part of this work we interviewed a range of farmers and examined what did, or didn't, attract them to the SFI scheme; why they made the decisions they have made; and what were the key drivers for the decision-making process. Also we looked at what plans they had made to address the loss of Direct Payments and what changes, if any, they were making to their businesses.

We then applied the payment rates and the details of each standard so far announced by Defra for both the pilot scheme and for SFI 2022 to our virtual farms (see **Appendix**), in order to assess the impact on the bottom line for businesses. It is crucial to understand the costs involved in delivering the standards required in SFI, and farmers cannot assume the payments will be an automatic addition to their farm business income.

Each standard will require a specific action – for instance assessing initial soil health or establishing a cover crop – and the costs incurred need to be taken into consideration when determining the overall impact of participation in the scheme. In certain circumstances costs of participation may exceed the payment rates.

The aim of this Horizon publication is to show farmers how carrying out various SFI standards could impact their farm business. Our virtual farms are representative of a range of different enterprises, and different farmers will identify with different ones. Farmers may also wish to calculate the impact using their own data. This attention to detail will ensure they have taken each step and each cost into consideration before they commit, which will ensure they will benefit from that participation. Our analysis shows there is no generic answer, because each farm and each business is unique. Farmers will need to do what is best for them. For this, they need to be well-informed.

The SFI appears to be most beneficial financially for those farmers who are already undertaking many of the actions required. This is important for policy makers to be aware of, and this publication is to inform them along with farmers. Schemes such as ELMS are being developed using a much more open and collaborative approach than previous policy decisions, and it is vital that AHDB's role as a provider of impartial evidence is recognised by policy makers to help shape and inform the new schemes as they progress. If we are to achieve the standards that have been agreed at COP26, government needs to ensure that all these schemes are attractive and appropriate for farmers across the board. Only then can the challenging environmental targets be reached.

Finally, we would like to thank the farmers who gave up their time to participate in this report. Working together, we can help make sense of the challenges ahead and support our levy payers to make informed business decisions that will ensure healthy and thriving businesses.

# EXECUTIVE SUMMARY

**In 2021 we commissioned Harper Adams University to work with us to examine attitudes towards the Sustainable Farming Incentive (SFI) on farms in England, as well as its potential impact. The SFI pilot began towards the end of 2021 and has eight standards which farmers could apply on their farms.**

The wider rollout of the SFI is due to begin in summer 2022 and will initially consist of three standards, two of which are available in the pilot scheme.

This work is made up of two parts:

1. Discover farmers' attitudes and perceptions: whether they are likely to participate in the SFI, and how they feel about the agricultural transition.
2. Measure the likely economic impact on farm businesses by carrying out modelling using AHDB virtual farms.

## Farmers' attitudes and perceptions

We asked 34 farmers what the key drivers were that determined whether they are likely to participate in the SFI, as well as their attitude to the agricultural transition more widely. We explored whether they had examined what the impact of the removal of Direct Payments will have on their farm business and what plan, if any, they had made to mitigate this loss of income.

With such a small sample size, this work does not capture a representative view of all English farmers on the change in domestic agricultural policy, ELMS or the SFI pilot. Rather, it is an early snapshot or 'testing the water' approach to gauge how farmers feel about the changes and what they are planning and doing in response.

### The findings from farmer interviews

The key findings from this work are as follows:

1. Farmers vary considerably in level of preparedness for the loss of Direct Payments: just over half of those interviewed have made plans.
2. Of farmers that had made plans, diversification was the most favoured strategy. Other plans included entering new environmental schemes, working out how their Direct Payments will reduce, scaling production either up or down and improving efficiency.
3. Many farmers were unsure what impact the policy change would have on their business. This may have been exacerbated by strong market prices last year masking the first staged reduction in Direct Payments.
4. For those farmers not participating in the SFI pilot scheme the main barriers to entry were cited as:
   - Not seeing the standards fitting in with their current systems
   - The process being too burdensome
   - There is too much uncertainty to consider the SFI in its current form
5. For those who did participate, financial incentives (e.g. the one-off £5,000 learning payment) were the key driver for farmers choosing to engage.
6. Most participating farmers chose standards that they were already meeting on-farm.
7. Farmers who applied to take part in the pilot were split on whether the current payment rates would be enough for them to continue participating, with most being uncertain how much the costs incurred for participating would be.

## Economic impact on farm businesses

We also carried out a study of the financial side, using AHDB virtual farms to model likely outcomes. We have used these to calculate the effect on farm business income for participating in both the SFI pilot and SFI 2022. To calculate this, we included:

- Defra's latest SFI pilot payment rates
- Defra's latest SFI 2022 payment rates
- Basic Payment Scheme (BPS) support reductions over the time period
- Output and key cost prices
- Income foregone, e.g. to land taken out of production

For the SFI pilot, the standards examined in the analysis were:

- Arable and horticultural land
- Arable and horticultural soils
- Hedgerows
- Improved grassland
- Improved grassland soils

For SFI 2022, the standards examined were:

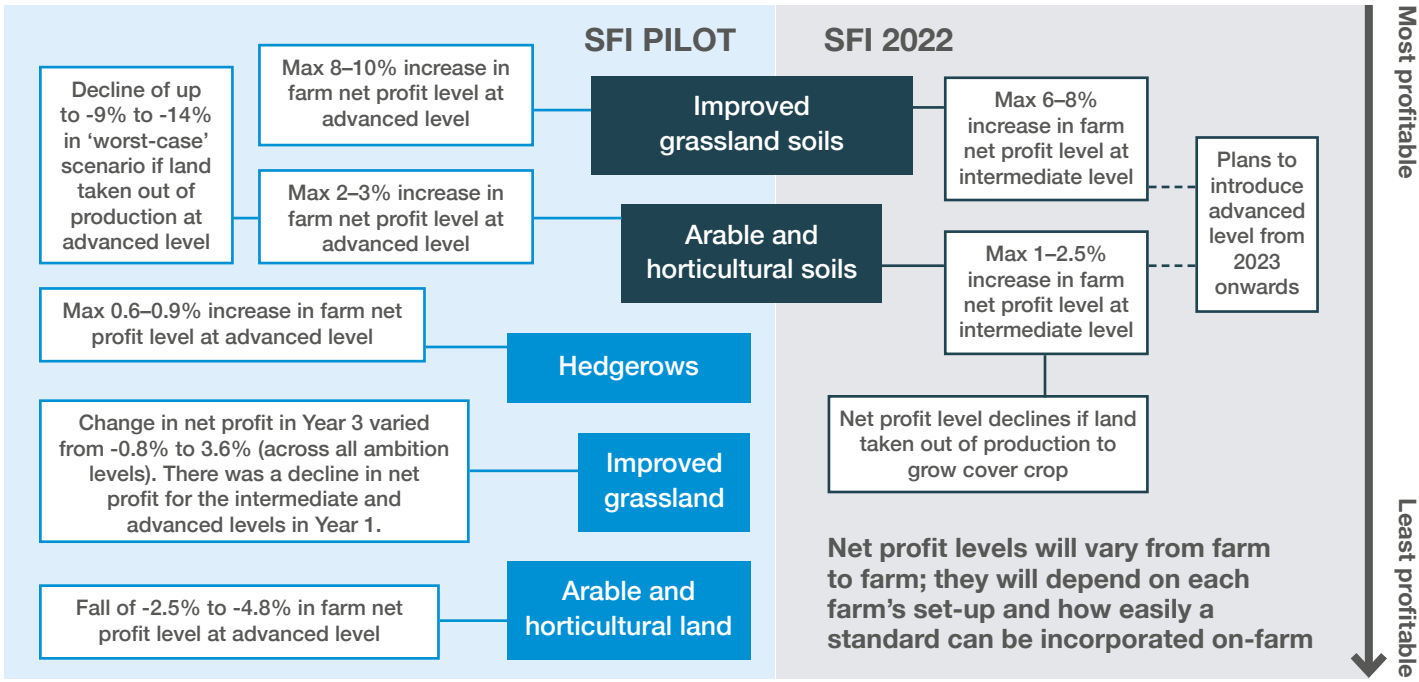
- Arable and horticultural soils
- Improved grassland soils

### Key findings from AHDB virtual farms

While the net payments (i.e. payment less cash cost of participating) for most of the standards in the SFI standards examined were positive, the overall impact on the farms' net profit (total revenue minus total costs) was negative once land taken out of production was considered.

Figure 1 illustrates the headline effect of carrying out the five SFI standards examined in this analysis on the net profit levels of the AHDB virtual farms.

Figure 1. **Outcomes of carrying out the five SFI standards on net profits of the AHDB virtual farms**




Note: Changes in net profit levels shown refer to the third and final year of the scheme.

Out of the five standards considered, the 'improved grassland soils' followed by 'arable and horticultural soils' standards had the most positive effect on the virtual farms' net profit levels. This is encouraging given that these standards will remain when the wider rollout of the SFI begins in summer 2022. The 'arable and horticultural land' standard that is available in the SFI pilot led to a decline in the virtual arable farms' net profit levels due to the need to take land out of production.

Overall, the environmental goods produced as a result of the SFI are likely to be minimal at the current payment rates. Our analysis shows that it is unlikely to be financially beneficial to farmers to participate in certain standards unless they are already undertaking at least some of the actions required.

The net effect of participation will vary greatly between individual farms. As stated, the schemes will be most attractive for those who are already experienced at delivering environmental goods and who are already undertaking many of the tasks outlined in the SFI. We conclude that farmers would benefit from treating environmental outputs like any other agricultural output within their businesses. If they became a top performer in terms of the efficiency with which they can produce these public goods, they will benefit the most from the current and future schemes. The SFI will not replace Direct Payments, even for those most efficient at producing environmental goods, so it is important that farmers consider the SFI within a wider review of their business in order to ensure they mitigate the loss of Direct Payments and remain profitable throughout the agricultural transition period and beyond.

## Conclusions

Key messages for both the pilot and SFI 2022 are:

- If farmers are already carrying out actions on-farm which are required under the SFI, it is beneficial to join the scheme because they will receive extra income
- If farmers are not carrying out the actions required but their farm set-up will allow them to do so with little additional cost, it is beneficial to join the scheme
- For farmers where this is less apparent, it is worthwhile to carry out the calculations for their own farms to see if taking part in the scheme will be worthwhile for them

This is the first detailed piece of analysis undertaken to explore the new policies being announced by Defra for farmers in England. As more information becomes available, we will be examining future schemes in England as well as in the devolved nations and assessing the potential impact on agriculture across the UK.

# INTRODUCTION

**England is currently in the Agricultural Transition Period (ATP) where Direct Payments are being phased out from 2021 until 2027, with no Direct Payments from 2028 onwards. Following EU Exit, the devolved nations in the UK are free to implement their own domestic agricultural policy. The approach each takes is unlikely to be identical, but a focus on the environment will be a common thread.**

The ATP and beyond represents a significant disruption and external threat (or opportunity) to the operation of farming businesses in the UK. Farmers will need to adapt, and therefore need evidence-based information on which to base their plans for adaptation to a world without Direct Payments.

The Sustainable Farming Incentive (SFI) is part of the Environmental Land Management Scheme (ELMS) that is being rolled out in England under the concept of 'public money for public goods'. The aim is to reward farmers for carrying out actions that benefit the environment, which will in turn help to achieve national targets.

As at 10 Oct 2021, **938 farmers**, covering a range of sectors and farm sizes from across England, had applied to be part of the SFI pilot. The SFI pilot[1] agreements will last for three years, and payments to participating farmers will be quarterly in arrears.

The wider rollout of the SFI is due to begin in summer 2022 and will be available to all farmers who are eligible for the Basic Payment Scheme. SFI 2022 agreements will also last for three years, but have some key differences compared with the pilot scheme. **These differences are discussed later in this report.**

This report starts by looking at how agricultural policy in England is changing to become more environmentally focused, followed by a brief review of factors which affect farmers' environmental management behaviour. Farmers' attitudes towards the change in policy are then discussed, including any actions, if any, they are taking in response to the change. In particular, farmers' views of the SFI pilot are examined, followed by analysis of its economic impact on farm businesses using AHDB virtual farms. Finally, the financial implications of SFI 2022 and key factors farmers should consider are explored.

## How much do farmers depend on Direct Payments?

A considerable proportion of English farmers are reliant on Direct Payments through the Basic Payment Scheme (BPS) to produce a positive farm business income (Figure 2).

Figure 2. **Farm business income by cost centre (2018/19–2020/21 average)**

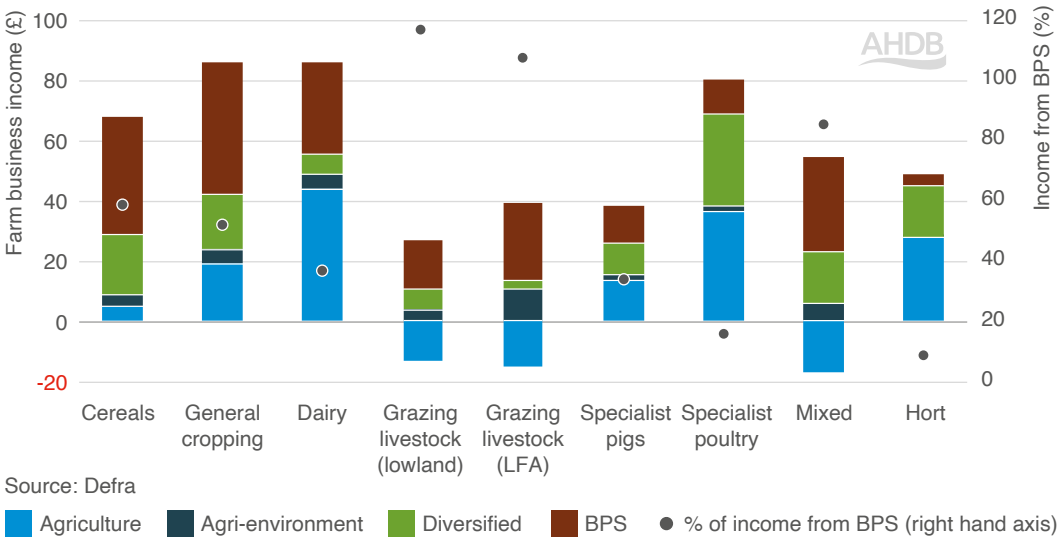


Figure 2 shows that reliance on BPS or Direct Payments varies by sector. For grazing livestock in lowland and less favoured areas (LFA) and mixed farms, Direct Payments are the difference between making a profit or loss. On average, Direct Payments account for almost 60% of cereals farm incomes. Dairy, pig, poultry and the horticulture sector are the least reliant on BPS.

Removal of Direct Payments is, therefore, likely to be particularly challenging for the beef, sheep and cereals sectors: farmers in these sectors will almost certainly need to make changes to maintain profitable businesses.

## What's the new direction for agricultural policy in England?

Future funding for farming in England is founded on encompassing and rewarding practices that work in harmony with the environment. ELMS is set to build on existing agri-environment schemes such as Countryside Stewardship, which are focused on supporting farmers and land managers to implement a range of environmental improvement actions. From 2023, these schemes will be phased out and become part of ELMS.

There is evidence[1] that previous agri-environmental schemes have not achieved adequate public value for money and have been environmentally ineffective, both in the UK and within the EU. One of the key objectives of ELMS is to address these shortfalls.

The core component of ELMS that is relevant to English farmers is the SFI scheme, which is expected to expand over time to promote the adoption of sustainable farming actions. In addition, the Local Nature Recovery and Landscape Recovery schemes will focus on local (community) environmental priorities and support long-term projects to change land use.

The **SFI** is currently designed to pay farmers for the provision of public goods, such as cleaner water and air, and carbon reduction. The SFI is designed with 'action-based payments' for farmers who adopt environmentally friendly practices that go beyond regulatory requirements.

### The pilot scheme

The actions of the **SFI pilot**, which started in November 2021 and will run for three years, are grouped into packages set out initially as eight standards covering:

- Arable and horticulture land
- Arable and horticulture soils
- Improved grassland
- Improved grassland soils
- Low and no input grassland
- Hedgerow
- Farm woodland
- Water body buffering

It is envisaged that the number of standards available will increase over time, and payment rates based on an 'income foregone' approach for actions contained within each standard will be modified based on farmer feedback. This is a key point: **payment rates are subject to change** as Defra have stated that there is a focus on co-design and stakeholder engagement in the development of the new schemes, and modifications can be made based on feedback from farmers.

[1] Brown et al. 2021.

More than one SFI standard can be applied to the same area of land, as long as the standards are not in conflict. Each standard has three levels of ambition: introductory, intermediate and advanced, with the exception of the farm woodland standard, which has one level. Each level builds on the actions of previous levels: so for example, the intermediate level will involve carrying out all the actions required under the introductory level as well as further actions. Payment rates increase as the level of ambition increases (Table 1).

Table 1. **SFI pilot standards and payment rates (as of April 2022)**

| | Payment rates (£/ha) | | |
|---|---|---|---|
| | Introductory | Intermediate | Advanced |
| Arable and horticultural land | 30 | 57 | 79 |
| Arable and horticultural soils | 26 | 41 | 60 |
| Improved grassland | 29 | 68 | 97 |
| Improved grassland soils | 31 | 53 | 84 |
| Low and no input grassland | 22 | 114 | 120 |
| Farm woodland | 49 | – | – |
| Water body buffering* | 18 | 33 | 38 |
| Hedgerows* | 19 | 25 | 28 |

*Water body buffering and hedgerow payment rate is £/100 m

### Wider rollout in 2022

The **wider rollout of the SFI**, due to begin in 2022, will only have three standards available:

- Arable and horticultural soils (Payment rate – introductory £22/ha, intermediate £40/ha)
- Improved grassland soils (Payment rate – introductory £28/ha, intermediate £58/ha)
- Moorland and rough grazing (Payment rate – introductory £10.30/ha plus £265 per agreement)

There are only three standards available for the 2022 rollout as further testing is required before other standards are made widely available. **Defra plan to introduce further standards incrementally from 2023 onwards**, with a full range offered from 2025.

## Factors which affect farmers' environmental management behaviour

Various studies have examined farmers' attitudes towards agri-environment schemes in general. The main ones are summarised below, and more detail can be found in Section 3 of the report, **Are English farmers ready for the changes in UK agricultural environmental policy?**

Overall, there seems to be a general acceptance among farmers of a system where they are paid to produce public goods, but only if it allows them to maintain a financially viable farm.

There is some evidence that farmers tend to voluntarily provide environmental public goods if they see that other farmers are also doing this, and so peer and moral pressure can play an important role.[2]

[2] Cullen et al. 2020.

In general, farm managers maintain a steady course of action on their farms. They tend to make only incremental changes to farming operations (e.g. inclusion of buffer strips in arable farming, leaving hedges untrimmed) until a major event or opportunity occurs.[3] A major change in farming activity, or 'transition' to a new path, occurs when there is a significant re-orientation of farm resources or activities (e.g. a shift from conventional to organic farming). The removal of a subsidy scheme, such as BPS, was found to be a major trigger event,[4] and would often encourage farmers to transition towards a new pathway (e.g. contracting out their land, off-farm or contracting employment, diversification). This is the situation farmers find themselves in now, but it remains to be seen if the options provided through ELMS and the SFI are significant enough to encourage the transition of production-orientated (productivist) farmers towards environmentally orientated behaviour (environmentalist).

The lack of detail and uncertainty around ELMS and the SFI may lead to fewer farms shifting towards more environmentally oriented behaviour, participating in agri-environment schemes (AESs), or moving towards alternative options to deal with reduced BPS income, especially if they are resource-constrained.

Studies across seven EU countries have shown that economic factors were key drivers for farmers taking part in AES, with higher payments central to increasing participation. Also critical to farmer uptake of AES were farmer beliefs and values in regard to either a productivist or environmentalist motivation, and the complexity of AES policy was another key factor.

Analysis of papers published between 2000 and 2013 on factors influencing EU farmers' participation in AES suggested that increased uptake was driven by factors such as:

- Being offered a fair payment level
- Lower household dependency on agricultural income
- Younger age and higher education levels
- The absence of a successor
- Ability to make incremental changes to the business (goodness of fit with minimal disruption to agricultural activities)

One study[5] across the EU (including the UK) was of area-based compensation payments offered to farmers for carrying out agri-environmental actions that go beyond good farming practice. It found that participation in AES is more likely to occur among farmers with less intensive production systems (e.g. grassland-based systems), where agri-environmental payments are lower and AES may be a better fit with their resources and strategies. Additionally, larger-scale farms in less-favoured areas are more likely to participate in AES, and older farmers tended not to participate in AES.

A 2001 study explored whether the Countryside Stewardship (CS) scheme shifted attitudes among less-conservationist farmers towards conservation-orientated attitudes and practices. Through interviewing both participants and non-participants, it was found that the main reasons for participation were:

- The CS scheme fitted with existing farm plans (74%)
- The farmers wished to promote conservation (66%)
- Financial reasons (65%)

[3] Sutherland et al. 2012.

[4] Major trigger events identified by UK farmers were either related to intergenerational succession (e.g. succession, retirement, labour availability); or farm business related (e.g. labour availability, commodity price fluctuations, regulations, subsidy schemes, disease outbreak, e.g. BSE) (Sutherland et al. 2012).

[5] Zimmerman and Britz, 2016.

Reasons for non-participation included:

- The lack of goodness of fit (53%)
- A lack of clear value or benefit to the farm from participation (47%)

Interestingly, with regards to perceptions of farmers towards the CS scheme, both participants and non-participants identified the objectives of the scheme as primarily environmental, with few believing it had financial objectives.[6] This may suggest that farmers were generally aware that such a scheme is not about providing direct financial support.

Adoption of environmental policies may not be driven by the same factors that influence production and financial decision-making in farming.[7] Farmers that are most likely to exhibit environmentally orientated behaviour are already actively committed to environmental conservation.[8]

A study[9] of an afforestation AES in Germany indicated that farmers would be willing to receive lower subsidy payments if they were provided with technical management advice and had the opportunity to return to farming-based land uses after contracts ended. This indicates that flexibility (or a reluctance to make irreversible long-term commitments), goodness of fit and risk influence the uptake of AES.

Overall, a review of previous studies shows four kinds of farmer:

1. Those that exhibit **environmentally orientated behaviour and do not participate in an AES**, as they already have, or will voluntarily adopt, agri-environmental practices without subsidy
2. Those that exhibit **environmentally orientated behaviour and participate in an AES**, as they adopt more complex agri-environmental practices when receiving lower levels of subsidies
3. Those that are **productivist-orientated and do not participate in an AES** and are non-adopters of agri-environmental practices, and remain focused on traditional/ conventional farming systems
4. Those that are **productivist-orientated and participate in an AES**, as they only adopt minor incremental agri-environmental practices when subsidised, and would require high levels of subsidy to adopt more complex agri-environmental practices

**The review also suggests that key factors in AES uptake are: goodness of fit of an AES to the existing farm, having to make minimal changes and high enough payment.**

[6] Wilson and Hart, 2001.

[7] Lastra-Bravo et al. 2015.

[8] Willock et al. 1999b.

[9] Lienhoop and Brouwer, 2015.

# METHODOLOGY

For this project we worked in partnership with Harper Adams University. Harper Adams undertook the extensive qualitative work, interviewing a range of farmers and analysing the results. AHDB looked in detail at the SFI pilot and SFI 2022, examined the payment rates and used our virtual farms (see **Appendix**), in order to assess the financial impact of participation in the SFI in terms of costs and income foregone.

There are two main components of this work:

- The qualitative or 'human' part, looking at how farmers feel about the change in policy and new schemes and what they are planning to do in response
- The quantitative part, looking at the economic impact on farm businesses using AHDB virtual farms

## Qualitative research – Farmers' attitudes and perceptions

For the qualitative research Harper Adams University conducted in-depth, semi-structured interviews with 34 farmers.

Such a small sample size is not intended to capture a representative view of all English farmers on the change in domestic agricultural policy, ELMS or the SFI pilot. Rather, it is an early snapshot or 'testing the water' approach to gauge how farmers feel about the changes and what they are planning and doing in response. However, their input was hugely valuable.

The farmers who took part in the study were not randomly selected: most were farmers that were either taking part in the SFI pilot and/or had taken part in ELMS tests and trials or other agri-environment schemes.

For further details regarding the methodology of the qualitative aspect of this project, see Section 4 of the report, **Are English farmers ready for the changes in UK agricultural and environmental policy?**

## Quantitative analysis – Economic impact on farm businesses

Analysis on the financial implications of the SFI on farm businesses was carried out using the following AHDB virtual farms:

- Arable farm (1,325 ha), East of England
- Arable farm (375 ha), South West England
- Arable farm (455 ha), East of England
- Mixed farm (220 ha), Yorkshire and the Humber
- Beef and sheep farm (150 ha), South West England

AHDB has a second virtual beef and sheep farm (400 ha, North West England) but it was not used because most of the land is already in the Environmental Stewardship (ES) Scheme so would not yet be eligible for the SFI. This in fact reflects comments from some farmers who were interviewed: they were unable to take part in the SFI pilot as they already had land tied up in the ES or the Countryside Stewardship (CS) schemes. In the wider rollout of the SFI in 2022, however, there will be flexibility in agreements which will allow extra land to be added on a yearly basis. This means farmers that are in ES or CS schemes could potentially enter land into the SFI as it comes out of ES or CS agreements.

AHDB is in the process of developing dairy virtual farms to join the virtual network and, following that, virtual pig farms. When the dairy and pork farms are established, AHDB intend to use these in a similar analysis and publish a follow-up article.

**The virtual farms have been created as middle 50% performing businesses. This means that physical performance is comparable to national or regional averages.** Also, costs tend to be higher than would be seen on top 25% farms, and these have been cross-referenced to Farm Business Survey average results.

Details of the virtual farms used in this analysis are provided in the **Appendix**.

For the three arable model farms, the SFI standards investigated were:

- Arable and horticultural land
- Arable and horticultural soils
- Hedgerows

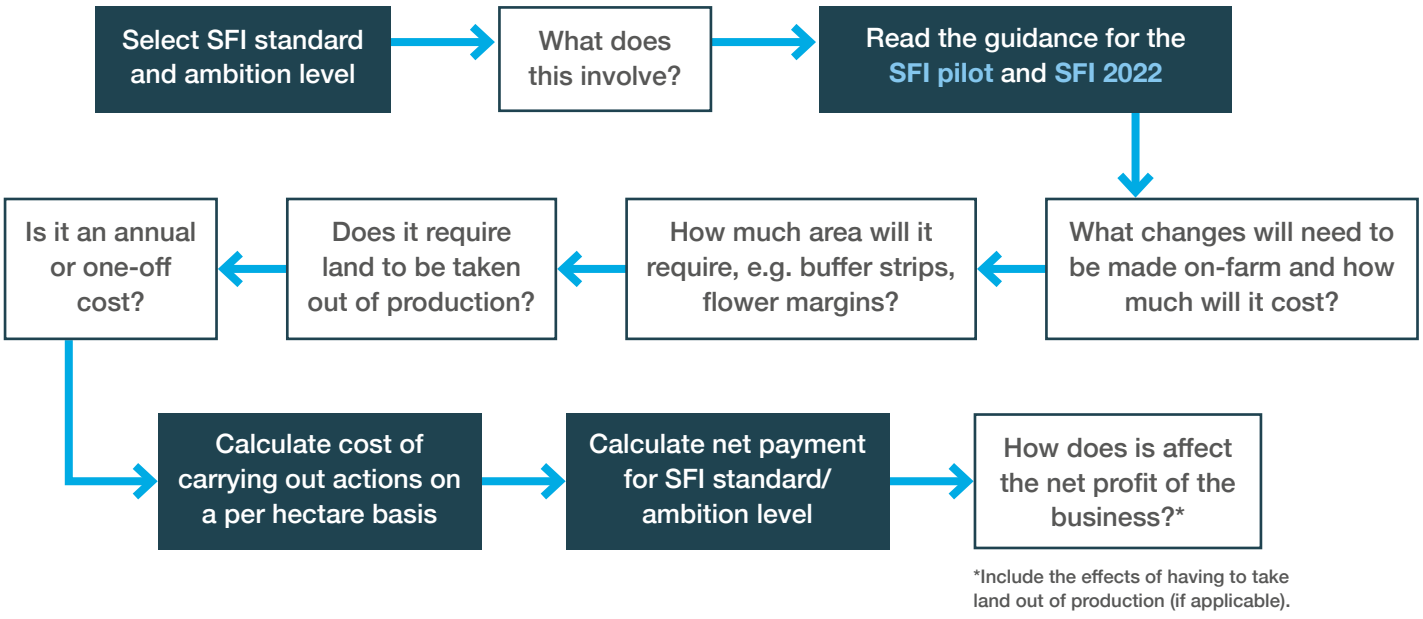
For the two beef and sheep model farms selected the SFI standards analysed were:

- Improved grassland
- Improved grassland soils

For the standards shown above all three ambition levels (introductory, intermediate, advanced) were examined and the same proportion of land (25%) was entered into each SFI standard and ambition level.

Figure 3 illustrates the process by which the SFI costs were calculated. This exercise is rather subjective: while the government guidance explains what is expected for each standard, farmers have a choice regarding the method they choose to implement certain requirements. For example, one of the objectives for the arable and horticultural soils standard is to add soil organic matter. This may be achieved in a variety of ways including using crop residues (such as straw), growing a cover crop and applying organic compost or manure.

Figure 3. **Process of calculating SFI costs, net payment and impact on farm buisness**



For the purpose of this analysis, the focus was on employing the cheapest and easiest method, where possible, to reach the objectives for each standard. The approach used was, therefore, to maximise profits. An environmentally oriented farmer (as covered in the section on **factors affecting farmers' environmental management behaviour**) may take a different approach. The key point here, is that **this economic analysis can only act as a guide; for farmers to gain the maximum benefit from SFI they need to work out the related costs for their own farms, and Figure 3 provides a framework to do this.**

As the SFI pilot is a three-year agreement, the economic impact on the AHDB virtual farms was calculated over a three-year period. While the payment rate will be constant throughout the agreement (unless it is increased by Defra), the costs involved will not necessarily remain the same. For some actions there is a one-off cost (e.g. setting up a flower margin), while for others there are annual costs (e.g. yearly soil testing). So, the net payment (i.e. payment less cash cost of participating) may differ from year to year depending on the total cost involved.

Figure 3 also highlights the importance of calculating the area involved in carrying out a certain action. For example, under the arable and horticultural land standard there is a requirement to provide resources for birds and pollinators on 5–10% of the land entered into the SFI (depending on ambition level). For the analysis carried out on the AHDB virtual farms, the area required for such objectives was calculated; for the arable farms, the area was then subtracted from the land entered with adjustments made to the cropped areas. The relative proportions of different crops were kept the same.

In reality, farmers would probably carry out such actions on land that is less productive or causes the least interference with the farm's enterprises. This is one of the limitations of using a virtual farm: you can't walk around it to see where the poorer land is, and so have to make assumptions. This highlights the value of farmers carrying out this exercise on their own farms.

As the mixed virtual farm in Yorkshire has 90 ha of permanent grassland, the land entered in this analysis for the improved grassland and improved grassland soils standards was solely from that 90 ha. This meant that land from the arable side of the business did not need to be adjusted/taken out of production.

It is also important to note that the costs calculated here do not take in to account the time and cost taken to fill in applications for the scheme. Findings from the qualitative research, in the next section, showed that some farmers felt this was an appreciable cost to factor in, so this may need to be included in farmers' individual cost estimates.

The net payments for the SFI pilot standards, as well as any land that needed to be taken out of production, were applied to the virtual farms. The difference in the net profit of the virtual farm before and after taking part in the SFI pilot was then calculated. (The net profit is the difference between the total revenue of the business and total costs.)

As mentioned earlier, the wider rollout of the SFI is due to start in summer 2022. Analysis of the impact of the two soils standards (arable and horticultural, improved grassland) on the net profit levels of the three arable virtual farms, the mixed virtual farm and the beef and sheep virtual farm was carried out using the methodology described above and is **presented later in this report**.

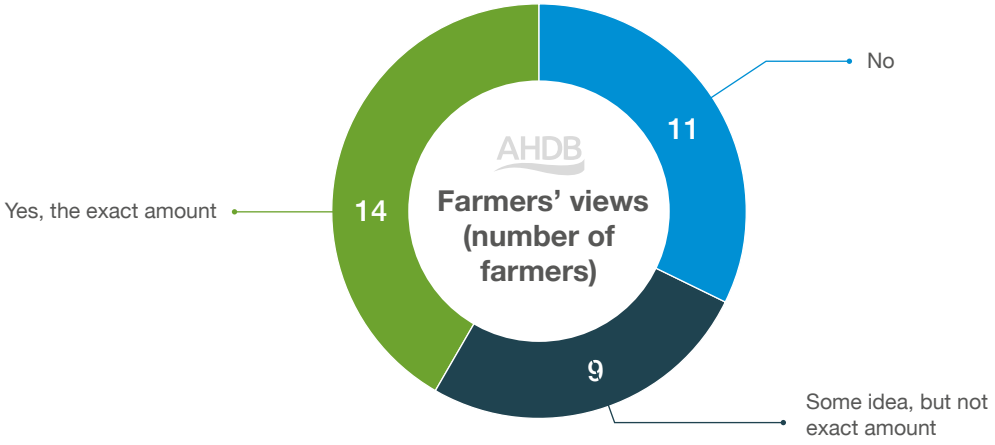
For further details on the methodology regarding analysis of the economic impact of the SFI, see **Assessing the impact of the Sustainable Farming Incentive on farm businesses – technical note**.

# FINDINGS OF THE QUALITATIVE RESEARCH AND ECONOMIC ANALYSIS

## Farmers' views and plans in response to the change in English agricultural policy

Only 14 farmers from the sample of 34 had calculated the exact reduction in Direct Payments from now until 2027 (Figure 4). More of the beef (71.4%) and arable farmers (50%) had worked out their reduction of BPS payments than dairy (14.3%) and sheep farmers (25%).

Figure 4. **'Have you worked out the reduction in your BPS payments from now until 2027?'**

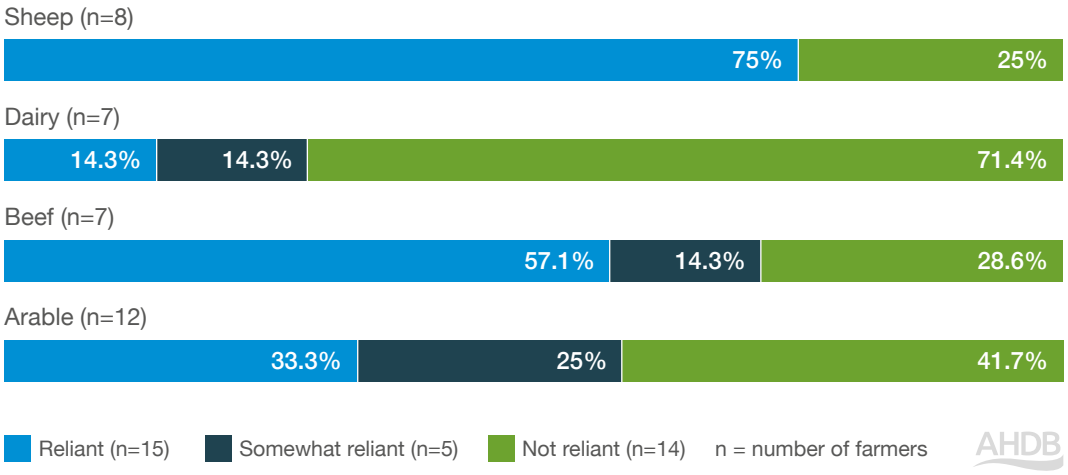



Of the 14 farmers, two had relied on a consultant, one used an NFU chart and two used the **AHDB BPS impact calculator**. The others all indicated that they have worked out the reductions themselves. Nine said they had some knowledge of the reduction on a sliding scale but had not worked out the exact amount. Two of those indicated that they were not worried about the removal of BPS because it was not a big part of their income. Eleven farmers had no idea about how the changes will impact their income. Five of those farmers indicated that they were not aware of any Direct Payment calculators. Reasons for having not worked out reductions at all included:

- One farmer was in the process of selling the farm and will move to Scotland
- One was considering exiting farming if the farm was no longer profitable
- Two were not worried because BPS was not a major component of their farm income, as one farmer said: "I've never really had a need"

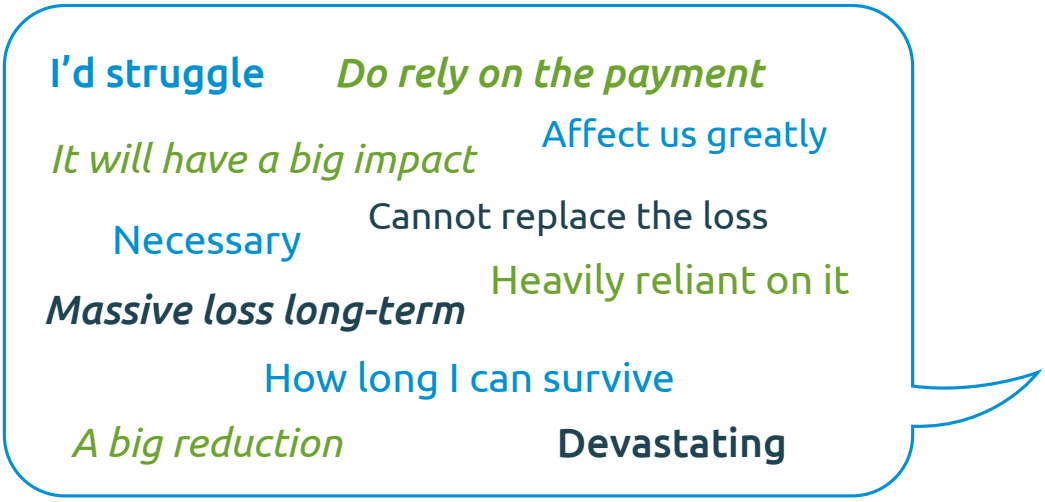
Just over 40% (14) of farmers sampled indicated that they were not reliant on Direct Payments. Those who did rely on Direct Payments saw it as a major source of income to achieve profitability. Figure 5 shows that sheep and beef farmers considered themselves to be reliant on BPS which is unsurprising given that it is a major factor in preventing these businesses from making a loss, as seen in Figure 2 earlier.

Figure 5. **Farmers' views on their relience on BPS by sector**




Some of the responses provided by farmers in relation to their dependence on BPS are shown in the word cloud below (Figure 6), which gives an idea of the magnitude of the impact of the removal of Direct Payments.

Figure 6. **Most common responses from BPS reliant farmers regarding the removal of BPS and the impact on their farming business**

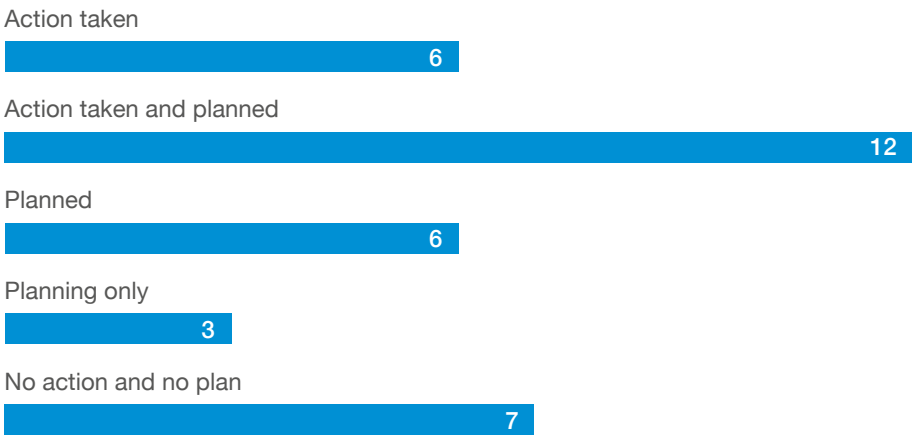



For those who believe that they may not be affected as much, Direct Payments were not a major source of income, but have provided some buffer for uncertainties such as bad weather, diseases and price volatility of inputs and outputs. Most of those used the Direct Payments to cover their running costs, such as rental and input materials, or to invest in farm infrastructure such as upgrading machinery. Most acknowledged that they will have to do things differently.

Thirteen farmers were clear that they were not reliant on the BPS, and the payments were seen as "icing on the cake" or "I don't rely on it but it helps". Some respondents were resentful of the word "subsidy", as they believe the payments subsidise consumers rather than farming. Some were very clear that farmers were producing food as a public good, and that the ecosystem services provided by farmers should be paid for by the public.

In response to "Have you taken any actions or made any plans in response to the proposed changes in policy?", more than half of respondents (52.9%) had made plans for the proposed changes, and about one-fifth (20.6%) had no plans (Figure 7).

Figure 7. **"Have you taken actions or made any plans in response to the proposed changes in policy?" (Figures = number of farmers)**




Planned – they have got a plan but not implemented it yet
Planning – still in the process of forming a plan

Of those seven farmers who made no plans at all, reasons given included:

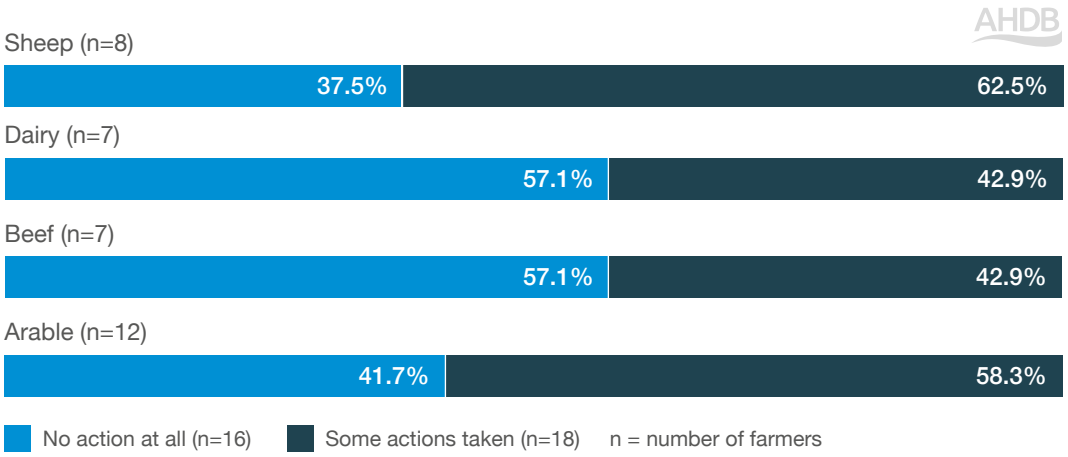
- One was not worried because BPS was not a big part of their income
- One was waiting for some golden opportunities which require little capital investment
- One believed that their farming system might suit the new scheme, so no actions need to be taken at this moment
- One farm has naturally evolved into being less and less reliant on Direct Payments
- Three mentioned that they were just uncertain about what is going to happen and therefore cannot plan ahead; as mentioned by one participant: "No, because I don't know what the challenges are going to be. I'm carrying on as normal till I find out what's happening."

Of those who had actions planned or had already taken actions, seven farmers mentioned either getting ready for the new scheme or entering other existing schemes. Two farmers mentioned scaling up to make up for the income loss. Other options included: improving efficiency by cutting costs, cutting spending, slowing down progress (constraining investment) and scaling down.

Figure 8 shows that most of the sheep and arable farmers interviewed had taken actions in response to the removal of Direct Payments, while most dairy and beef farmers had taken no action. As the sample size is not statistically significant this cannot be considered as representative of farmers within these sectors. It is interesting, nevertheless and indicates that (based on the sample in this study) the amount of farmers who have taken action is still fairly low.

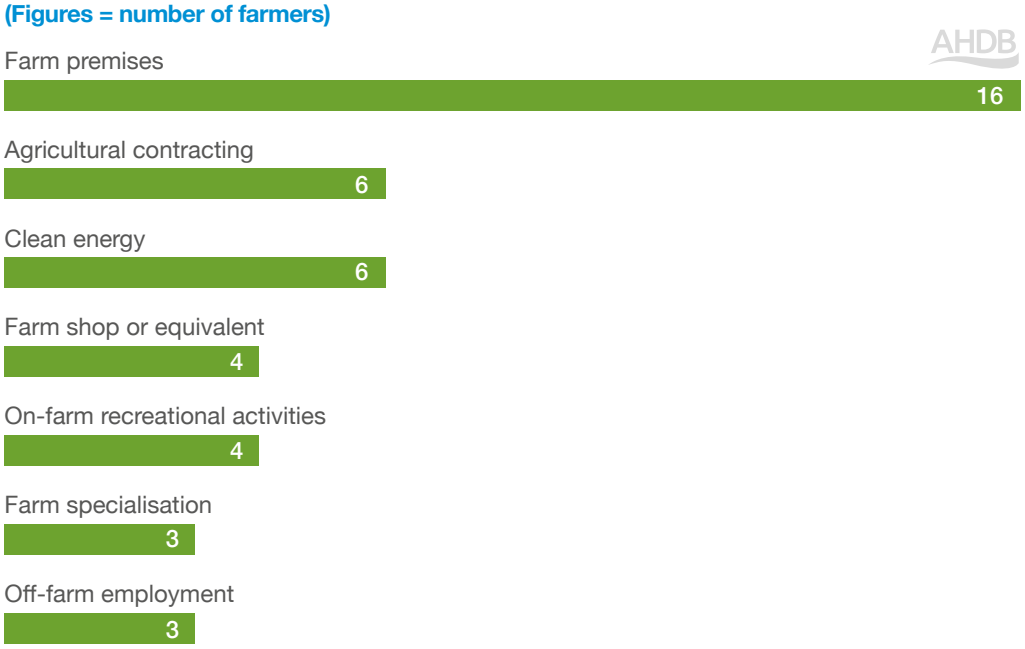
On-farm diversification was by far the most mentioned action or plan (mentioned by 13 farmers), including using extra farm premises (six farmers), building for clean energy (four farmers), setting up a farm shop or direct selling, such as fresh boxes (four farmers), specialising in breeding, doing more farm contracting work, or attracting private sector payments through carbon capture. Three farmers also mentioned some off-farm diversification, including getting an extra job and developing properties outside the farm.

Figure 8. **Proportion of farmers who had taken some and no action in response to policy change by sector**



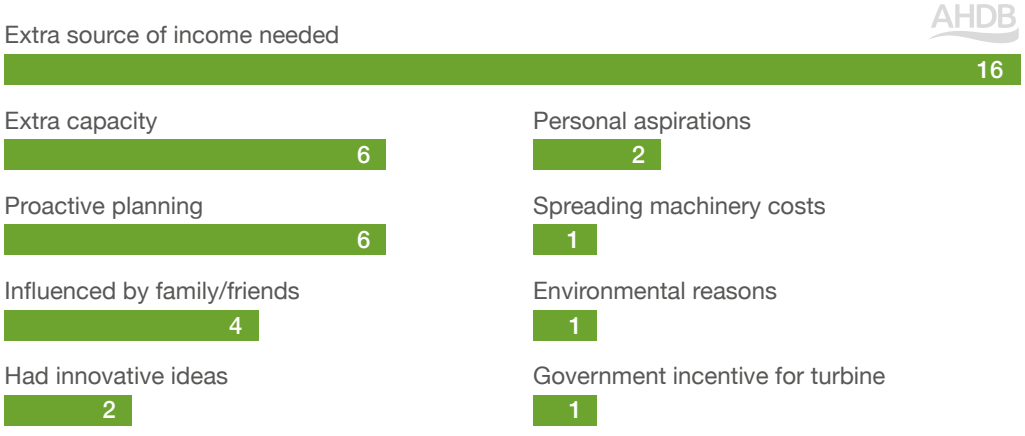

Twenty-four of the farmers interviewed had considered or previously undertaken diversification activities either on- or off-farm (Figure 9a). Making use of farm premises was reported by half of them, and other activities included all those mentioned above.

Figure 9a. **Types of diversification activities undertaken or considered by interviewed farmers (Figures = number of farmers)**



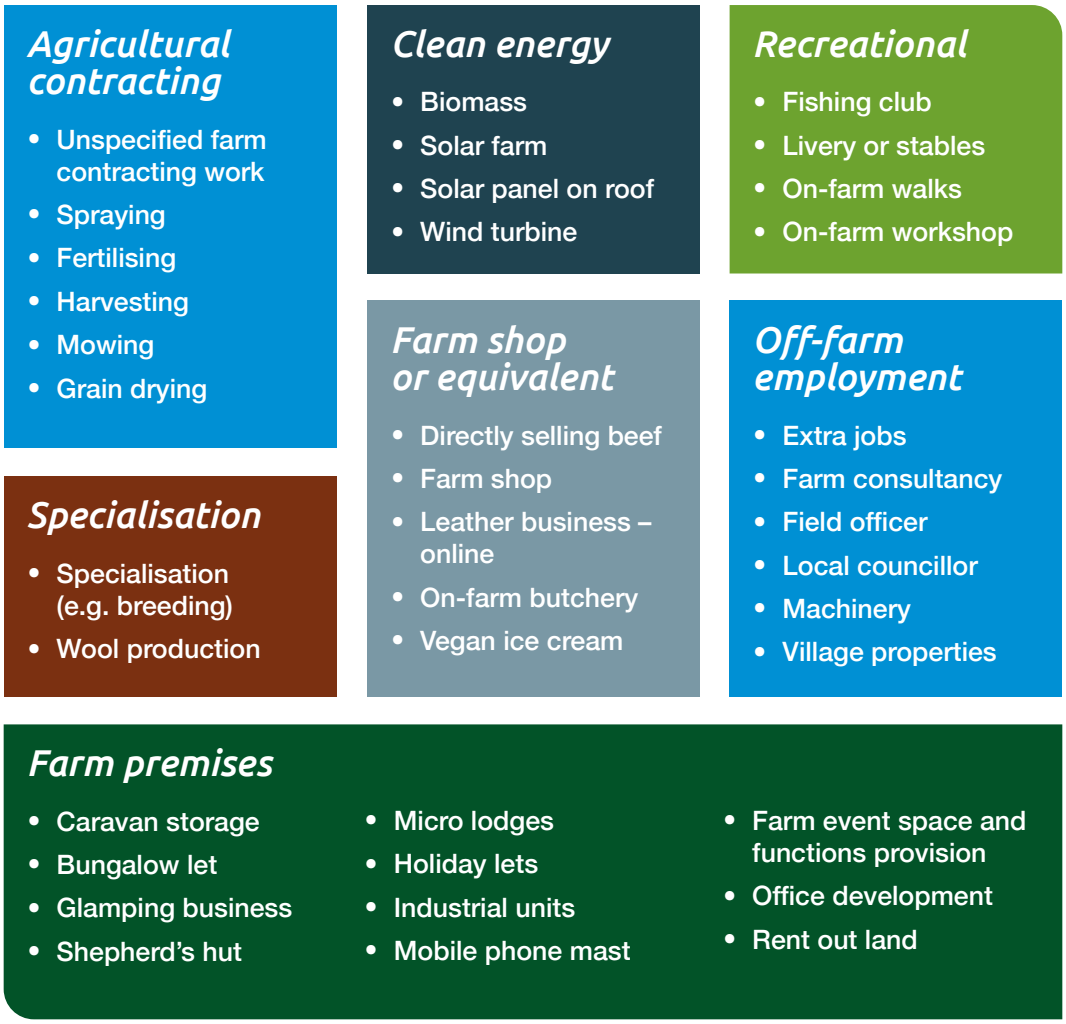

Financial drivers were the most reported reason for diversification due to the need for an extra source of income and making use of surplus capacity on-farm (Figure 9b).

Figure 9b. **Reasons for diversification (Figures = number of farmers)**



The most popular diversification options were: making use of farm premises for accommodation, industrial/commercial purposes or storage. Other activities included agricultural contract work, entering the clean energy sector, opening farm shops, running recreational activities or conducting more specialised farming activities. Figure 10 shows more details under each type of activity.

Figure 10. **Types of farm business diversification**




Funding sources for diversification included bank loans, private businesses, developers, government grants, inheritance and personal savings.

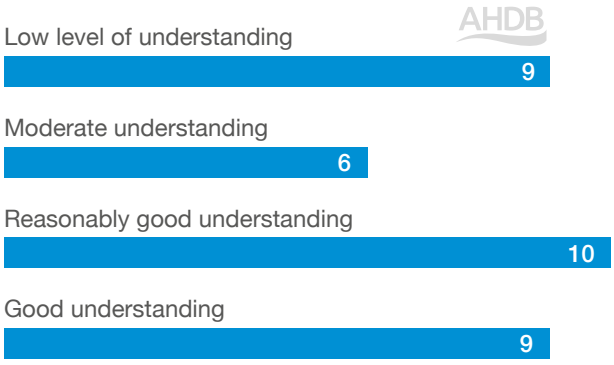
Nine farmers reported that they had undertaken no diversification activities at all. Reasons included:

- Restricted by land renting agreement and planning permissions
- Not wishing to cover good productive land with solar panels
- Wanting to focus on what one is good at, which is farming (sticking to the core business)
- Restricted by farm size, location, capacity and capability
- Financial barriers and risk of failure
- Near retirement age

## Farmers' understanding of agricultural policy, awareness and views of ELMS, particularly the SFI

More than half of the farmers interviewed (19) regarded their understanding of government policy as either "reasonably good" or "good". Nine believed that they had a "low level" of understanding the policy, and six claimed a "moderate" level of understanding (Figure 11a).

Figure 11a. **Farmers' views on their understanding of agricultural policy (Figures = number of farmers)**

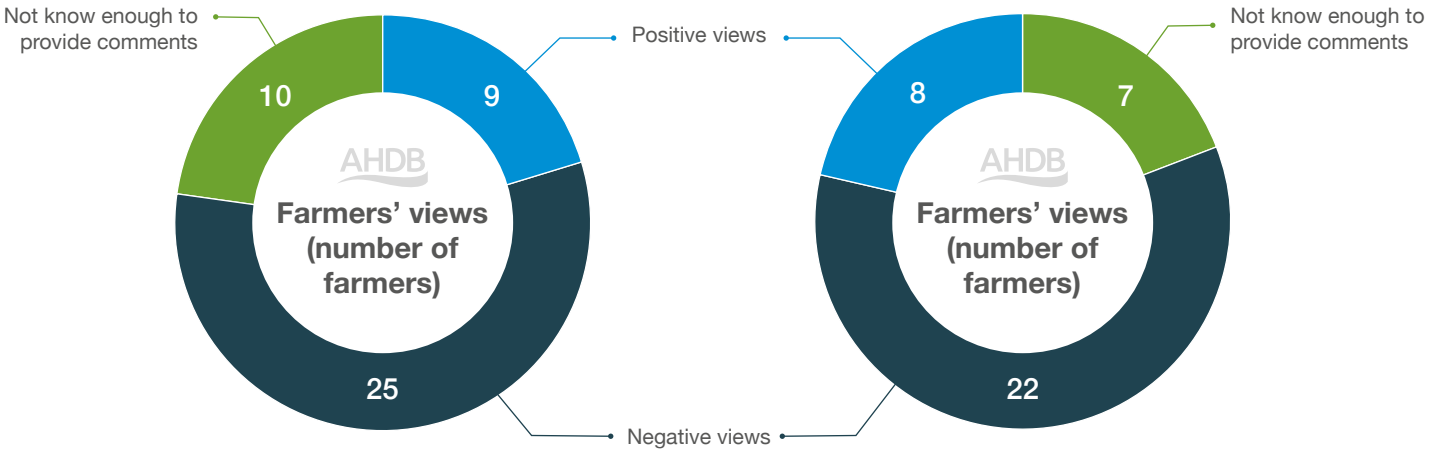



As for the **awareness of ELMS**, five farmers considered their level of understanding to be "limited or very low". Half of the farmers considered they had "moderate awareness of ELMS", and about one-third considered their level of awareness to be "good" (Figure 11b).

Figure 11b. **Farmers' views on their awareness of ELMS (Figures = number of farmers)**


Farmers were then asked about their opinions on ELMS in general and the SFI pilot in particular. There were more negative views than positive, as shown in Figure 12.

Figure 12. **Farmers' views on ELMS in general (left) and the SFI (right)**



Nine farmers expressed **positive views** about ELMS. Two farmers believed that the scheme design was good in principle as well as the aims for the countryside. They hoped that everyone would be able to at least apply for the introductory level of the SFI. Three farmers believed that the payment would still support farming but in different ways. Some believed that it was also good that the government is consulting farmers, as commented on by one farmer: "The point of the pilot is to find out what does work before it becomes mandatory".

Ten respondents said that they could not comment because they did not know enough about it.

Regarding views on the SFI, overall the themes were similar to those about ELMS. Positive views included:

- Going in the right direction
- Convinced that it's a good theory
- There is a need to change intensive farming
- Easy to get into lower SFI standard levels particularly

Commenting on the potential impact of the SFI on the farm business, six farmers indicated that it will be straightforward and there should be no major challenges. Those farmers were either already doing some of the actions required on their farm or had carefully selected standards to suit their farm structure. One farmer mentioned that this will be a good opportunity for them to take less profitable areas out of production.

Eight farmers commented on concerns about the cost implications of SFI standards if they have to do something new. This included soil testing and the challenges on the establishment of insects and pollinator mixes. One was worried about whether they will be able to make changes mid-way or reclaim the land after the end of the scheme. Four commented on their worry about compliance and potential repercussions.

**Negative views** about ELMS were provided by 24 of the interviewed farmers in the following four areas:

- Communication and clarity, and related uncertainties
- Scheme design
- Lack of trust in government's motivation
- Payment rates are not attractive enough

Eight farmers commented about the need for better **communication and clarity** of directions. Some were concerned that it was too complicated for some people as explained by one farmer:

> "I have worked in a professional capacity and managed a large department. I had to read documents and apply for grants, etc. … I've got someone helping me to fill this in. The two of us together are thinking this is crazy"

**Defra have since acknowledged that the application process needs to be straightforward** so that farmers do not need to pay someone to help complete it. Some farmers were concerned that the speed of change is too fast, particularly with reductions of Direct Payments taking place while the new schemes are still being trialled and piloted.

There was also some confusion about the definition of sustainability and public goods. Some farmers asked whether food is a public good. Some commented on whether maturing shrubs should be allowed to mature or whether they will have to be cut down to fit the rules for payment.

Seventeen farmers had views on the overall **scheme design**. Five commented that there is a need to distinguish between different types and sizes of farms, and a need to assess what is already on-farm rather than focusing on new actions. There was a feeling that the new schemes will harm small farms and benefit large farms and landowners. Some believed that the government wants to give up food production completely, as commented by one farmer: "I think they're going to let agriculture go to the wall in this country. The ELM scheme is their token gesture." The focus on environment does not fit into many farmers' values, specifically those who believe that a farmer's role is to feed people. One farmer commented that "you can't eat trees". Some believed that this is the same as Countryside Stewardship and Environment Stewardship and asked why we should reinvent the wheel. Some others would like to see more radical changes and more options and felt disappointed that it is a wasted opportunity.

There was a considerable **lack of trust in the government's motivation**, with some farmers believing that the whole exercise was about cutting costs and diverting money to other areas. One farmer commented that 75% of the budget for all agricultural support is not spent on supporting farmers directly due to perceived costs of monitoring, enforcement and other support activities provided by Defra and relevant advisory bodies. Some commented about the consultation process and suggested that it was done too late. It should have "started three years ago but they are still making it up". Some believed that the consultation was delivering a pre-written conclusion. Some farmers were concerned about the constant changes and updates. They felt that they can't make plans without knowing what is going to happen. The lack of trust in government is also reflected in the perceived incoherence of policies between sustainable farming and international trade. Many farmers felt that the new trade deals will mean importing food with lower standards and higher negative environmental impact, which is contradictory to sustainable farming messages for UK agriculture. Farmers' quotes below express the importance of the government supporting local food production.

> "If you want farmers to stand on their own two feet, you can't let in cheap food from Australia produced at lower standards. The trade policy is absolutely key. In fact, you can probably save loads of public money and do more good by very careful trade policy than anything else. All the good work of ELMS and things like that could be eclipsed in one final swoop by signing a trade deal with Brazil or Australia"

> "I think for the environment, we are going to have to cut back on imports"

> "I question which way the government needs to drive the industry of the country. Stop worrying about importing things, let's drive people to produce them at home"

Of the farmers who had negative views, most (14) felt that the **payment rates are not attractive enough**. One raised doubt whether proper costing research had been done on the schemes. There was a need to not only properly consider the opportunity costs of taking land out of production, but also to pay farmers to provide the environmental services for the general public, as expressed by two farmers: "We should be paid to be the custodians of the countryside" and "I expect they trim their garden hedges nicely and keep their lawns cut."

A number of farmers commented on the need for more individual farm support directly from Defra or RPA. Otherwise, the scheme should include costs for using a consultant for making applications and claims. This is particularly needed for small farms and for those who are not that computer-literate, as commented by one farmer:

> "How many farmers who are small like this are necessarily going to be able to afford to have someone to help them to do it? … There's no payment for getting your application in. In my opinion, it's a wasted opportunity. There could have been a system brought in which allowed for the Rural Payments Agency to look at individual farms more closely and tailor broad schemes to individual farms, but that isn't really what this is about"

Another recurring theme was about the need to balance "carrots and sticks" and the need to recognise that farming is a risk-taking business due to external uncertainties, and that economic sustainability of farmers should be prioritised. One farmer commented that "if carrots are going, farmers may take more risk to break regulations" and money that could have been spent on supporting farmers will have to be diverted to monitoring and enforcement.

About the SFI pilot, many commented about the need for Defra advisors or local delivery groups to work with farmers more closely and not having a one-size-fits-all model. Five farmers suggested that there should be more flexibility to allow tailored plans and more appreciation for what the farm already has, and what one can do relatively easily to improve as shown in the quote below:

> "It's not even better than nothing because it's giving you money for tying your hands behind your back basically. I think yet again, it's one-size-fits-all. There's no flexibility, there's no sense of valuing what you might already have on your own really"

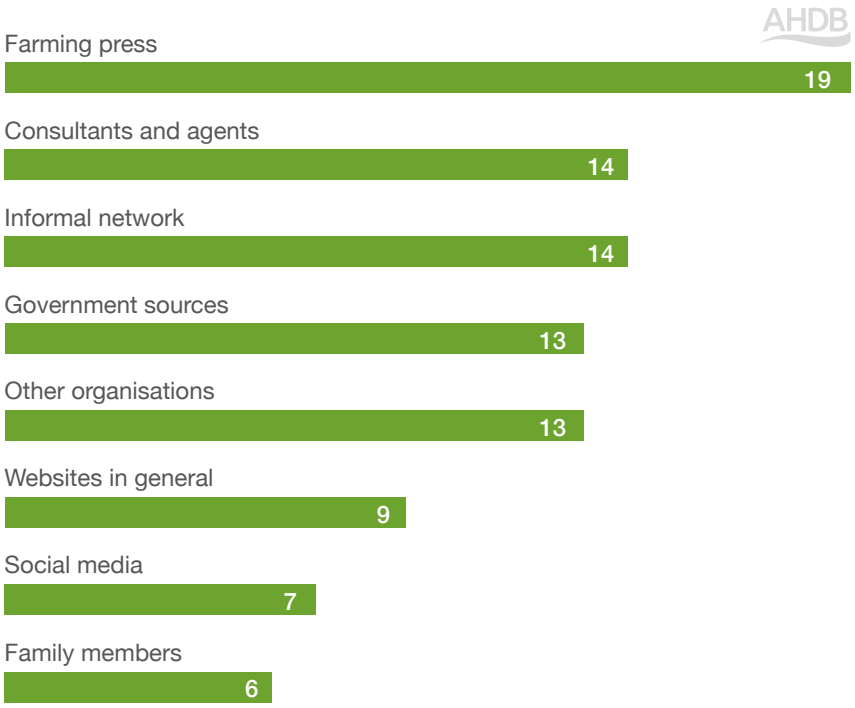
Another farmer also commented that:

> "For a North Yorkshire moorland, upland farmer, or a Cumbrian upland farmer, it's not going to work. They need completely different approaches. From that point of view, I think, although it's complicated for Defra to manage, I think they could have achieved so much more by just creating local delivery groups and allowing the farms to look at the public goods that were being sought and come up with their own proposals to deliver them with a good degree of flexibility and agreed custom farm plans for each farm"

## Farmers' sources of information

Regarding the sources of information about agricultural policy and ELMS, the most mentioned was farming press/media, with two farmers claiming that farming press was their predominant source (Figure 13). Farming press mentioned included Farmers Guardian, Farmers Weekly, and Farming Today on Radio 4. Consultants and agents were the second-most-used sources with farmers also using them to help with claims and grant applications. The costs of using consultants for such matters ranged from under £500 to over £5,000 per year. Informal networks included farmers' discussion groups, neighbours or other farmers, the Farming Network, the Farming Forum, agricultural shows and auctions.

Figure 13. **Agricultural policy information sources used by farmers interviewed (Figures = number of farmers)**




Eleven respondents reported government sources including Defra (including their blogs), Rural Payment Agency, and Natural England. Some respondents were very positive about Defra sources, suggesting that they are very "accessible and up to date". The quote below compared different sources of information and how Defra has increasingly become the primary source of information about policy issues.

> "Historically it would probably have been Farmers Weekly and possibly online articles, and possibly or probably quite heavy reliance on the NFU. I've now signed up to some of the Defra blog posts. I found those quite useful. They tend to be quite accessible now. They're quite well written. They're quite up-to-date obviously with the information that comes out. I wouldn't say they're necessarily the primary source of information, but they've become very significant in terms of my understanding of the wider schemes and options available. I get quite a lot of information off the internet in various forms. I'm quite happy going and finding the information if I know that something exists. Then the primary source of information generally is Defra, to get it straight from the heart of where it should be coming from"

Other organisations such as AHDB, CLA, NSA and internet searches in general were used by some respondents. Social media such as Twitter and Snapchat were mentioned too, mainly by younger farmers.

## Farmers' previous agri-environment scheme experience

Out of the 34 farmers interviewed,13 had applied to take part in the SFI pilot. Thirteen farmers had taken part in ELMS tests and trials (eight of these applied for the SFI pilot). The types of tests and trials they were involved in are shown in Figure 14 (some farmers took part in more than one type of activity).

Figure 14. **Types of ELMS tests and trials undertaken by farmers (Figures = number of farmers)**


As most of the activities involved paper-based exercises or online meetings, the costs were mainly time spent, which overall were covered by payments.

Seven farmers cited social benefits as a reason for taking part in the ELMS tests and trials. This included developing their own understanding, giving feedback to policy makers, and engaging with other farmers. One farmer commented that "one of the hidden benefits is actually getting together with a group of like-minded farmers and comparing notes, and there's always that little bit of peer pressure to do better than someone else". This complements one of the findings from previous work on **farmers' attitudes towards agri-environment schemes and the role of peer pressure**.

Another farmer that took part in tests and trials commented: "it's good to meet with your neighbours and discuss these things and see how other people meet the same challenges economically". They also felt good about being able to have "a little bit of influence on how policy is going to be shaped in the future".

However, there was also mistrust in the government. Some farmers were not convinced about the consultation process, saying "what became of it all and to what extent the feedback was included in anything, I don't know" and "they were delivering a pre-written conclusion".

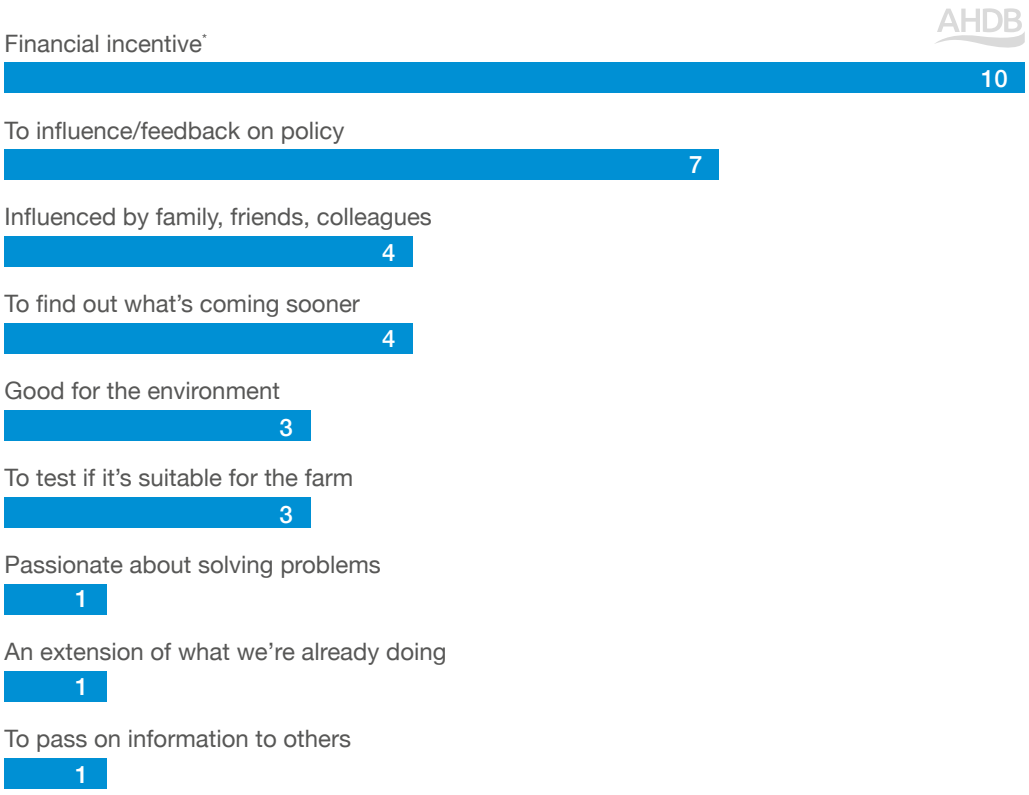
More than 70% (25 farmers) of the farmers interviewed had taken part in government-funded **environmental schemes**: 18 of those were in Countryside Stewardship and 14 were in Environmental Stewardship. Many had signed up for multiple schemes.

Nine of the farmers who participated in existing agri-environmental schemes applied to participate in the SFI pilot, with three being in both Countryside Stewardship and Environmental Stewardship (with one in Higher Level Stewardship), three only in Countryside Stewardship, and another three only in Environmental Stewardship.

## Factors affecting SFI pilot participation

Most farmers who applied to take part in the SFI pilot cited "financial incentive" as the main reason why they applied (Figure 15). This wasn't just based on their opinion of the payment rates: the £5,000 one-off payment for learning activities, available in the first year of the pilot scheme, was a key enticement. One farmer mentioned that they would not have signed up if the one-off £5,000 payment was not on offer. Others signed up to make up for the reduction of BPS. The second-most-cited reason was to influence the policy to ensure the new schemes would work for them. Others were influenced by family members, farm managers or friends. Concern for the environment was mentioned by three farmers. Those who wanted to test and see if SFI works for them also mentioned that the fact it is a pilot means they can withdraw more easily if it doesn't work for them. They also believed that it may not be as harsh as schemes that are already set in stone.

Figure 15. **Reasons for participating in the SFI pilot (Figures = number of farmers)**



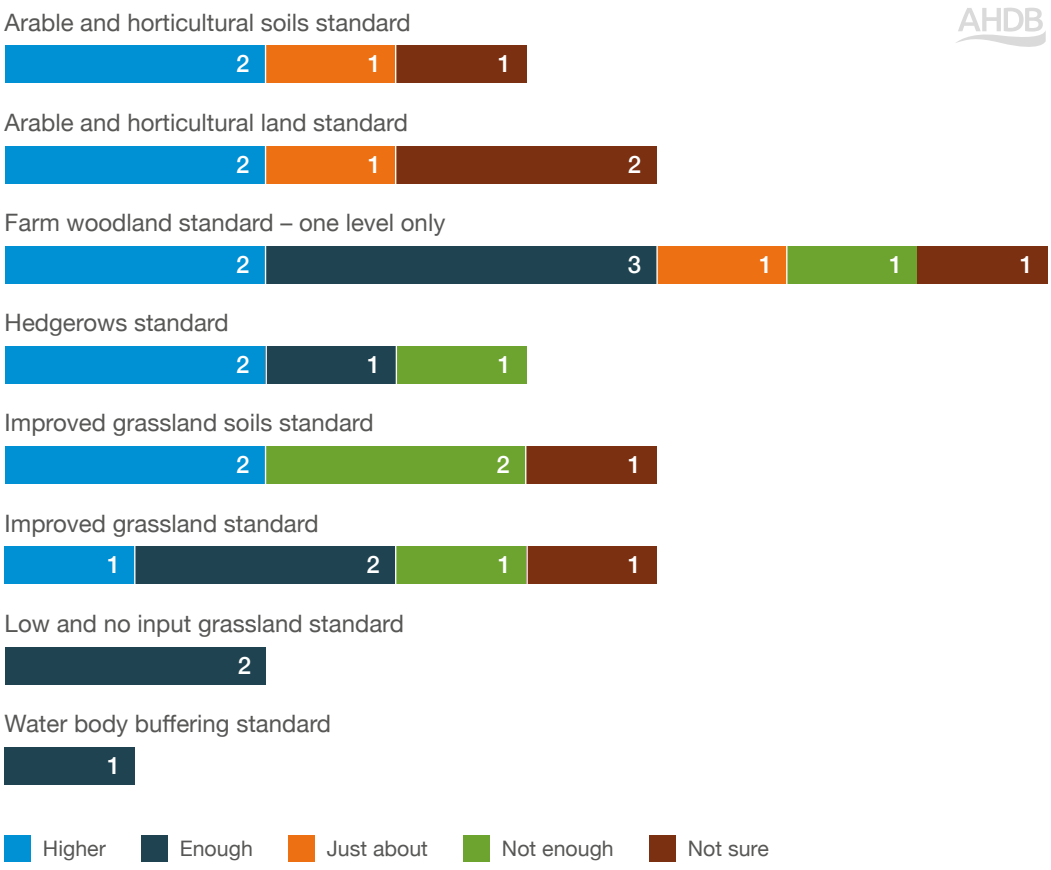

*One-off payment of £5,000 for learning activities particularly attractive

## Farmers' views on the costs and benefits of taking part in the SFI pilot

In terms of **expected financial costs and benefits of the SFI**, five of the 13 farmers taking part in the SFI pilot were able to provide specific information on payments expected over three years for each standard. Four farmers provided an estimate of the total payment they expected for all of the standards they had applied for. One did not provide any figures but indicated that the payment is enough, and three were unsure.

Figure 16 shows the SFI participating farmers' views on the payment rate for each of the standards against the costs involved.

Figure 16. **Farmers' responses to whether or not payment rates were higher than costs involved (Figures = number of farmers)**




Out of the 13 farmers, seven indicated that the payment will be "Enough" to cover the cost or "Higher" than the cost, and one said it will "Just about" cover costs. We only classed a response as "Higher" when specific figures were provided and indicated so. For example, two respondents showed that the costs will be 50% of the payment received, and another one showed that there may be no extra costs required net of payment to meet the standard level they signed up to. The "Enough" category was for those who could not provide specific figures for payment, costs or neither, but indicated that it should be enough. Three farmers indicated that the payment is "Not enough" as they would have to pay for soil testing, which can cost much more than the payment. Another "Not enough" was based on the fact that the respondent indicated having to spend 15 hours per month to manage the two standards (Hedgerows and Improved grassland) but the payment expected was only £991 and £118 respectively. Three were categorised as "Not sure" because they either didn't provide any specific figures or indicated that they were unsure about the cost implications.

However, it is worth pointing out that **the majority of farmers participating in the SFI pilot were unsure about the costs**.

Key cost-incurring activities mentioned were:

- **Costs of using agents** – One farmer mentioned that to reduce costs, they will have to attend a course for tree surveying themselves. The costs of the course fee and time spent may not have been taken into consideration by Defra. One farmer commented that small farms are more likely to rely on using an agent or consultant, the cost of which may not be considered by Defra either
- **Labour costs**
- **Opportunity costs** of having to take land out of production

- **Seed costs** may be expensive, and some wildflower seeds do not grow well in fertile soil. As one farmer commented: "where we're going to struggle more and we're definitely going to incur costs is in the establishment of the insect and pollinator mixes and things like that, because that's obviously going to take land out of production that hasn't been out of production before"
- **Soil testing** which can be much higher than the payments to be received
- **Time** spent on making application and claims and giving feedback

Some indicated that there may be cost savings on labour and materials due to low input. Some indicated that it is hard to quantify whether and where cost savings may be achieved, as shown by the following quote:

> "I'm finding it a little bit hard to quantify, because …we're going to go for every other year hedge cutting. We know that there will be a saving in the sense that the hedge cutter will only be on the farm doing half the hedges, but obviously it's going to take him longer (than half the time) to do half the hedges. I'm not easily able to quantify where a saving might or might not occur there"

Others chose standards which fitted into their current farming system. This meant no extra costs would be incurred from participation. As one mentioned: "I put it in something that isn't going to be that difficult. We are not an intensive farm".

In terms of other benefits of taking part in the SFI pilot, Table 2 shows key aspects commented on by farmers and some exemplar quotes.

Table 2. **Exemplar quotes from SFI pilot participating farmers on other benefits from participation**

| Other benefits | Exemplar quotes |
|---|---|
| Environmental benefit overall | The low input grassland one, that is the only one that I've really paid attention to so far. Yes, I suppose there will be potentially positive benefit for the natural environment. |
| Soil health | We should get the benefits hopefully of having sown a nice cover crop which then should improve our soil structure and give us more worms and all that sort of thing. |
| Wildlife | Hedgerows make a big difference. We've got one edge on the farm where the margins aren't in stewardship because they're too wide. And I want to make the hedge bigger and having a margin either side has allowed the hedge to be bigger. |
| Social benefit – public engagement | The benefits that will bring if it increases the relationship between the public and the farmer… the majority of people do want to learn, and they ask you questions. |
| Social benefit – networking opportunity | I hope there'll be benefits in terms of networking and sharing information and so forth, and actually feeding back and having some influence on the future. |

In terms of adapting their farm/farming practices to meet the objectives set under the SFI standards, eight farmers indicated that no major changes will be needed because they were already carrying out these actions and chose standards which would suit their current system. Three farmers mentioned that some changes needed to be made, including doing soil testing, managing fields differently, and needing a mindset change as demonstrated by the following response:

> The key changes we have to make: Our hedging, the hedges we cut and how we cut them. We'll have to obviously identify areas to take out of production. The rotation around the farm will need to change a little bit so that we can keep the ground cover that we have. It's something that shouldn't be underestimated. All these things work well if you have a flat farm with the sheds in the middle and fields all the same size and you can rotate through perfectly. … fields that we've got are on a 45 degree slope. If we're changing to meet the requirements of the SFI, we're going to have to manage those fields slightly differently. And so it's going to be a conflict between the environmental policy and the structure of the farm

The majority of farmers interviewed for this project were not participating in the SFI pilot. Two of the farmers interviewed had applied but subsequently withdrew. Apart from being "not eligible", reasons for not participating include unsuitability for integration into the existing farming system, restrictions on tenants, a sense of uncertainty about future policy, discontent about the need for a pilot, a lack of confidence in understanding the standards and making applications, and simple lack of interest. Table 3 indicates some of the reasons for non-SFI pilot participation with exemplar quotes.

Table 3: **Exemplar quotes from non-participating SFI pilot farmers on reasons for not participating**

| Reasons for not participating | Exemplar quotes |
|---|---|
| Not suitable for intensive farms | I would love to do more environmentally-wise field margins. That was my initial reason for joining it.<br>To be honest, I actually loved it. I'm in trial but I'm not applying. I registered, accepted, and then I eventually decided to pull out.<br>We are quite an intensive farm. We house livestock. Yes, I think it's intensive although high welfare and high standards now our soil quality is well maintained. I say for people like us, no, I don't think so, but for people who've got areas of poor ground in corners or fields or watercourses, then yes it could work.<br>It didn't make sense then. Not financially. |
| Not suitable for tenanted land | It's just underfunded, and it seems to be a poor replacement for countryside stewardship which wasn't that relevant as a scheme anyway because it didn't really work for anybody that didn't have security over their land and that was our main problem.<br>… we have no control over the short-term tenancies.<br>Some of them we've had for 10 years now and you think I could have invested money to make it easier to manage those years ago, but because you didn't know how long you would have them for, it wasn't worth it at the time. |
| Unsure about long-term direction | We've had a lot of trouble over the last few years, which I think is all linked to uncertainty in the payments, and people are making shorter-term decisions more because they don't know what's going to happen longer-term. |
| Government should know more without pilot | There shouldn't be any need for pilot schemes. For goodness sake, this is a movement that's been going on since the mid '80s. Surely, they have enough know-how and experience to actually formulate a scheme that works. |
| Wait and see | I'm not sure whether it'll work for me or not. Like I said, there will be plenty of people who take it out, I guess. I'm not saying that I wouldn't in the future, but I probably need to look at it. We're not at that stage yet.<br>Hopefully they've got the scheme up and running and they know what they're doing by then. |
| Not confident about making applications | I have paid someone to deal with my Countryside Stewardship. And I think I will need to pay her to help me fill in the forms for the Sustainable Farm Initiative. I don't think I can do it on my own. I don't think it'll be easy. |
| Simply not interested | I suppose it doesn't really interest me if I'm honest. |

## Assessing the economic impact of the SFI pilot using AHDB virtual farms

The views of the farmers participating in the SFI, regarding the extent to which the payment rates will meet their costs, provides valuable insight. However, it is concerning that most of the farmers did not seem to have carried out a detailed costing exercise to see how taking part in the SFI could impact their business.

To help provide further understanding of the economic impact of the SFI pilot, the AHDB virtual farms were used, following the methodology described on pages 13 and 14. The costs of the actions required to satisfy the conditions under an SFI standard were calculated and subtracted from the gross payment as published by Defra. **Note that the Defra payment rates used were correct as of April 2022 and are subject to change.** The net payment calculations consider direct costs only and not opportunity costs.

To reiterate points made earlier, there is a degree of subjectivity in the manner in which various conditions under each standard can be met. If a particular action is already being carried out on a farm, it will incur no extra cost. Details on the methods used to fulfil various actions under the SFI standards are available in **Assessing the impact of the Sustainable Farming Incentive on farm businesses – technical note**.

### Results for arable farms

Figures 17a, 17b and 17c show the net payment rates for the intermediate level of the arable and horticultural land, arable and horticultural soils and hedgerows standards across the three virtual arable farms. Graphs showing the net payment rates calculated for the for the introductory and advanced levels of these standards can be found in the **Appendix** and Figure 18 (advanced level of arable and horticultural land standard).

Figure 17a. **Gross and net payment rates for arable and horticultural land standard (intermediate level)**

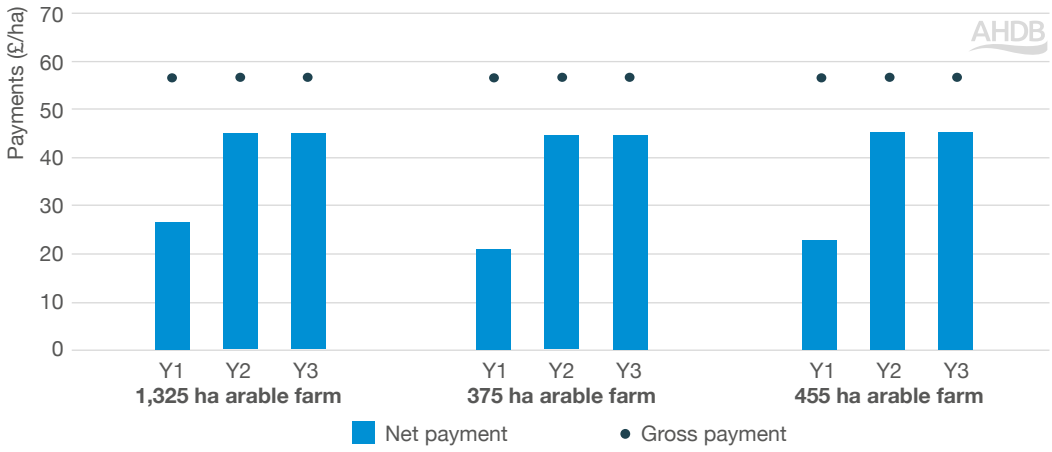



Figure 17b. **Gross and net payment rates for arable and horticultural soils standard (intermediate level)**

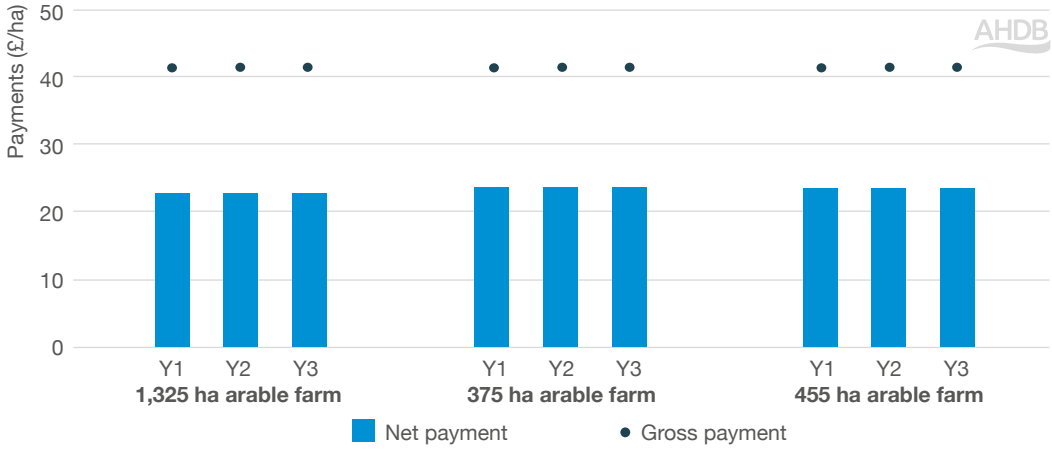
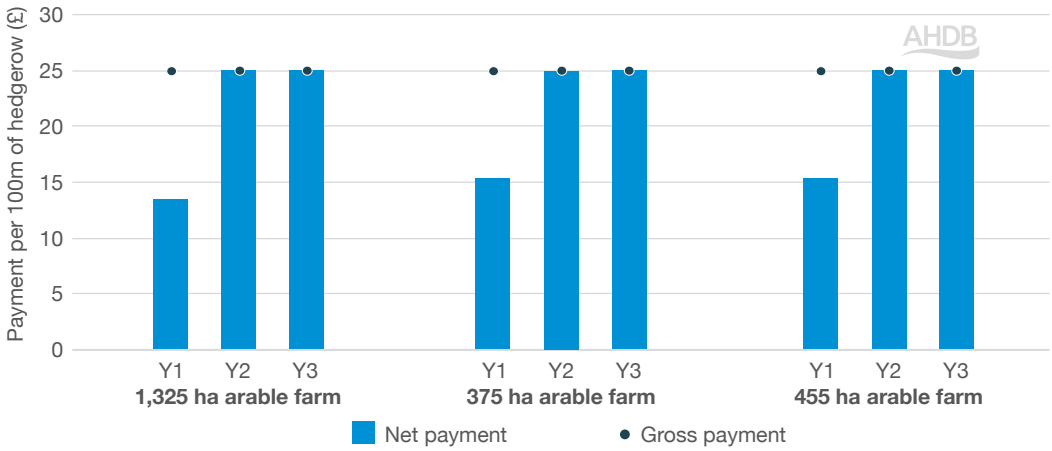


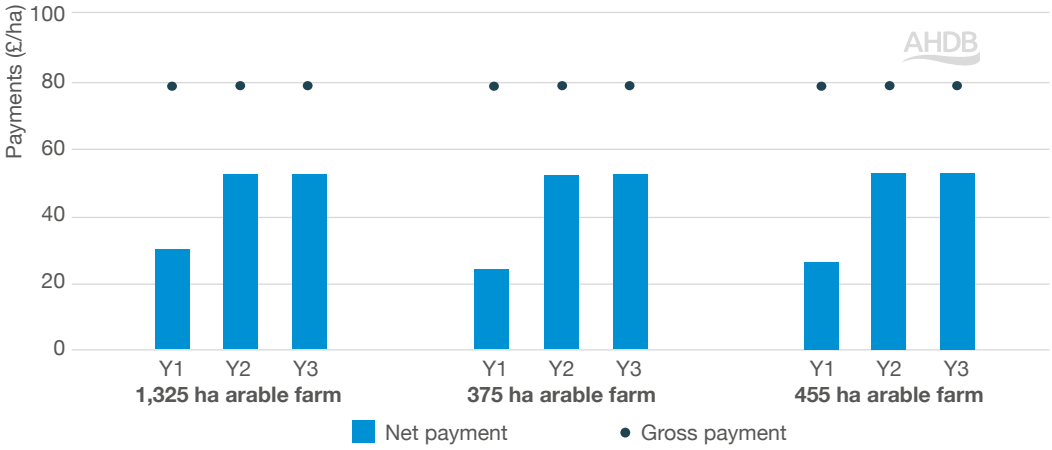
Figure 17c. **Gross and net payment rates for hedgerows standard (intermediate level)**




For the arable and horticultural land standard, the net payment in year 1 of the scheme is lower compared with other years as it involves the establishment of flower margins and nesting/shelter sites for wildlife. Similarly for the hedgerow standard, it is assumed that hedgerow trees may need to be planted in year 1 and so the cost is higher than for following years.

While the net payment for hedgerows (intermediate level) is the same as the gross payment in years 2 and 3, the net payment for the arable soils standard (intermediate) is just over half of the gross payment. The net payment for the arable and horticultural land standard at the intermediate level is also not far from the gross payment in years 2 and 3; however, for the advanced level, this gap widens (Figure 18). This is mainly due to the cost of applying fertilisers and pesticides using precision equipment.

Figure 18. **Gross and net payment rates for arable and horticultural land standard (advanced level)**




The net payments were then incorporated into the virtual farms' balance sheets. The area of land (if any) required to fulfil the criteria under the standards was also taken into account, and subsequent changes were made to cropped areas. (As mentioned earlier, one limitation of using a virtual farm is that you can't differentiate between the quality of different patches of land and so you have to take a 'blanket' approach.) The financial implications of taking land out of production were captured in the farms' balance sheets. Figures 19a, 19b and 19c show the effect of undertaking the arable and horticultural land standard (intermediate level) on the net profit levels of the three arable farms.

Figure 19a. **Change in net profit of 1,325 ha arable farm after intermediate level of arable and horticultural land standard**

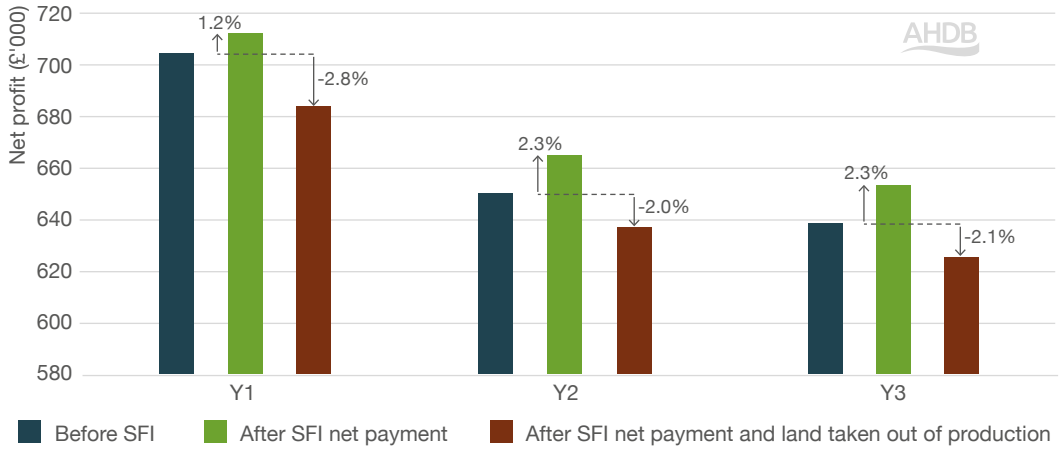



Figure 19b. **Change in net profit of 375 ha arable farm after intermediate level of arable and horticultural land standard**

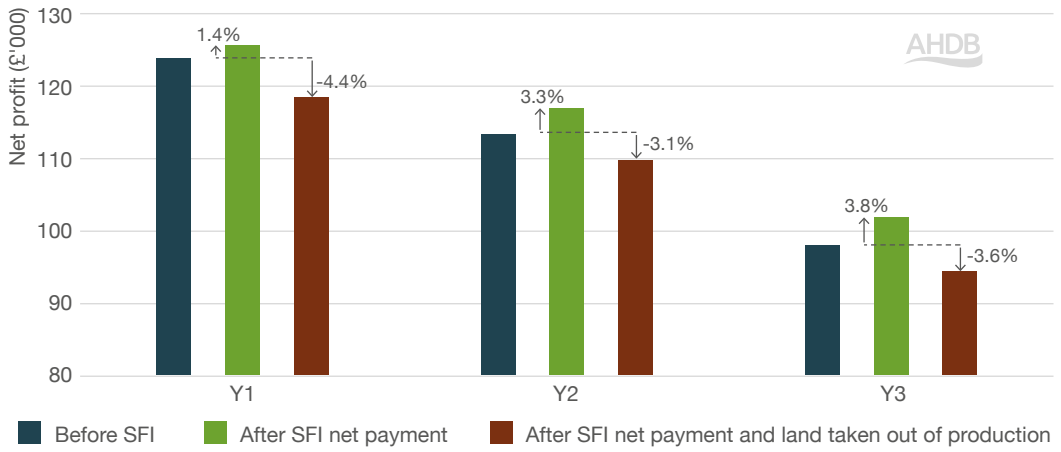
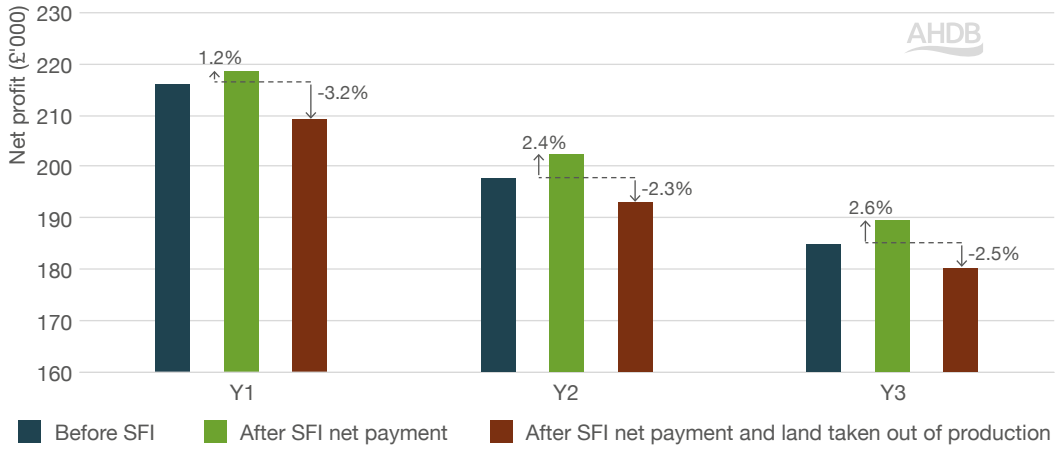



Figure 19c. **Change in net profit of 455 ha arable farm after intermediate level of arable and horticultural land standard**




There is a modest increase (around 1%) in the net profit of the arable farms in year 1 after just the net payment is taken into account, with a greater increase in years 2 and 3. This reflects the value of the overall net payment in these years as shown in Figure 17a. However, when the cost of land taken out of production is factored in, the net margin falls by 2–4%.

For the arable and horticultural soils standard (intermediate level), the arable farms had capacity to incorporate growing a cover crop without the need to take existing cropped areas out of production and so net profit levels of the farm increased by 1–2% (Figures 20a, 20b and 20c).

Figure 20a. **Change in net profit of 1,325 ha arable farm after intermediate level of arable and horticultural soils standard**

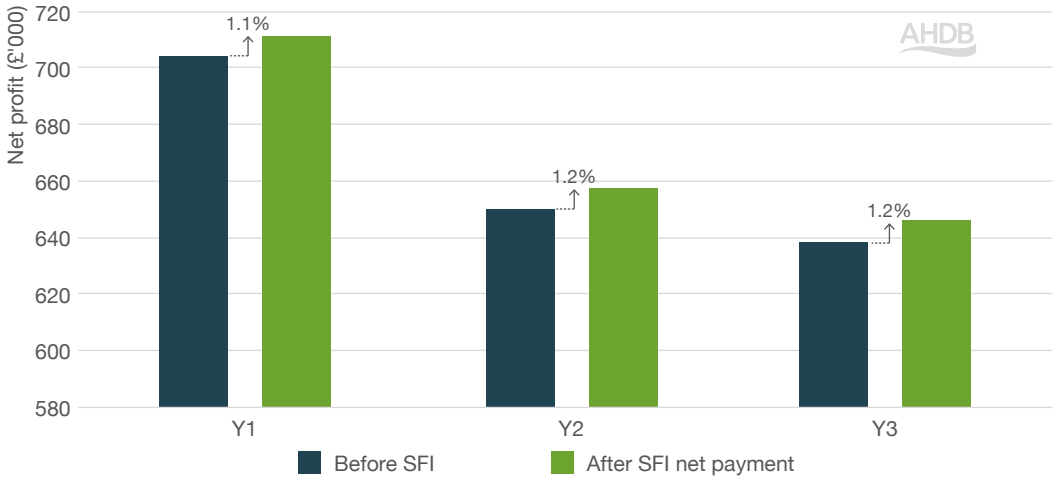



Figure 20b. **Change in net profit of 375 ha arable farm after intermediate level of arable and horticultural soils standard**

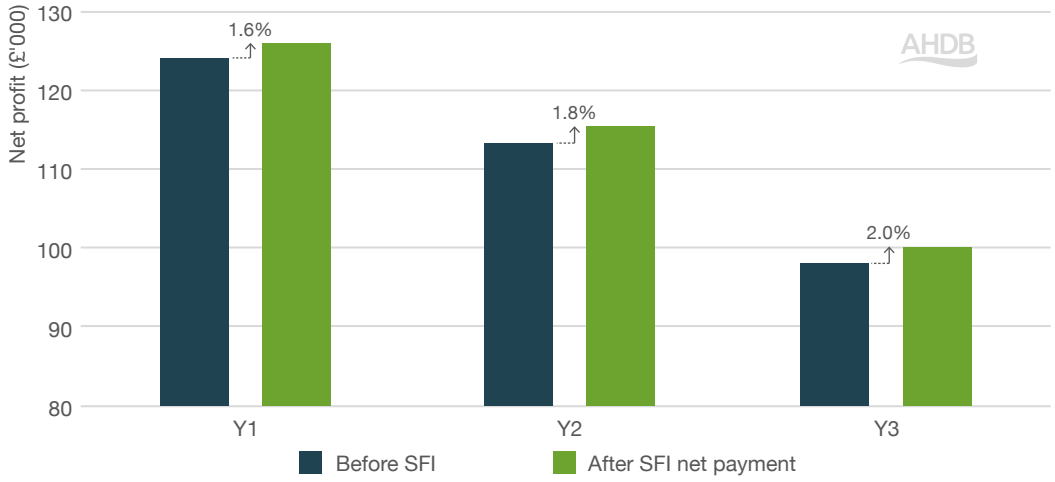
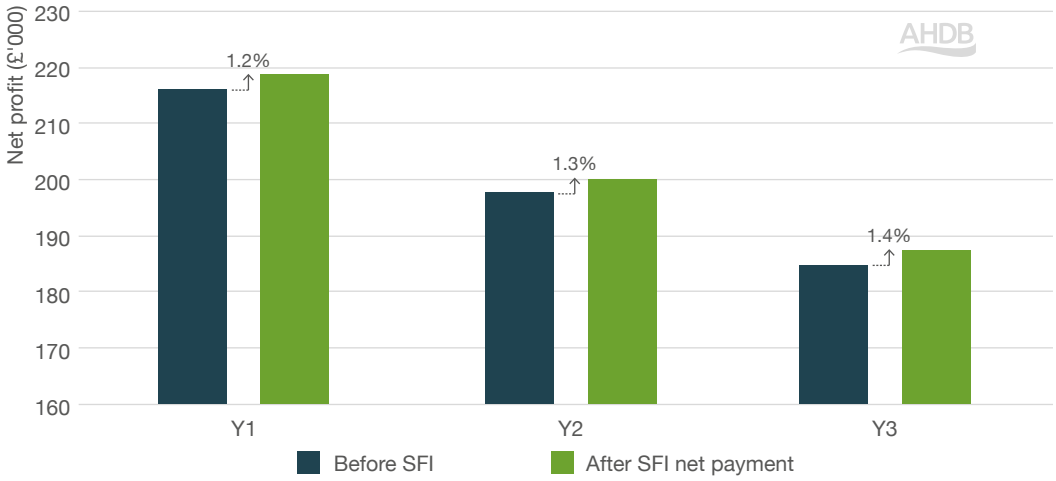
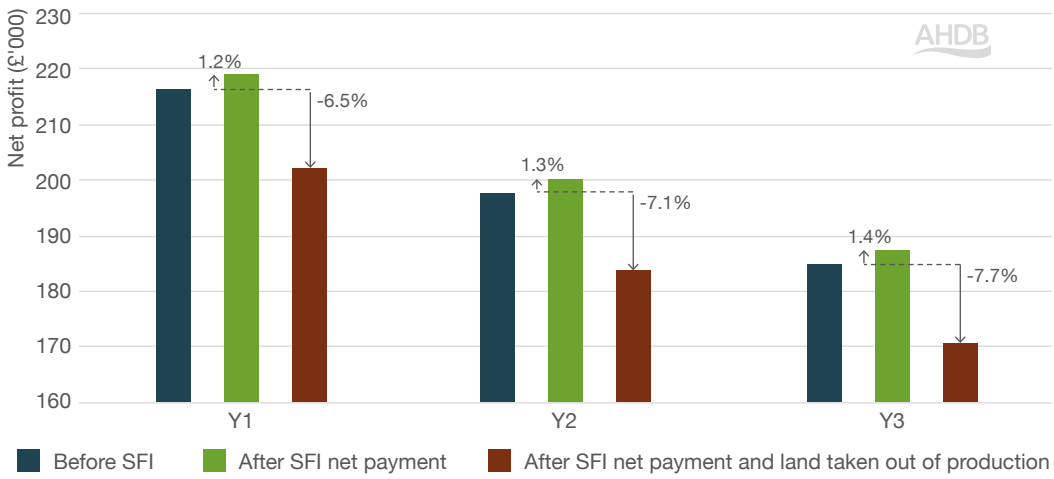



Figure 20c. **Change in net profit of 455 ha arable farm after intermediate level of arable and horticultural soils standard**



Figures 20a, 20b and 20c represent the 'best case' scenario under assumptions made for this analysis, where no land is taken out of production. The 'worst case' scenario for the intermediate level of the arable and horticultural soils standard is shown in Figure 20d, where it is assumed that there is no capacity to grow a cover crop in the arable farms without taking existing cropped areas out of production. (For details on the actions taken to meet criteria for the standards analysed, see **Assessing the impact of the Sustainable Farming Incentive on farm businesses – technical note**.)

Figure 20d. **Change in net profit of 455 ha arable farm after intermediate level of arable and horticultural soils standard where land taken out of production**




In the worst-case scenario, net profit levels of the 455 ha arable farm fall by 7–8% (intermediate level). In reality, arable farms are likely to have capacity to grow cover crops within their rotations. However, this analysis shows that a small net profit from the arable and horticultural soils standard (for the SFI pilot) is only likely if little or no land is taken out of production.

Finally, for the arable farms, the hedgerows standard (intermediate level) was examined, and generally showed that there was a (very) small benefit (less than 1%) to the farms' net profit levels (Figures 21a, 21b and 21c).

Figure 21a. **Change in net profit of 1,325 ha arable farm after intermediate level of hedgerows standard**

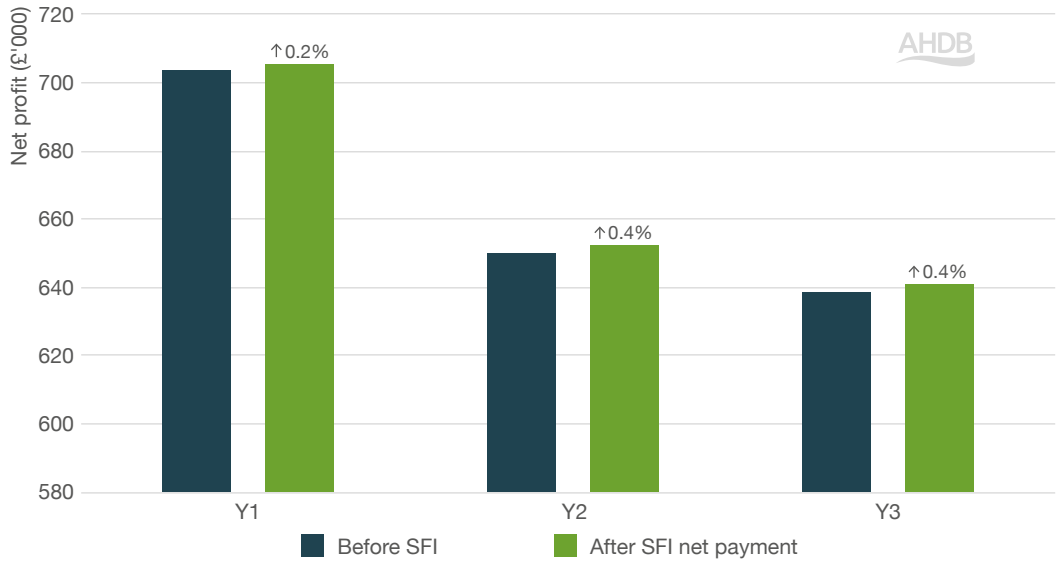


Figure 21b. **Change in net profit of 375 ha arable farm after intermediate level of hedgerows standard**

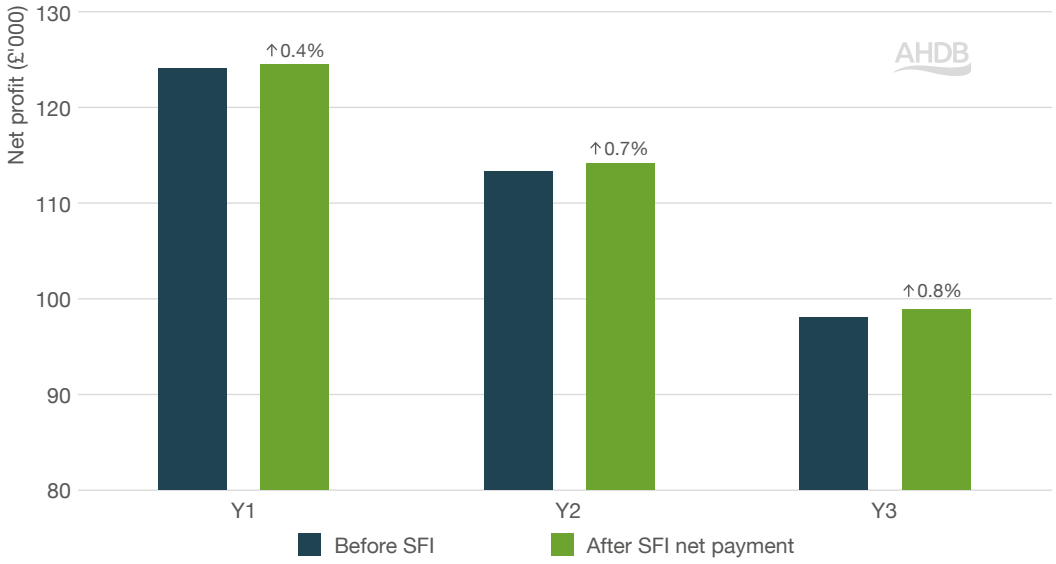
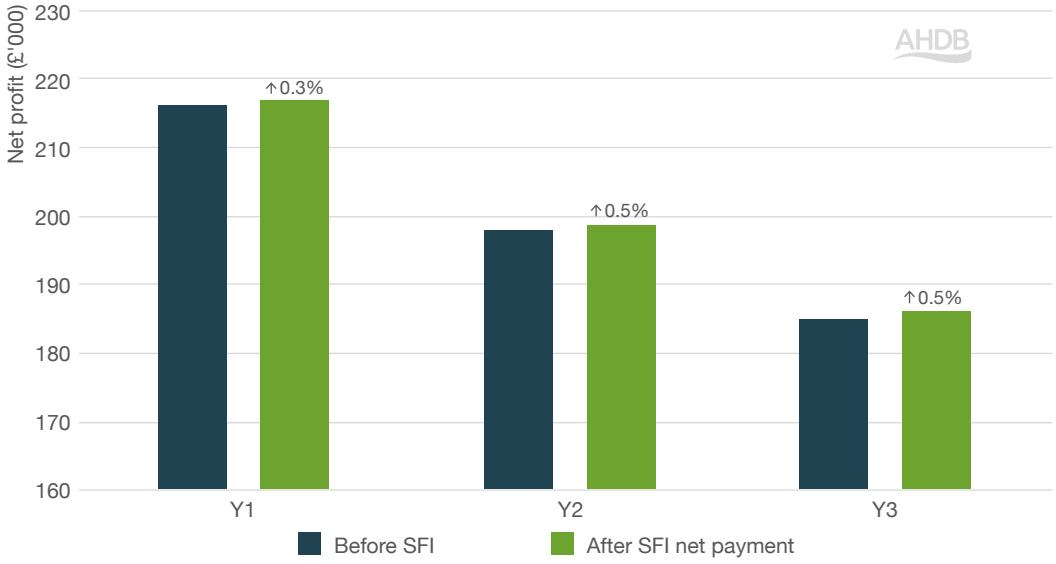



Figure 21c. **Change in net profit of 455 ha arable farm after intermediate level of hedgerows standard**




The hedgerows standard did not require any land to be taken out of production. While one of the actions under the standard involves creating a buffer strip on both sides of the hedgerow (at least 50% of the length), it was assumed that this would not affect cropped areas.

Results for the introductory and advanced levels of the arable and horticultural land, arable and horticultural soils and hedgerows standards can be found in the **Appendix**.

## Results for virtual mixed/beef and sheep farms

The analysis above was also carried out for the 220 ha mixed farm and 150 ha beef and sheep farm for the improved grassland and improved grassland soils standards.

Managing stocking density is one of the main actions stated under all three ambition levels of the improved grassland soils standard. The beef and sheep virtual farms used in this analysis have slightly lower stocking densities than average. For other farms, managing stocking densities may incur higher costs, especially if it requires increased housing periods for livestock.

The net payments across the three years of the scheme are shown for each farm in Figures 22a and 22b.

Figure 22a. **Gross and net payment rates for improved grassland standard (intermediate level)**

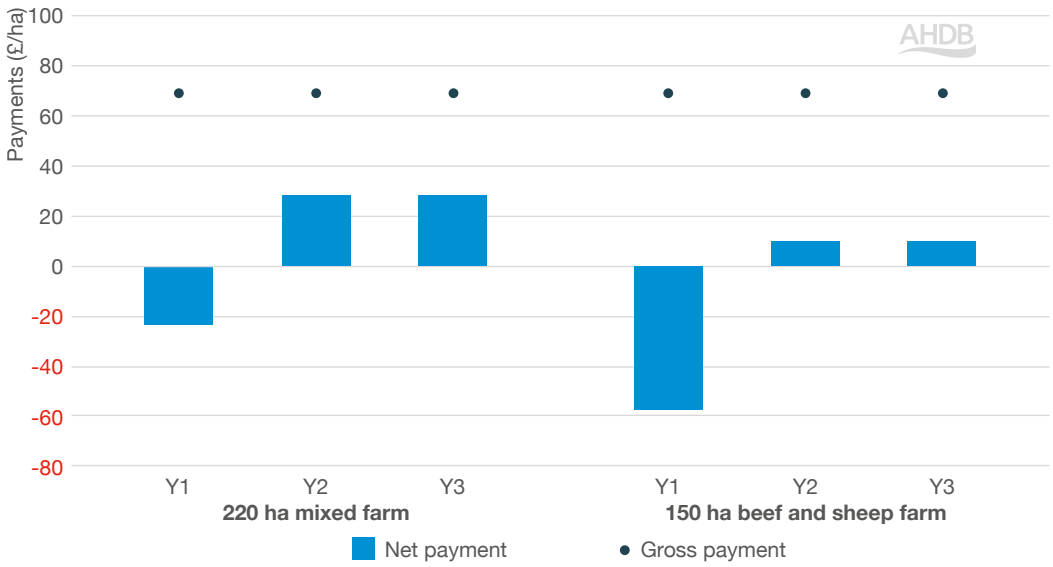
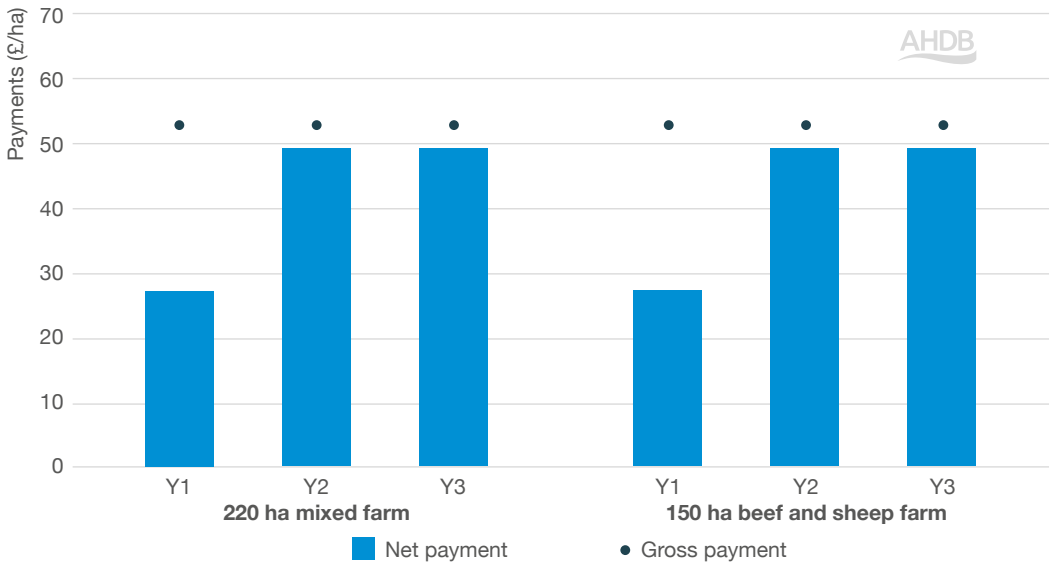



Figure 22b. **Gross and net payment rates for improved grassland soils standard (intermediate level)**




For the improved grassland standard, the costs involved in year 1 are higher than the payment, and so the net payment is negative overall. The most expensive actions are the delayed cutting of silage fields (which has the consequence of purchasing silage to compensate for the amount that has gone to seed), completing a whole-farm nutrient budget (where it is assumed that a consultant would have to be brought in) and using low-emission technology for spreading manure. The net payment for the 150 ha beef and sheep farm in year 1 is lower than that for the 220 ha mixed farm, because it is assumed that the latter has a greater number of silage fields under the land entered in the standard. As mentioned before, this analysis can only act as a guide. For other farms, the cost of delayed cutting of silage may have a lower impact, as it depends on how much silage the farm requires to feed livestock and so how much needs to be compensated for.

For the improved grassland soils standard (intermediate level), the net payment rates for the farms are fairly similar to the gross payment rates, except for year 1 where there is a one-off cost of establishing a legume- and herb-rich sward. (See **Assessing the impact of the Sustainable Farming Incentive on farm businesses – technical note** for more details.)

The impact of the improved grassland standard (intermediate level) on the farms' net profit levels is shown in Figures 23a and 23b.

Figure 23a. **Change in net profit of 220 ha mixed farm after intermediate level of improved grassland standard**

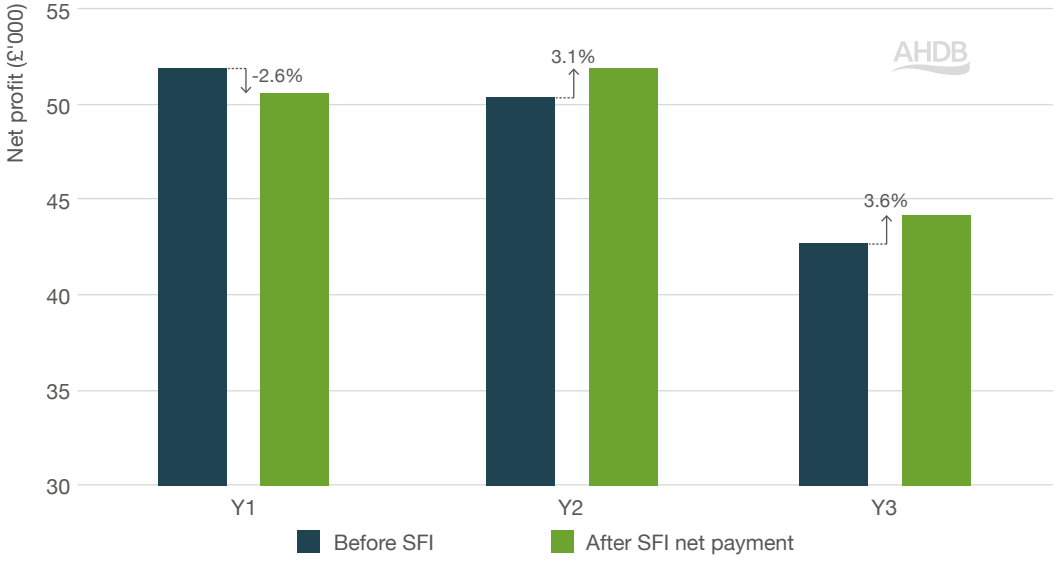
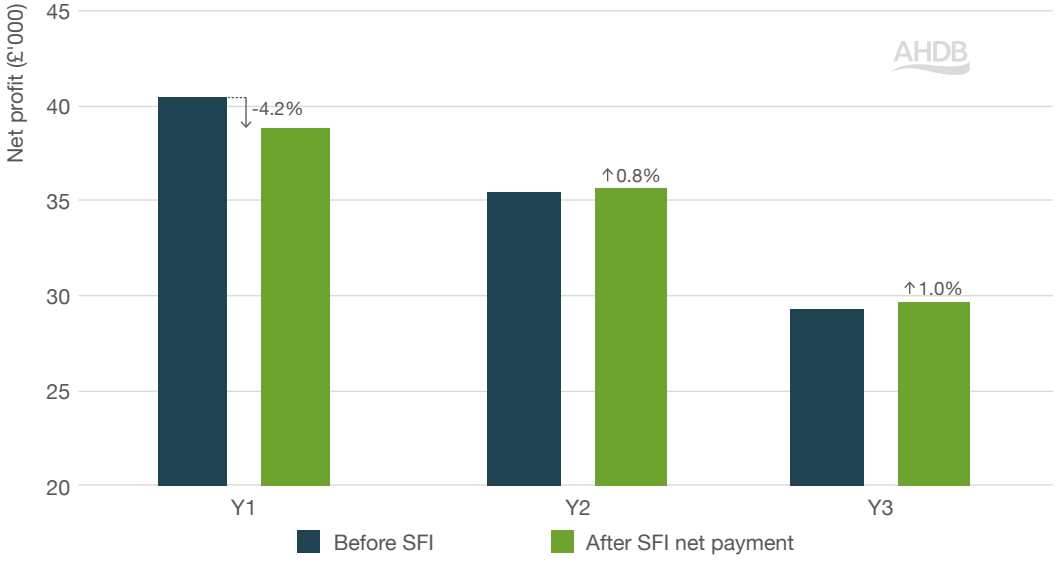



Figure 23b. **Change in net profit of 150 ha beef and sheep farm after intermediate level of improved grassland standard**




The changes in net profit levels before and after taking part in the improved grassland standard reflect the net payment levels seen in Figure 22a. For the mixed farm, the net profit level is around 3–4% higher (with the exception of year 1), while for the beef and sheep farm there is little change (up to 1%) in years 2 and 3.

For the improved grassland soils standard (intermediate) there is a more positive change in both farms' net profit levels (Figure 24a and 24b).

Results for the introductory and advanced level of the improved grassland and improved grassland soils standards can be found in the **Appendix**.

Figure 24a. **Change in net profit of 220 ha mixed farm after intermediate level of improved grassland soils standard**

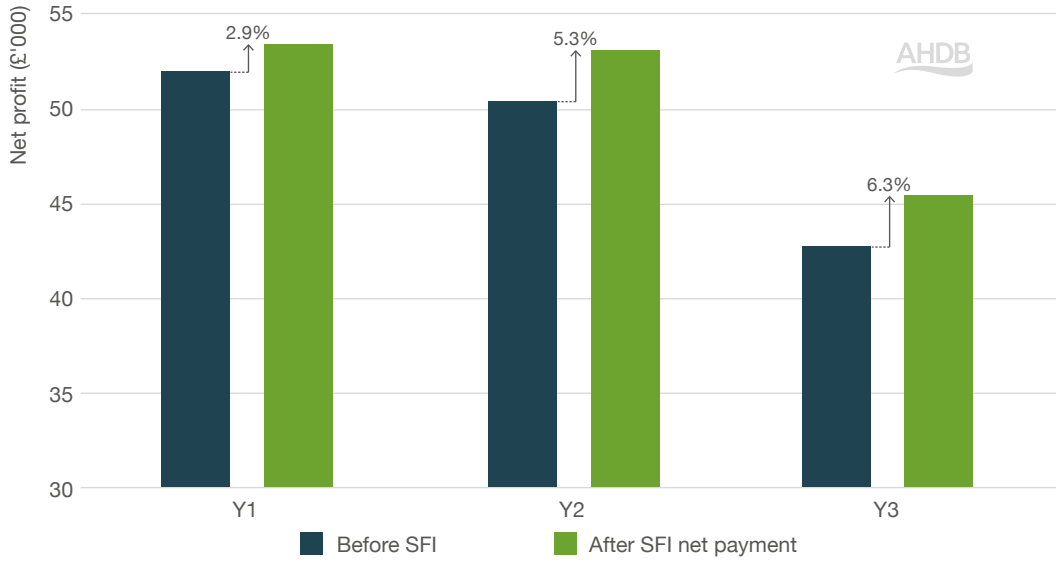
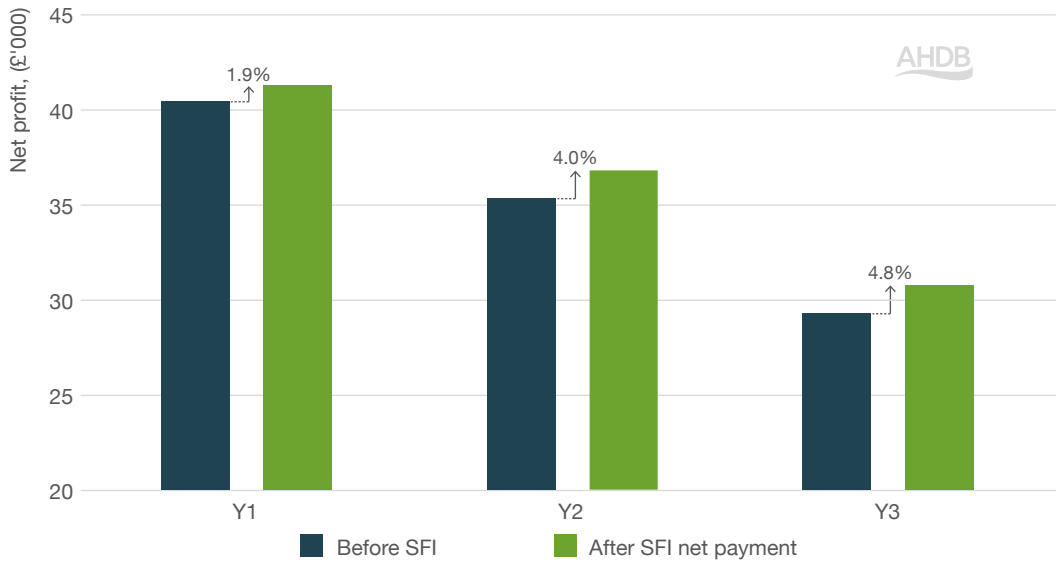



Figure 24b. **Change in net profit of 150 ha beef and sheep farm after intermediate level of improved grassland soils standard**




## Do the numbers match up with perceptions of costs/benefits?

Do the financial implications of the SFI pilot, as analysed using virtual farms, marry with the views of the farmers who applied to take part in the SFI? Figure 16 essentially captures their views on the net payments for different standards, and most were of the view that the payment was more than costs involved or enough to cover the costs. This is generally in line with the results from virtual farms shown in Figures 17a, 17b and 17c, Figure 18, Figure 22b and, to some extent, Figure 22a. There were cases though where one farmer thought that the payment was enough or higher than costs, but another thought that it was lower than the costs involved.

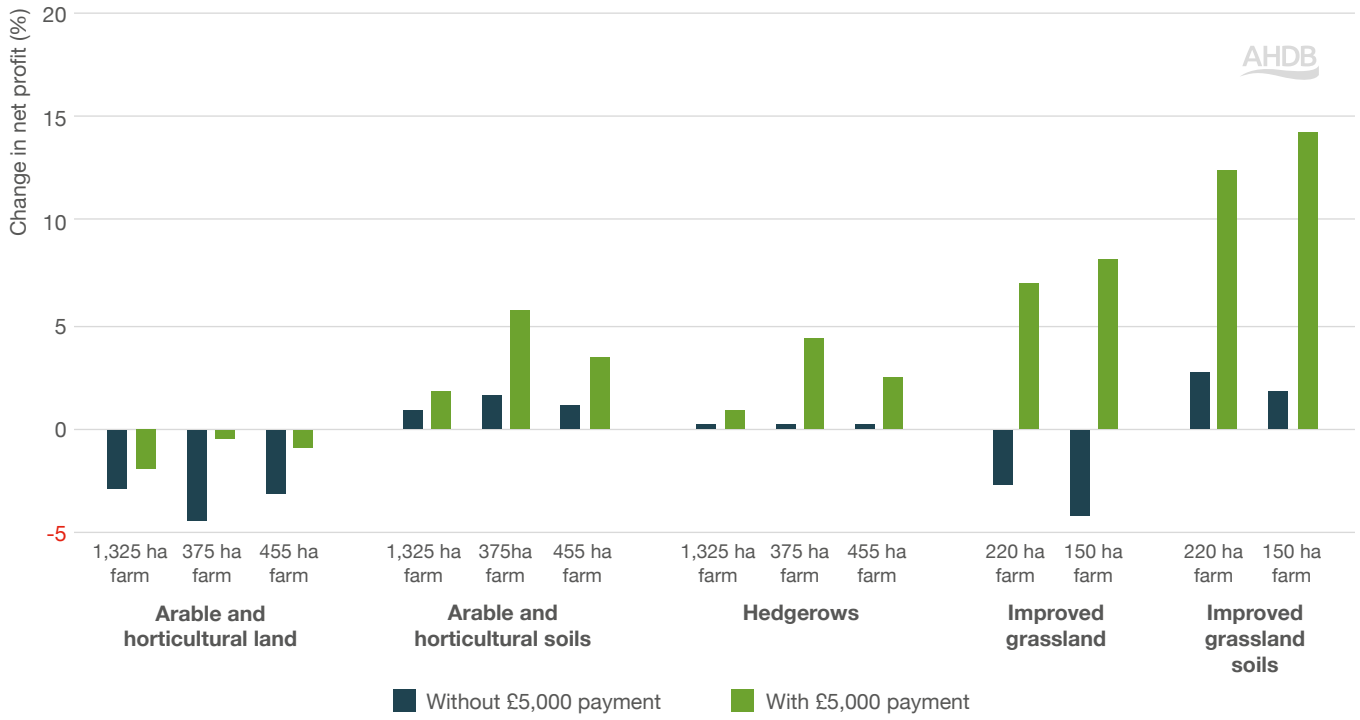
This highlights how the costs incurred will vary from farm to farm as they depend on:

- The methods used to meet the criteria under a standard
- Whether the action is already being carried out on-farm (and so has no extra cost)
- The existing set-up of the farm

The analysis above shows the impact taking land out of production can have on the net profit of the business and so this needs to be taken into account, as well as any other costs such as time and help required for filling out forms as mentioned by some farmers.

The £5,000 one-off learning payment was cited as a key incentive for some of the farmers who applied for the SFI pilot. Figure 25 shows the difference the payment would make to the virtual farms' net profit levels.

Figure 25. **Change in net profit levels in year 1 of SFI pilot, with and without £5,000 learning payment**




NB: Changes refer to the intermediate level of standards shown

It is clear that the £5,000 payment provides a boost to the net profit in year 1 and helps to limit any losses in that year. This is particularly the case for the improved grassland standard, where the £5,000 payment turns a decline in the net profit into a gain.

The £5,000 payment is a one-off payment for learning activities in the SFI pilot, and so is unlikely to be offered in the wider rollout of the scheme and when the SFI is fully up and running. This suggests that the payment rates for these standards may need to increase so that net profit of farms is not negatively impacted. As mentioned earlier, the payment rates in this analysis are subject to change as the development of the SFI is designed to be based on feedback and learnings from pilots and tests. The payment rates for the two soils standards have already been revised ahead of the wider rollout of the scheme in summer 2022 (SFI 2022), as have the criteria needed to receive the payment. Analysis covering SFI 2022 can be found **later in this report**.

## Factors influencing farmers' actions and responses to change in policy

The similarities and differences in attitudes of the 34 farmers interviewed for this study were also explored to see if particular traits or characteristics influenced their actions or responses.

In particular, the analysis showed the types of farmers that had applied to take part in the SFI pilot and conversely, the types that did not. The type of farmers who had taken or planned to take actions in response to the agricultural policy changes was also explored, as well as the types that had made no plans. Further details of the analytical techniques used can be found in Section 5.5 of the report, **Are English farmers ready for the changes in UK agricultural and environmental policy?**

Farmers that applied to take part in the SFI pilot were mainly those who had already participated in existing agri-environment schemes and had moderate-to-good levels of awareness of ELMS. Interestingly, they were less likely to be those who considered themselves to be opinion leaders or early adopters and did not have very large farms.

Common traits between the farmers that decided not to apply for the SFI pilot were:

- Had already undertaken and/or planned to undertake diversification activities
- Did not see maximising financial returns as their farming goal
- Educated to just under bachelor's degree level

Furthermore, farmers who were not taking part in the SFI pilot tended not to have taken part in the ELMS tests and trials, did not have much knowledge about ELMS, and had very large farms.

For farmers that had made no plans in response to the policy changes taking place (seven in total), common characteristics were:

- Did not have a good understanding of agricultural policy in general
- Did not see maximising financial returns as their farming goal
- Were educated to just under bachelor's degree level
- Had very large farms

Farmers that had taken action, had some plans, or were constantly planning and forward looking, mainly stated they had moderate or good knowledge of ELMS. Other traits which were generally shared by this group, but were not necessary factors for making plans or taking action, included:

- Had undertaken some diversification
- Participated in existing agri-environmental schemes
- Had moderate or good knowledge and understanding of policy
- Relied on Direct Payments (BPS)

Only a minority of farmers (12) had worked out the exact amount of income reduction they would face as Direct Payments are phased out between now and 2027. These all had:

- Participated in existing agri-environment schemes
- Had moderate or good knowledge of ELMS
- Did not see themselves as opinion leaders

Most of the farmers that had not calculated their reduction in income from loss of Direct Payments cited a lack of good understanding of agricultural policy in general, and that maximising financial returns was not their main farming goal.

# LOOKING AHEAD AT SFI 2022

**As mentioned earlier, the wider rollout of the SFI is due to begin in summer 2022 and will be open to all farmers who are eligible for BPS. There is a degree of flexibility within SFI 2022 in that on an annual basis within the three-year agreement, farmers have the option of:**

- Increasing the number of fields (land) they enter into the SFI
- Moving to a higher ambition level within a standard (e.g. introductory to intermediate)
- Adding more standards to their agreement as they become available

One reason stated by farmers for not participating in the SFI pilot was that they were ineligible as they had land tied up in other agri-environmental schemes such as CS. SFI 2022 will enable farmers in this position to enter land into the SFI as it comes out of other agri-environmental agreements.

There will be only three standards available for SFI 2022: arable and horticultural soils, improved grassland soils and moorland and rough grazing. The two soils standards will only have two ambition levels available in the first instance, introductory and intermediate, though there are plans to introduce an advanced level later. The actions required for each ambition level are fewer than for the SFI pilot (correct at the time of writing).

An **AHDB Horizon blog post** and the **Defra website** provide further details about the SFI 2022 scheme, but here we focus on the two soils standards and their potential economic impact on farm businesses, as measured using the AHDB virtual farms.

The methodology for the SFI 2022 analysis is the same as for the SFI pilot, described earlier and with further details available in **Assessing the impact of the Sustainable Farming Incentive on farm businesses – technical note**.

## Financial implications of the arable and horticultural soils standard

The key requirements under the introductory level of the arable and horticultural standard are:

- Test soil organic matter
- Undertake a soil assessment and produce a soil management plan
- Addition of organic matter to all land entered in the standard at least once during the three-year agreement
- 70% winter cover to protect soil

For the intermediate level the requirements are the same except multi-species green cover must be provided for at least 20% of the land entered in the standard over the winter.

SFI 2022 requires testing of soil organic matter, soil assessment and production of a management plan to only be done in year 1 of the agreement, rather than annually.

The action of adding organic matter assumes that farmers are already applying it to 25% of their land, on average, each year. This is based on the **British Survey of Fertiliser Practice (for crop year 2020)**, which states that dressing cover of organic manure on tillage averaged 25% between 2016 and 2020. Where this is the case, farmers would only need to add organic matter to an additional 8% of the land entered in the standard each year. This assumes that equal amounts of organic manure were added annually over the three-year period, (i.e. organic matter added to a third of the land entered each year of the agreement). In reality, the assumed figure of 25% will vary across the country and will depend on the relative ease of access and cost of manure.

Net payment rates for the introductory and intermediate levels for the three virtual arable farms are shown in Figures 26a and 26b.

Figure 26a. **Gross and net payment rates for SFI 2022 arable and horticultural soils standard (introductory)**

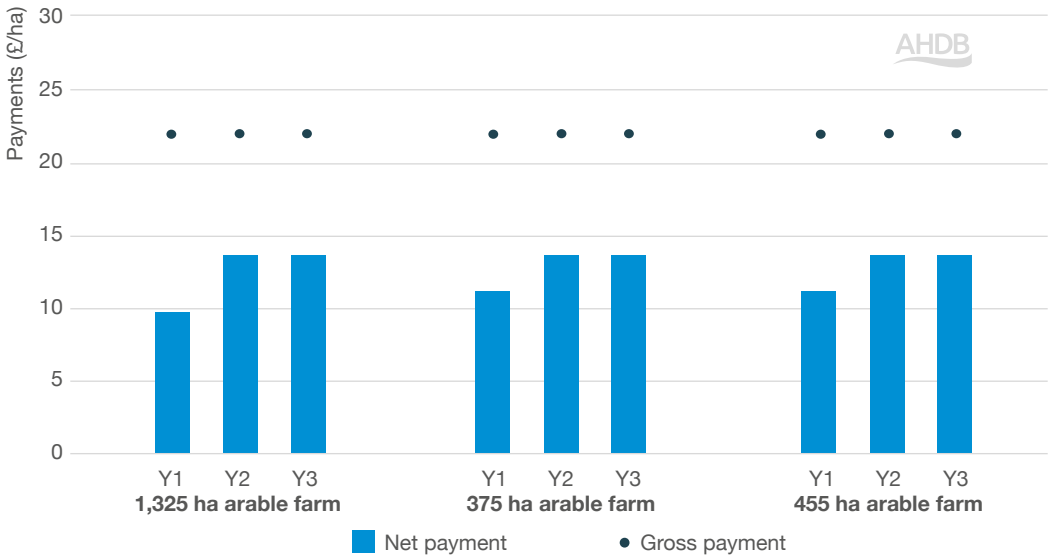
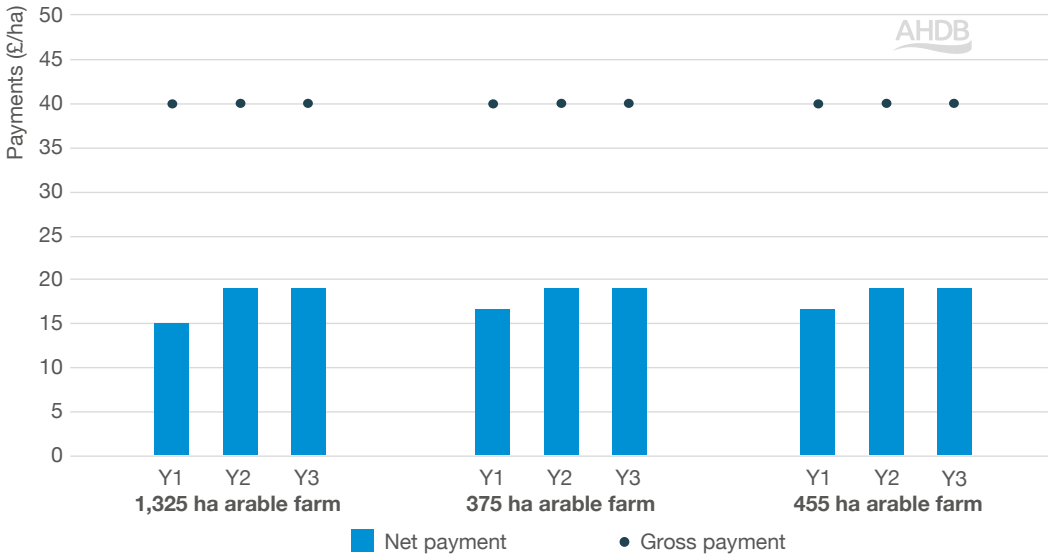



Figure 26b. **Gross and net payment rates for SFI 2022 arable and horticultural soils standard (intermediate)**




Across the three farms, the net payment is positive for all three years of the scheme. The net payment in year 1 is lower than for years 2 and 3 because of the soil tests, soil assessment and management plan that are needed. The net payments in Figures 26a and 26b assume that 25% of the land entered already has organic matter added to it each year, and so only a further 8% of land needs addition of organic matter. The action taken to achieve this is to grow a cover crop.

Figures 27a, 27b and 27c show the change in the net payment of the arable farms after carrying out the actions for the arable soils standard at both the introductory and intermediate levels (assuming that organic matter only needs to be added to 8% of the land entered). The increase in net profit for the 1,325 ha, 375 ha and 455 ha arable farms in year 3 of the introductory and intermediate level is around 1% on average.

Figure 27a. **Net profit of 1,325 ha arable farm before and after taking part in arable and horticultural soils standard (SFI 2022)**

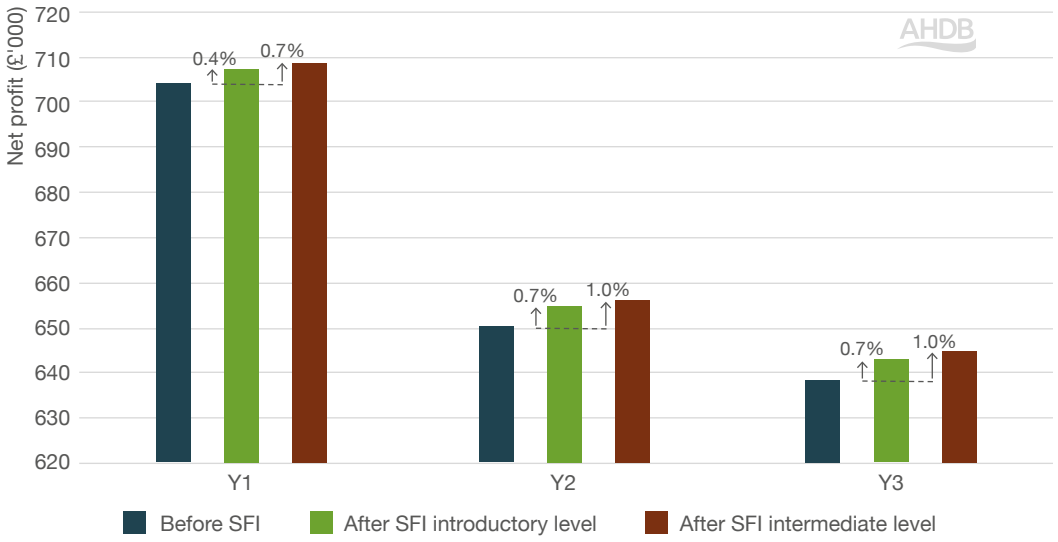



Figure 27b. **Net profit of 375 ha arable farm before and after taking part in arable and horticultural soils standard (SFI 2022)**

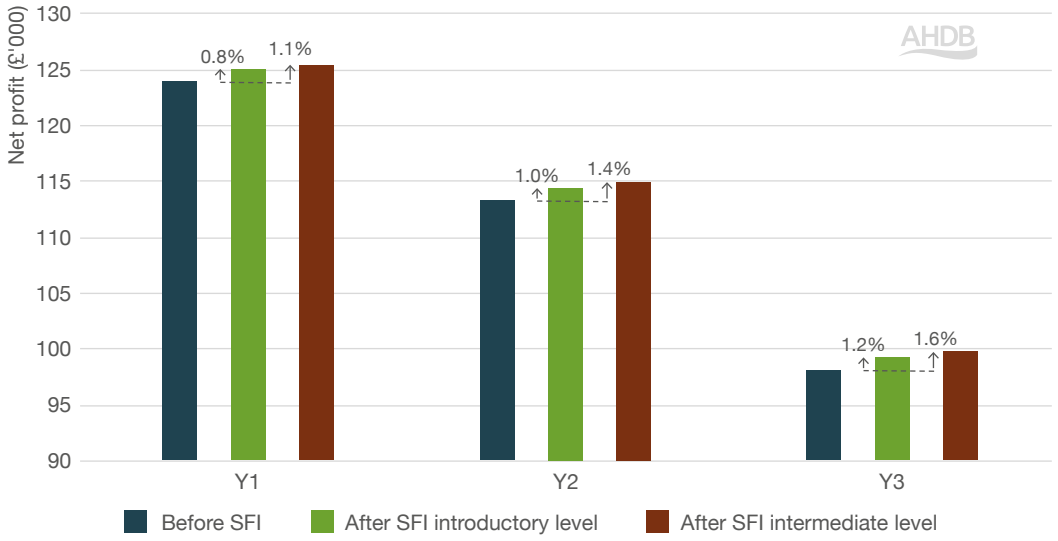
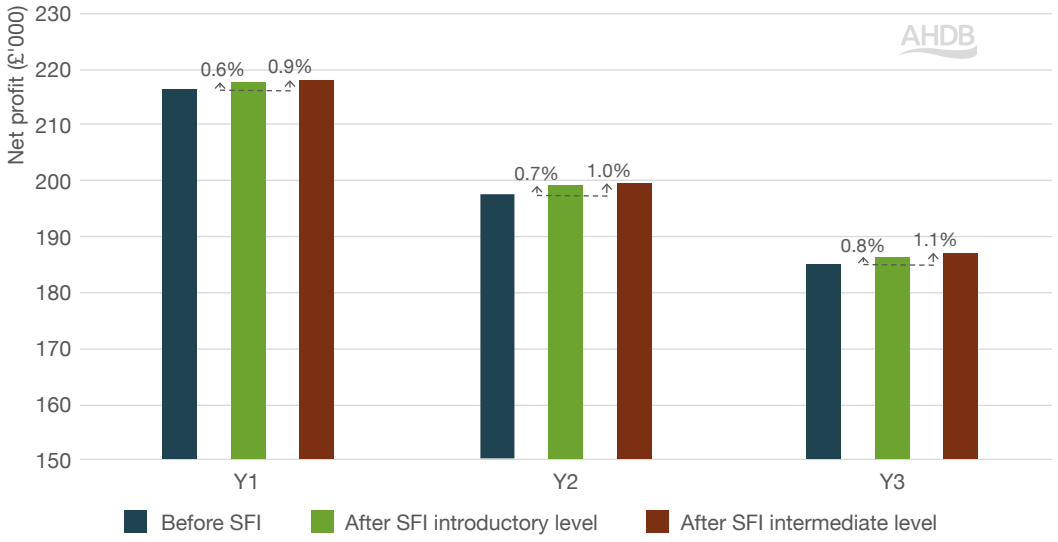



Figure 27c. **Net profit of 455 ha arable farm before and after taking part in arable and horticultural soils standard (SFI 2022)**



If it is assumed that organic matter is not usually added to the land entered into the standard, and therefore this requirement must be met from scratch, the net payment picture for the arable soils standard is quite different, as shown in Figures 28a and 28b.

Figure 28a. **Gross and net payment rates for SFI 2022 arable and horticultural soils standard (introductory), assuming increase organic matter on 33% of land**

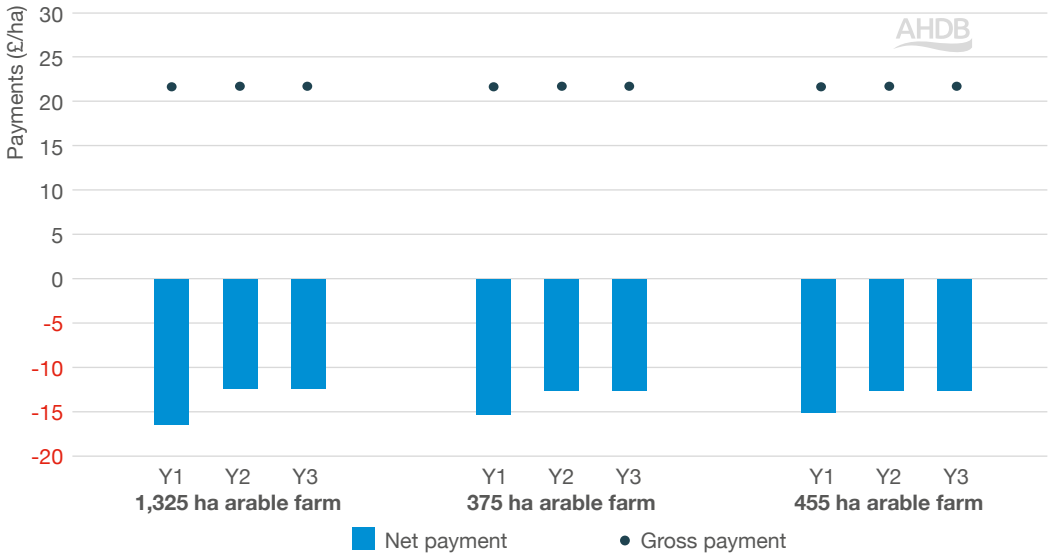
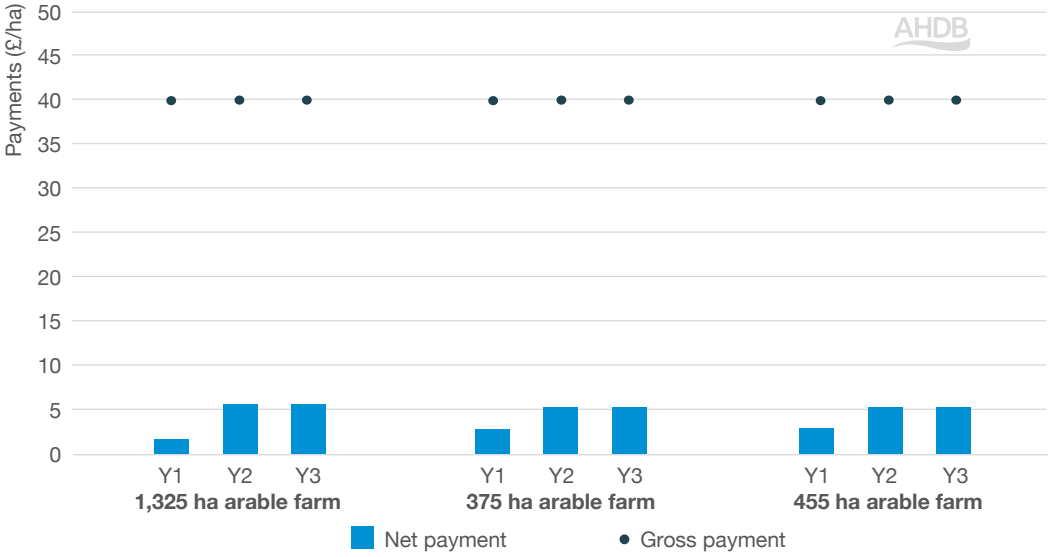



Figure 28b. **Gross and net payment rates for SFI 2022 arable and horticultural soils standard (intermediate), assuming increase organic matter on 33% of land**




Under this scenario, the net payment for the introductory level is negative across all years of the scheme, while there is only a small net payment for the intermediate level. Based on the net payments shown in Figures 28a and 28b, the net profit of the arable farms would be negative for the introductory level and show a very small increase (less than 0.5%) for the intermediate level after carrying out the standard.

Farmers are advised to keep evidence to show what they have done to complete this action. In the long term, it is expected that soil organic matter levels should increase ‘or be maintained at a healthy level if this is already the case’.

It is clear that the arable and horticultural soils standard would benefit a mixed farm or arable farm that is able to access cheap manure easily.

Another factor to consider for the arable and horticultural soils standard is whether there is land available to grow a cover crop without compromising land used to grow other crops. For the virtual arable farms used in this analysis, this was not an issue because it was possible to grow a cover crop to increase organic matter without taking land out of production. However, if land does need to be taken out of production to accommodate a cover crop, this will lower the farm's net profit.

Figure 29 illustrates the effect of taking land out of production on the net profit of the 455 ha arable farm for the introductory level of the arable soils standard. This assumes that the 8% of land needed to grow a cover crop to increase soil organic matter has to be met by reducing the areas sown to cash crops such as wheat and barley and so has a negative impact on the net profit of the farm. Figures 27c and 29 show two extremes. The results shown in Figure 27c are based on the virtual farm's crop rotation being able to accommodate the required area of cover crop needed to fulfil the criteria under the standard. The results shown in Figure 29 are based on the assumption that the virtual farm has no capacity to accommodate a cover crop and so land must be taken out of production. It is likely that arable farmers will have at least some capacity on-farm to grow a cover crop, and so in reality the change to farms' net profits is likely to be somewhere between the two.

Figure 29. **Net profit of 455 ha arable farm before and after taking part in arable and horticultural soils standard (SFI 2022)**


## Financial implications of the improved grassland soils standard

For the introductory level of the improved grassland soils standard the criteria to be met are:

- Test soil organic matter
- Undertake a soil assessment and produce a soil management plan
- Minimise bare ground over winter to no more than 5%

For the intermediate level, the requirements are the same plus establishing or maintaining a herbal ley* on at least 15% of the land entered. The 220 ha mixed farm and 150 ha beef and sheep farm used in this analysis already had sufficient cover over winter, and so no extra cost was incurred for that action. However, as the farms did not have a herbal ley this was an additional cost for the intermediate level of the standard. (For details on the actions carried out see **Assessing the impact of the Sustainable Farming Incentive on farm businesses – technical note**.)

*involves establishing a diverse sward with a mixture of grasses, legumes, herbs and wildflowers.

Net payment rates for the introductory and intermediate levels of the improved grassland standard for the two farms are shown in Figures 30a and 30b.

Figure 30a. **Gross and net payment rates for SFI 2022 improved grassland soils standard (introductory level)**

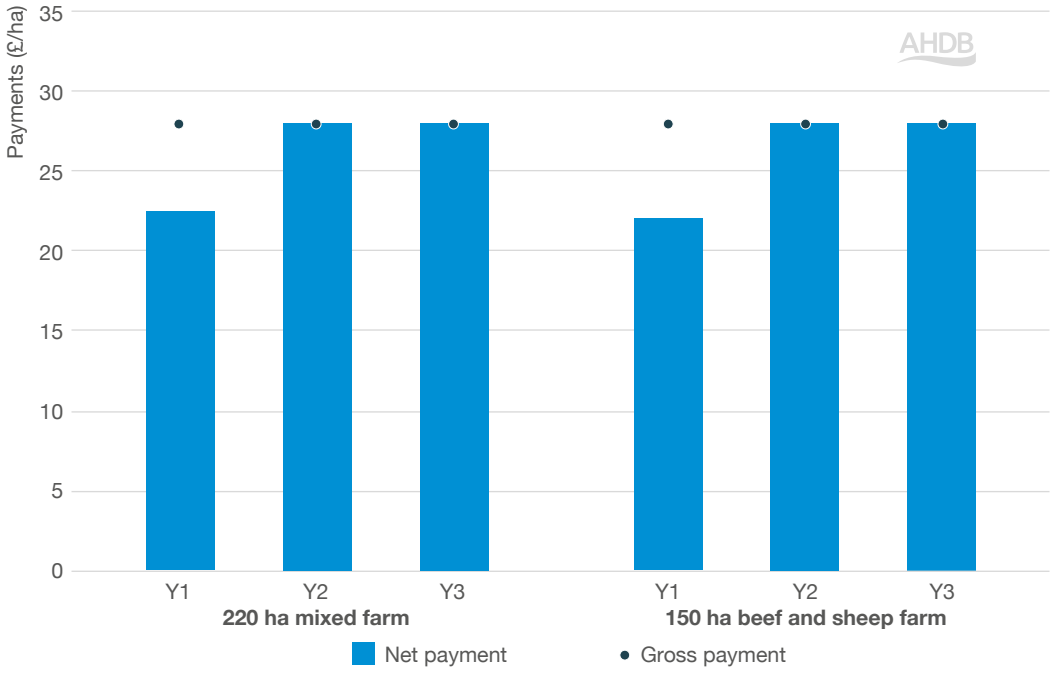
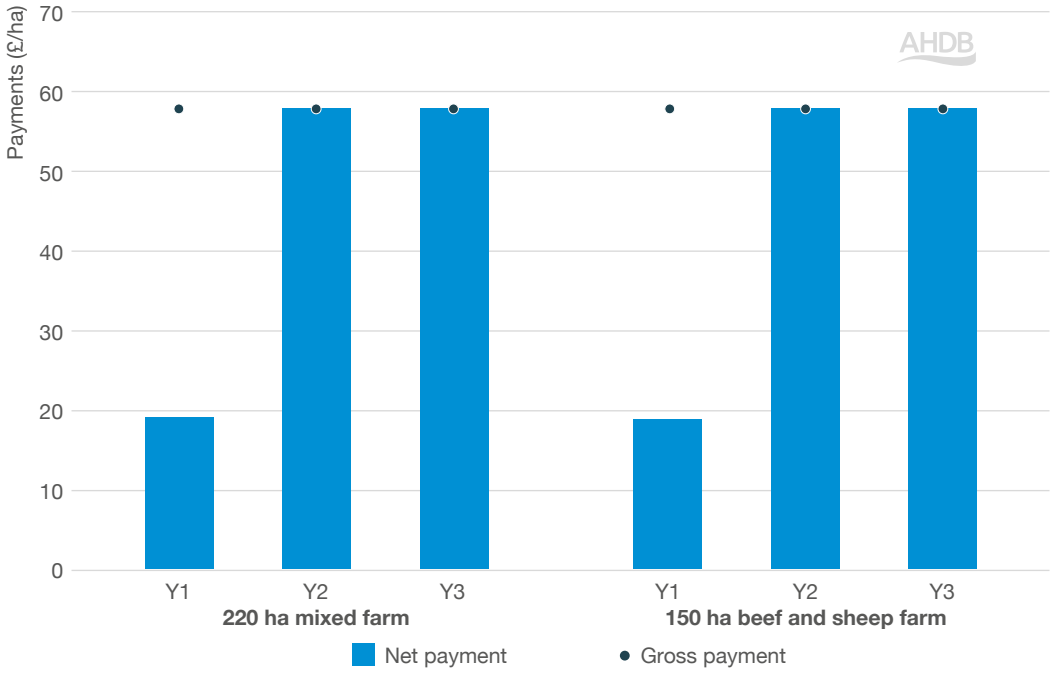



Figure 30b. **Gross and net payment rates for SFI 2022 improved grassland soils standard (intermediate level)**




The net payments are positive for both levels of the standard. In year 1 of the scheme the net payment for the introductory level is lower than for years 2 and 3 due to the one-off cost of testing for soil organic matter, carrying out a soil assessment and producing a soil management plan. For the intermediate level, there is also the one-off cost of establishing a herbal ley to take into account. However, for years 2 and 3 of both ambition levels, the net payment is equal to the gross payment.

Figures 31a and 31b show the impact of the improved grassland soils standard on the net profit levels of both farms.

Figure 31a. **Net profit of 220 ha mixed farm before and after taking part in improved grassland soils standard (SFI 2022)**

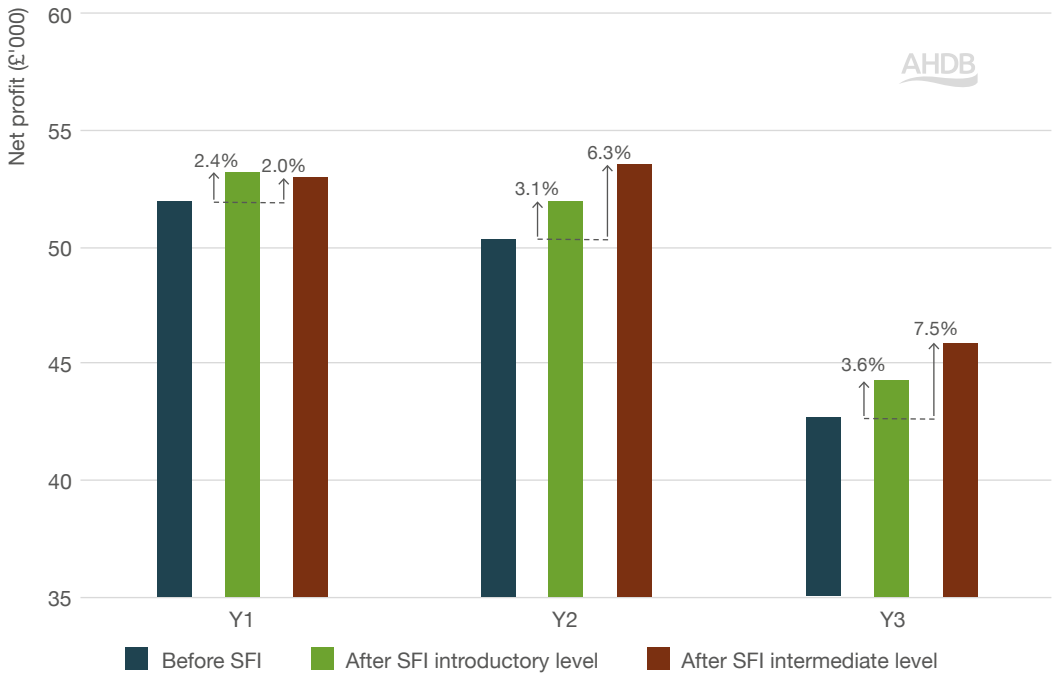
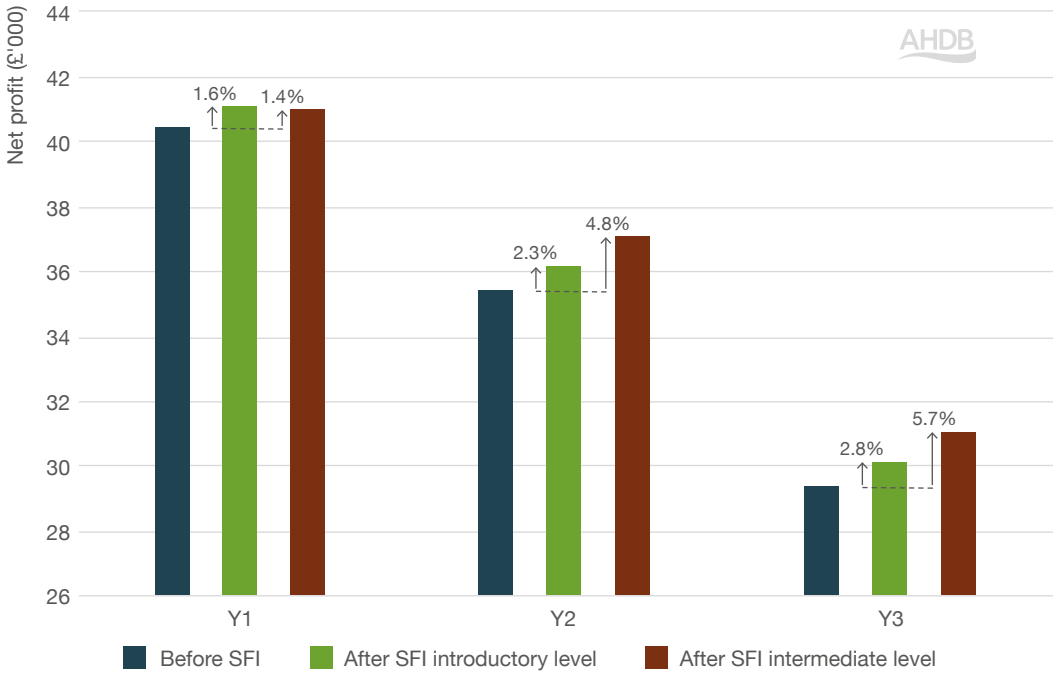



Figure 31b. **Net profit of 150 ha beef and sheep farm before and after taking part in improved grassland soils standard (SFI 2022)**

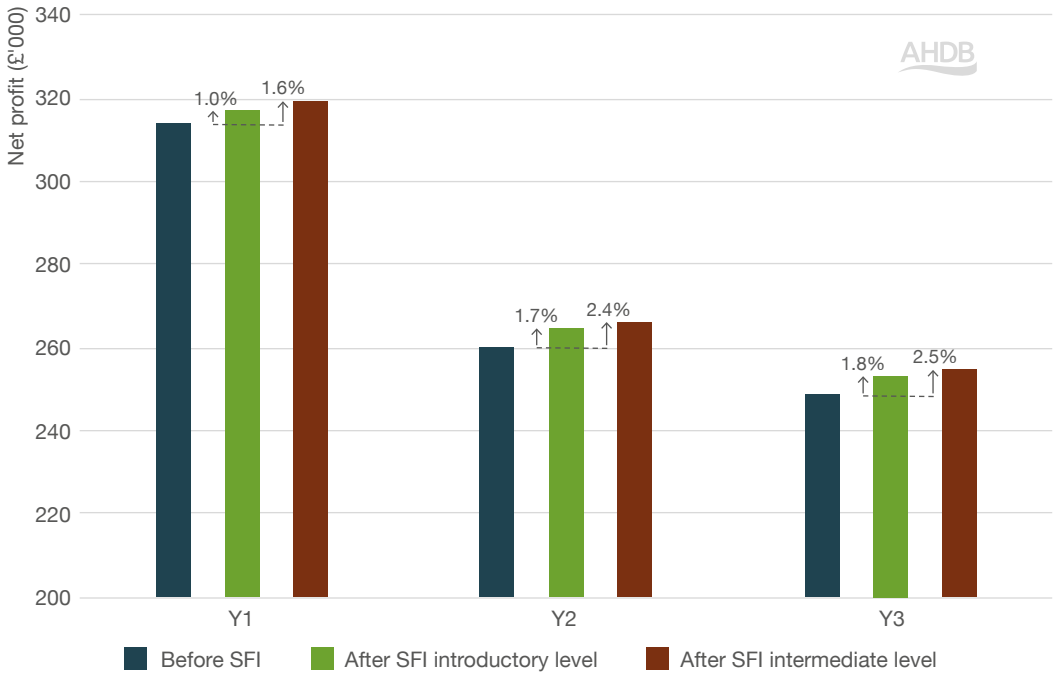



For the mixed farm, the net profit level increased by 2.4% after year 1 and 3.6% after year 3 for the introductory level (Figure 31a). Despite an increase of only 2% in the net profit after year 1 of the intermediate level, in year 3 the net profit was 7.5% higher. A similar pattern is seen for the beef and sheep farm (Figure 31b).

## The effect of high commodity prices

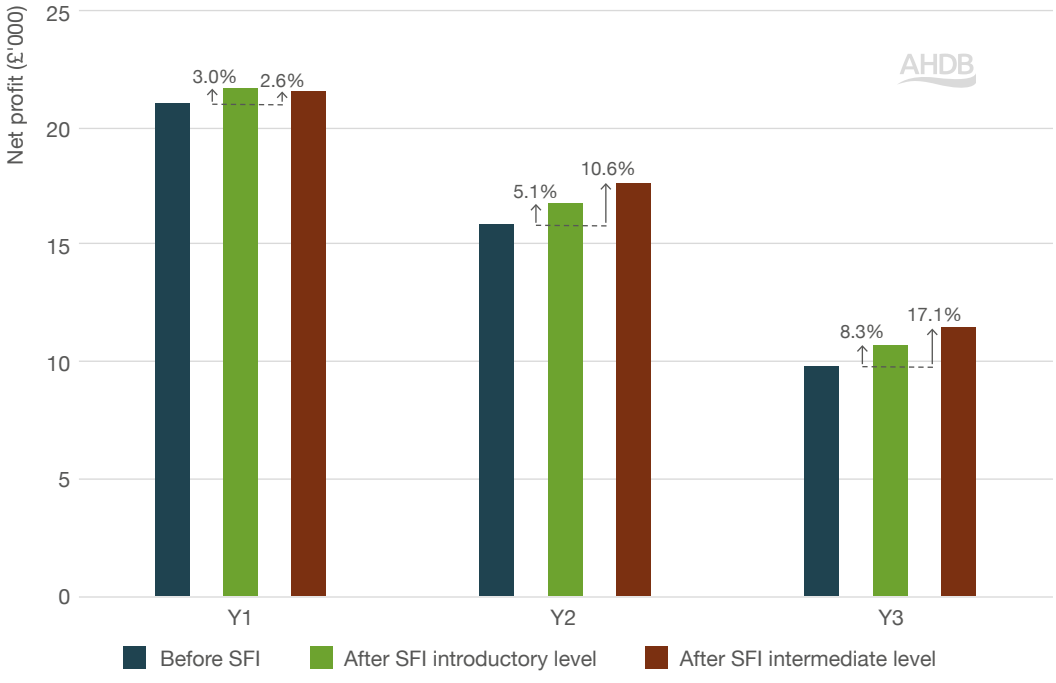
The analysis using the AHDB virtual farms uses 2021 prices, which were higher than average for commodities such as wheat, beef and sheep meat. Figures 32a and 32b show how the net profit levels of the 1,325 ha arable farm and 150 ha beef and sheep farm respectively are affected after taking part in the SFI at lower market prices. These farms have been chosen as they are the largest and smallest virtual farms used in this analysis.

Figure 32a. **Net profit of 1,325 ha arable farm before and after taking part in arable and horticultural soils standard (SFI 2022) at lower* than 2021 prices**




*Wheat prices 40% lower than average 2021 prices

Figure 32b. **Net profit of 150 ha beef and sheep farm before and after taking part in improved grassland soils standard (SFI 2022) at lower* than 2021 prices**




*Beef and sheep prices around 10% lower

The net profit after taking part in the SFI is higher in percentage terms when commodity prices are low (unlike the current situation). In practical terms, high commodity prices can mask or dampen the effect of other changes to the farm business, such as SFI payments, or indeed the removal of Direct Payments. However, high prices are just a temporary feature of the overall commodity cycle and will not last forever, so it is important to look at average or longer-term prices when business planning.

# CONCLUSIONS

## Are farmers prepared for the agricultural transition?

There is clear evidence of the importance of Direct Payments in supporting farm income in England. Literature reviewed for this study suggests that their removal is a major trigger event, which would be expected to encourage farmers to transition their businesses. However, our research findings show that there is great variability in the degree to which this is happening across the industry.

Just over half of the farmers interviewed had already made plans for reduced BPS income in the future. Actions being taken include diversification (the most favoured strategy), entering into new environmental schemes, working out how their BPS payments will reduce, scaling production either up or down, and improving efficiency.

Farmers that had not made plans indicated that they were not reliant on Direct Payments or were simply unclear about the implications of changes to agriculture policy for them. With farmers only experiencing the first annual reduction in BPS payments at the time of our fieldwork it would appear that many are content to carry on as normal for the time being. The current higher-than-average commodity prices are likely to be masking the effect of direct payment reductions to some extent, so farmers may not be 'feeling the pinch' as much as they would in an average price situation.

## Farmer views on the Sustainable Farming Incentive

Farmers cite a number of barriers to getting involved with the SFI. For those sampled farmers not participating in the SFI pilot (62% of all sampled farms), the majority did not see the standards fitting in with their current systems, the process was too burdensome or there was just too much uncertainty to consider the SFI in its current form. For those who did participate, financial incentives were the key driver for farmers choosing to engage. It was noticeable that, even then, the majority of these farmers chose standards that they were already meeting. This evidence is based on a small sample size, but if these views are widespread it looks unlikely there will be high levels of farmer participation, or wide-scale changes on the farms that do participate.

Farmers who took part in the pilot were split on whether the current payment rates would be enough for them to continue participating. It is worth pointing out that most respondents were unsure about the costs they would incur. That being said, of the 13 respondents, seven indicated that the payment will be enough or much higher than the cost, and one said it will just about cover costs. The remainder were either unsure or felt payments should be higher.

## Will the SFI work for farmers (and policy makers)?

The economic analysis carried out using AHDB virtual farms showed that the net payments for most of the standards examined were positive: the payment was higher than the cost incurred for carrying out the action on a per-hectare basis. However, this is dependent on whether the action was already being carried out on-farm and the extent to which the action fitted in with the farm set-up. More importantly, the net

payment figure doesn't tell the whole story. Analysis using the virtual farms showed that farms' net profit levels were negatively impacted if land had to be taken out of production to accommodate actions such as growing cover crops.

The analysis presented here is only a guide and is no substitute for farmers working out cost implications for their own farms. Some farmers in this study commented on the SFI being an opportunity to take loss-making unproductive land out of production and do something good for the environment while getting paid for it. This level of detail is difficult to capture on a virtual farm that only exists on a spreadsheet but is something that farmers can consider on their physical farms. Farmers have a choice regarding how they fulfil an action, and a technique which may be cheap and fit in well for one farm may be costly for another. This is why it would be worthwhile for farmers to carry out their own calculations to see how the various SFI standards could fit within their farm.

The SFI 2022 analysis shows that net profit levels for the arable and grassland soils were higher (maximum of 2.5% for arable soils and maximum of 7.5% for grassland soils) compared with not taking part in the SFI. Again, the level of change will depend on the existing set-up of the farm and practices carried out on-farm.

While the numbers vary for different farms, the following messages stand out:

- If farmers are already carrying out actions on-farm which are required under the SFI, it is beneficial to join the scheme as they will receive extra income
- If farmers are not carrying out most or all of the actions required but their farm set up will allow them to do so with little additional cost, it is beneficial to join the scheme
- For farmers where the situation is unclear, it is worthwhile carrying out the calculations for their own farms (**see flow diagram**) to see if taking part will be beneficial

Regarding the last point above, the mindset of the farmer is a key factor; are they production oriented/focused on making money, or are they environmentally oriented? Increasing net profit is not necessarily the primary motive of all farmers: some may prefer to improve the condition and biodiversity of their land at the expense of profit margins. Regardless of whether the aim is to maximise monetary or environmental gains, sitting down and working through the costs and benefits to the business is worthwhile so that an informed decision can be made.

From a policy perspective, if farmers join the SFI to get paid for what they are already doing or for making minimal changes, to what extent will this help to achieve the UK's environmental targets?

Review of the literature, as featured at the start of this **report**, suggests that unless a farmer is environmentally oriented, higher financial reward is the main driver in encouraging more ambitious environmental actions. While the SFI standards examined in this report generally increased net profit levels, a small increase may not seem worth the time and effort needed to carry out the actions.

It is important to remember that ELMS and the SFI policy are not set in stone. Defra have stated that policy will be developed based on feedback and learnings from pilots and trials. There is evidence of this with the arable and grassland soils standards for SFI 2022 being simplified compared to those in the SFI pilot. Changes have been made, and will continue to be made, as the scheme design evolves. For farmers the uncertainty makes it difficult to plan but making sure that you have access to all the information available – and by preparing for what you do know – will put you in a better position than a wait-and-see approach.

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# GLOSSARY

| | |
|---|---|
| **AES** | Agri-Environment Scheme |
| **ATP** | Agricultural Transition Period |
| **BPS** | Basic Payment Scheme |
| **CS** | Countryside Stewardship |
| **ELMS** | Environmental Land Management Schemes |
| **ES** | Environmental Stewardship |
| **EU-Exit** | The UK leaving the EU |
| **HLS** | Higher Level Stewardship |
| **LFA** | Less favoured area |
| **Net payment** | Payment less cash costs |
| **Net profit** | Total revenue minus total costs |
| **SFI** | Sustainable Farming Incentive |

# APPENDIX Brief descriptions of the model farms used in this analysis

| | Size and type of farm | | | | |
|---|---|---|---|---|---|
| | 1325 ha arable farm | 375 ha arable farm | 455 ha arable farm | 220 ha lowland mixed farm | 150 ha lowland beef and sheep farm |
| **Location** | East of England | South-west England | East of England | Yorkshire and the Humber | South-west England |
| **Type of business** | Partnership: 30% owned, 45% rented and 25% contracted (FBT) | Partnership: 10% owned, 90% rented | Partnership: 65% owned, 35% rented (FBT) | Partnership: 60% owned, 40% rented (FBT) | Sole trader: 50% owned, 50% rented (FBT) |
| **Soil type** | Lime-rich loam and clay soils with impeded drainage | Shallow lime-rich soils over chalk or limestone | Lime-rich loam and clay soils with impeded drainage | Slightly acid and base-rich loam and clay soils | Freely draining slightly acidic loam soils |
| **Cropped area** | 1,300 ha | 350 ha | 450 ha | 90 ha | None |
| **Land use** | Crops (% cropped area): Winter wheat groups 1 and 4 (63%); Winter beans (8%); Winter OSR (7%); Spring barley (17%); Countryside Stewardship mid-tier (5%) | Crops (% cropped area): Winter wheat groups 1 and 4 (60%); Winter and spring malting barley (20%); Winter beans (10%); Winter OSR (5%); Countryside Stewardship mid-tier (5%) | Crops (% cropped area): Winter wheat groups 1 and 4 (63%); Winter beans (8%); Winter OSR (7%); Spring barley (17%); Countryside Stewardship mid-tier (5%) | Crops (% cropped area): Winter wheat (60%); Spring barley (25%); Winter OSR (15%)<br>40 ha of 5-year ley and cover crops in Countryside Stewardship mid-tier 90 ha; permanent grassland | 25 ha temporary grass area (3 year leys)<br>120 ha permanent grass area |
| **Livestock** | None | None | None | 100 beef cattle for finishing (feed ration: homegrown barley grain and straw, baled grass silage)<br>200 breeding ewes lambing in March, sell lambs predominantly as stores, remaining lambs finished on-farm | 50 suckler cows calving in March providing calves into the finishing herd<br>110 beef cattle for finishing in the winter, additional cattle bought in as yearlings<br>400 breeding ewes lambing in April onwards and rearing lambs for finishing |
| **Pests and diseases** | Black grass, Cabbage stem flea beetle | Black grass, Cabbage stem flea beetle | Black grass, Cabbage stem flea beetle | Clostridial, Endoparasites (scab/ticks) | Bovine TB, Lepto, Johnes, Blackleg, Endoparasites, Liverfluke, Husk, Pneumonia |
| **Min-till** | 2 passes; rotational ploughing, direct drilling when possible | 2 passes; rotational ploughing (5% of land each year) | 2 passes; rotational ploughing (25% of land each year) | n/a | n/a |
| **Labour** | 1 family member (owner), 2 full-time employees (including manager), 2 harvest employees | Family labour, 1 full-time employee, 1 harvest employee | Family labour (2 people), harvest help for 6 weeks | Family labour, contractors used for shearing and baling silage/ straw and hedge cutting | Husband and wife plus part-time from son/daughter |
| **Performance level** | Yield: Middle 50% | Yield: Middle 50% | Yield: Middle 50% | Middle 50% | Middle 50% |

## Results of economic analysis for the introductory and advanced levels of SFI standards

Figures A1 to A5 show the net payment values calculated for the arable and horticultural land, arable and horticultural soils and hedgerow standard for the three virtual arable farms (introductory and advanced levels).

Figure A1. **Gross and net payment rates for arable and horticultural land standard (introductory level)**

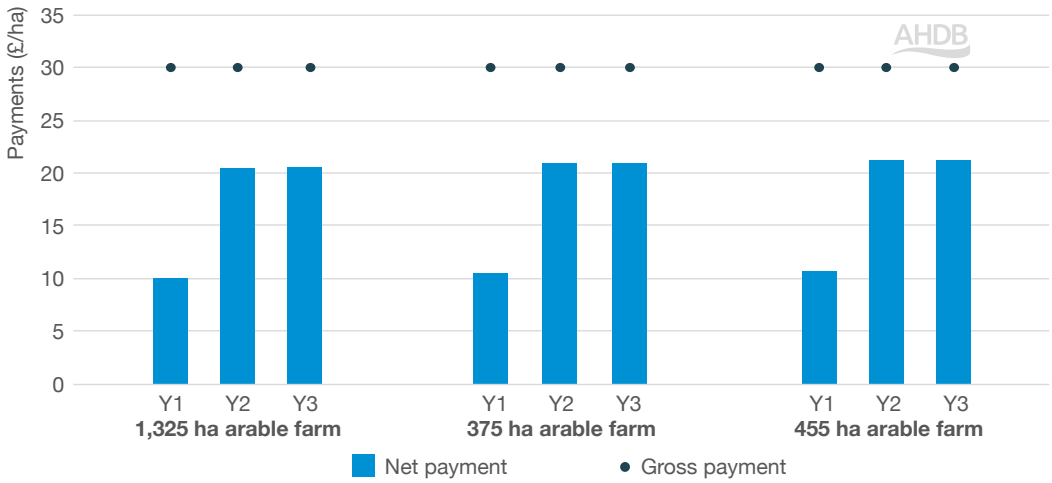



Figure A2. **Gross and net payment rates for arable and horticultural soils standard (introductory level)**

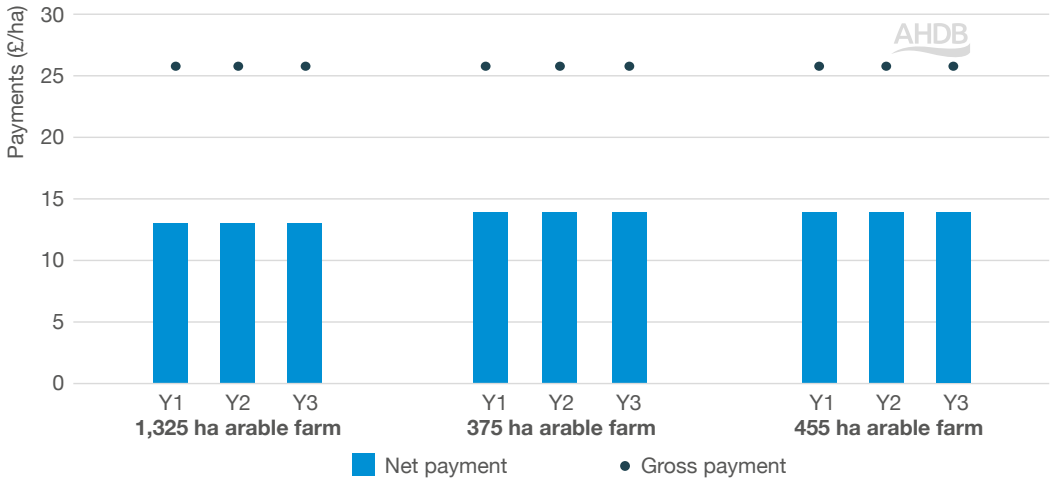



Figure A3. **Gross and net payment rates for arable and horticultural soils standard (advanced level)**

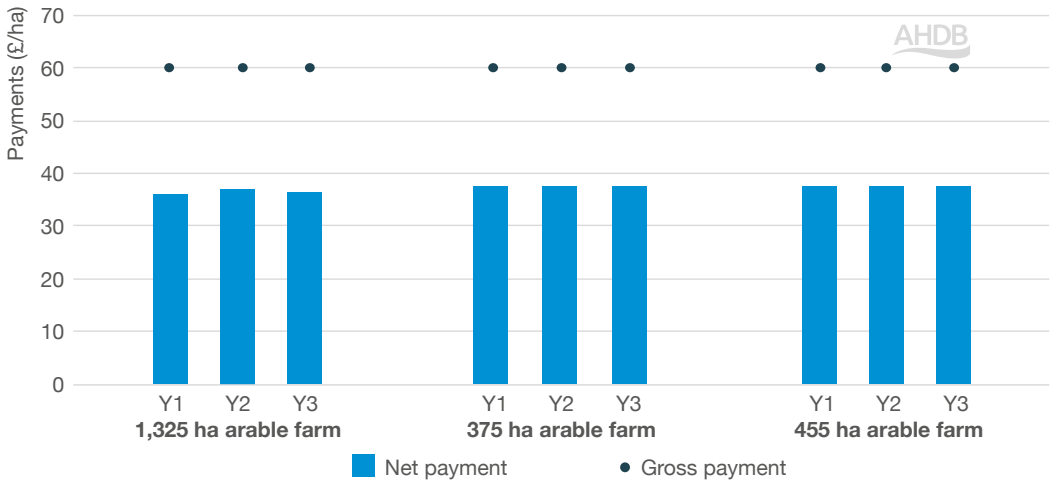


Figure A4. **Gross and net payment rates for hedgerows standard (introductory level)**

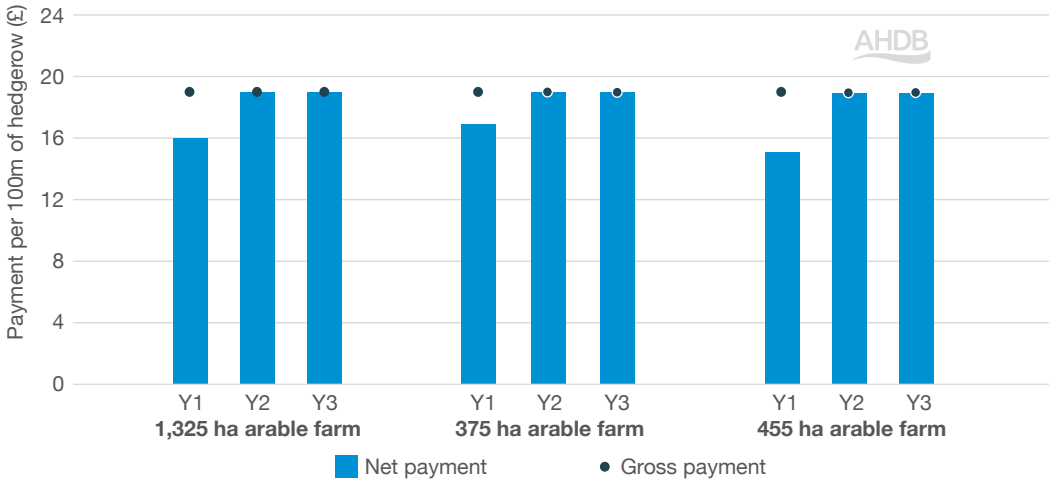
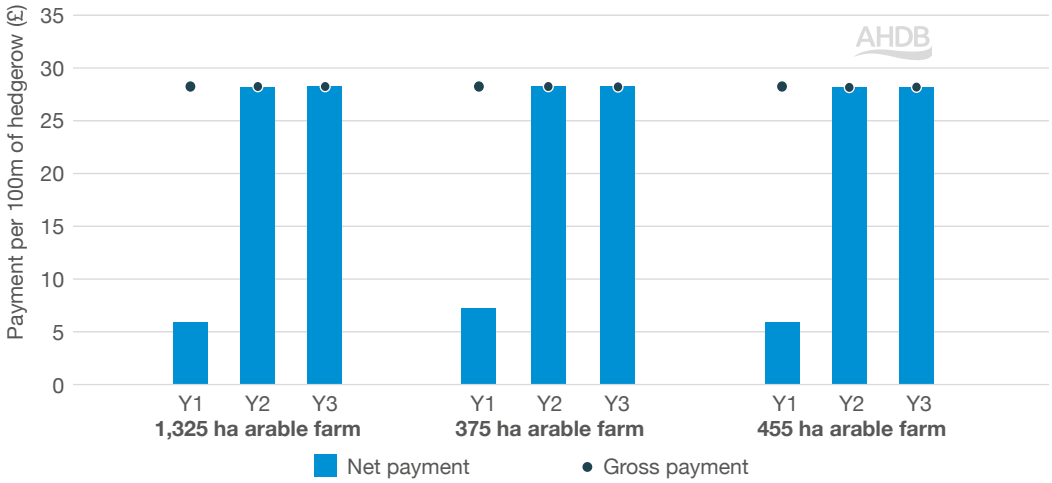



Figure A5. **Gross and net payment rates for hedgerows standard (advanced level)**




Figures A6 to A17 show the change in net profit of the virtual arable farms after taking part in the introductory and advanced levels of the arable and horticultural land, arable and horticultural soils and hedgerows standards.

Figure A6. **Change in net profit of 1,325ha arable farm after introductory level of arable and horticultural land standard**

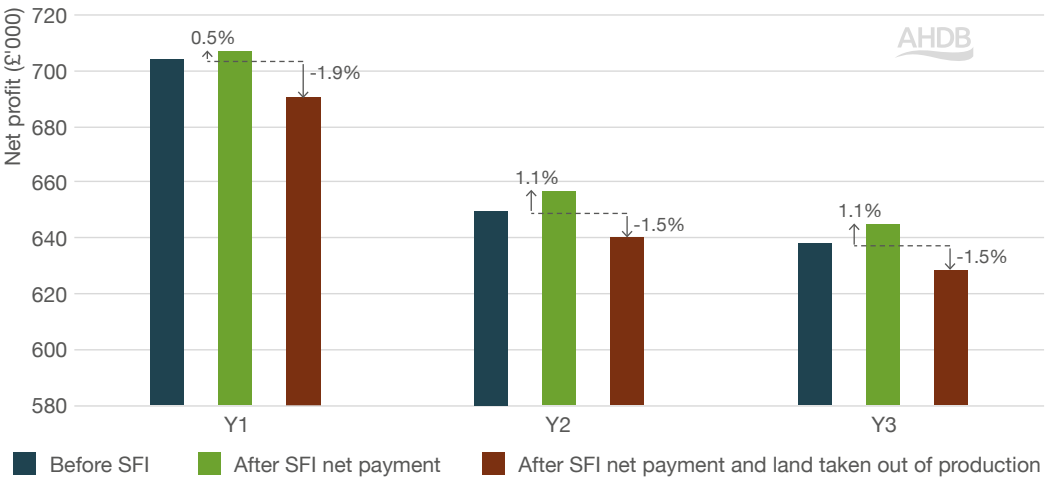


Figure A7. **Change in net profit of 375 ha arable farm after introductory level of arable and horticultural land standard**

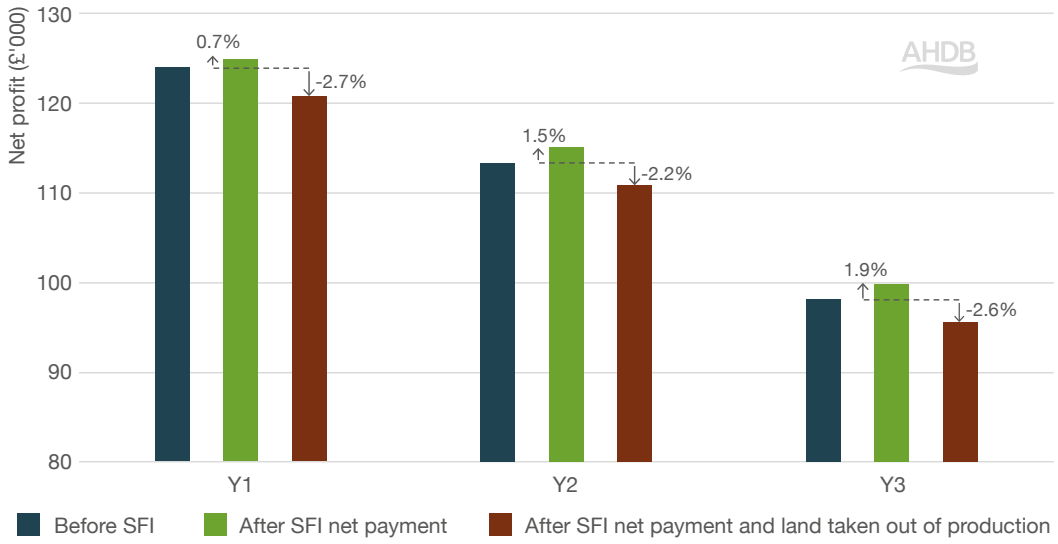



Figure A8. **Change in net profit of 455 ha arable farm after introductory level of arable and horticultural land standard**

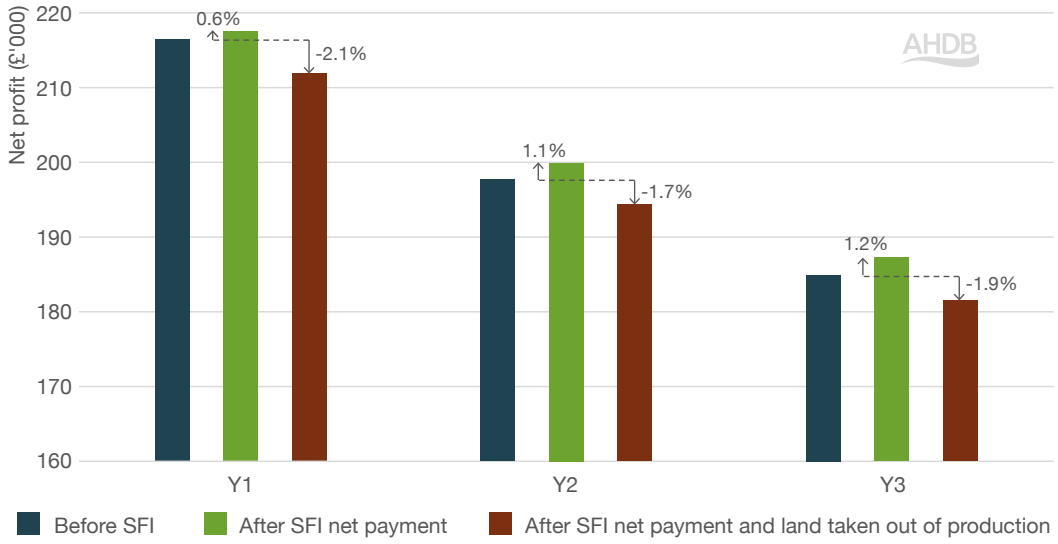



Figure A9. **Change in net profit of 1,325 ha arable farm after advanced level of arable and horticultural land standard**

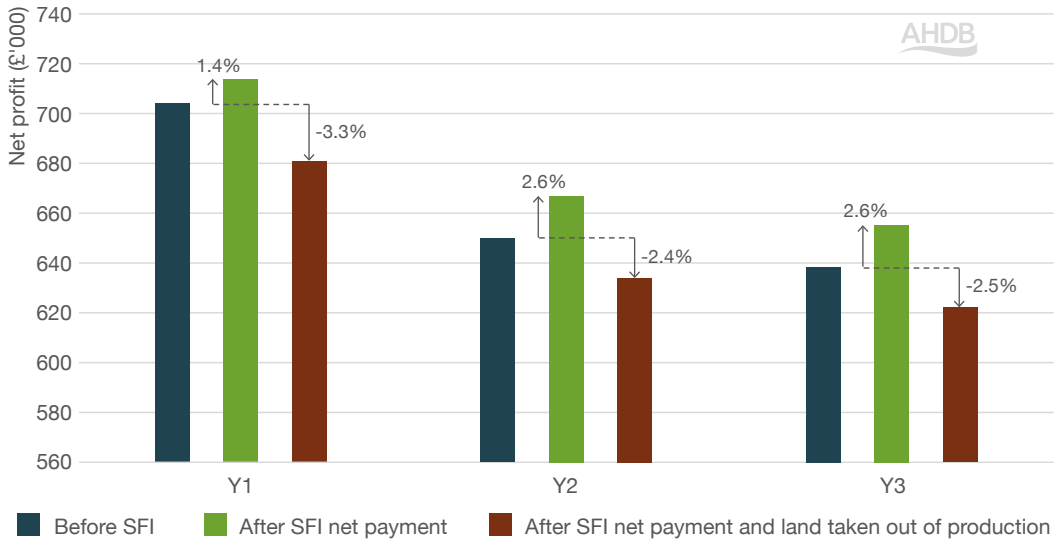


Figure A10. **Change in net profit of 375 ha arable farm after advanced level of arable and horticultural land standard**

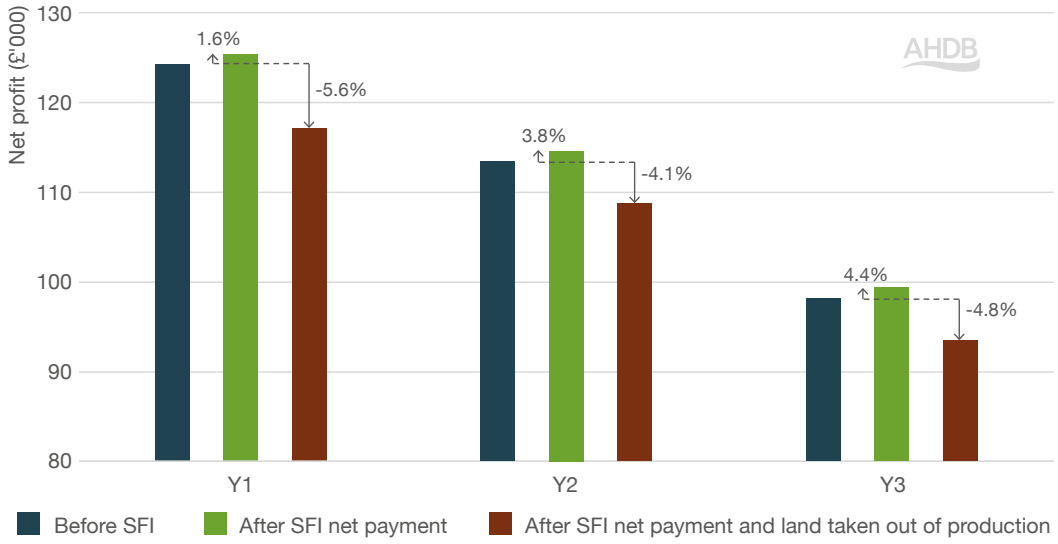



Figure A11. **Change in net profit of 455 ha arable farm after advanced level of arable and horticultural land standard**

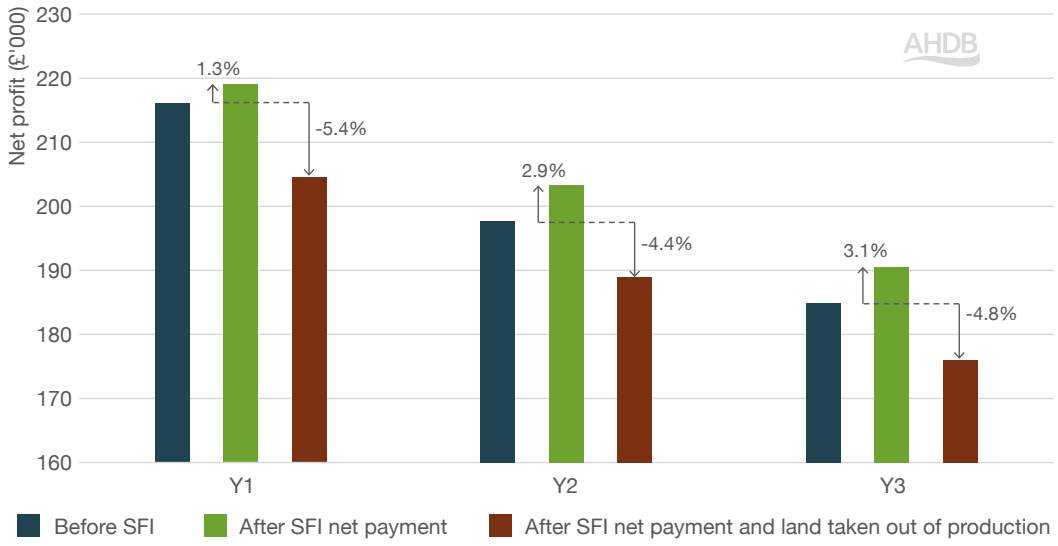



Figure A12. **Change in net profit of 1,325 ha arable farm after introductory and advanced level of arable and horticultural soils standard**

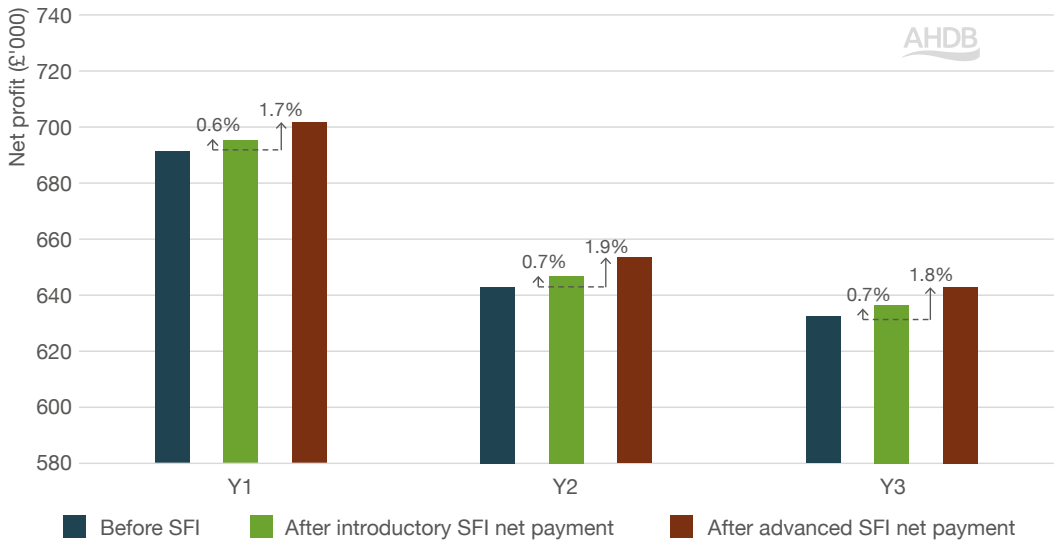


Figure A13. **Change in net profit of 375 ha arable farm after introductory and advanced level of arable and horticultural soils standard**

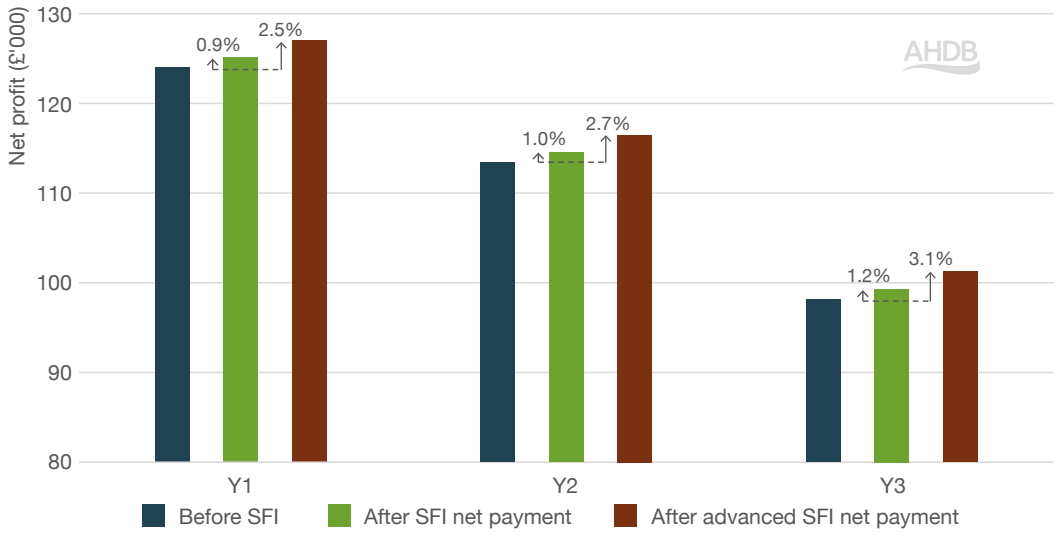



Figure A14. **Change in net profit of 455 ha arable farm after introductory and advanced levels of arable and horticultural soils standard**

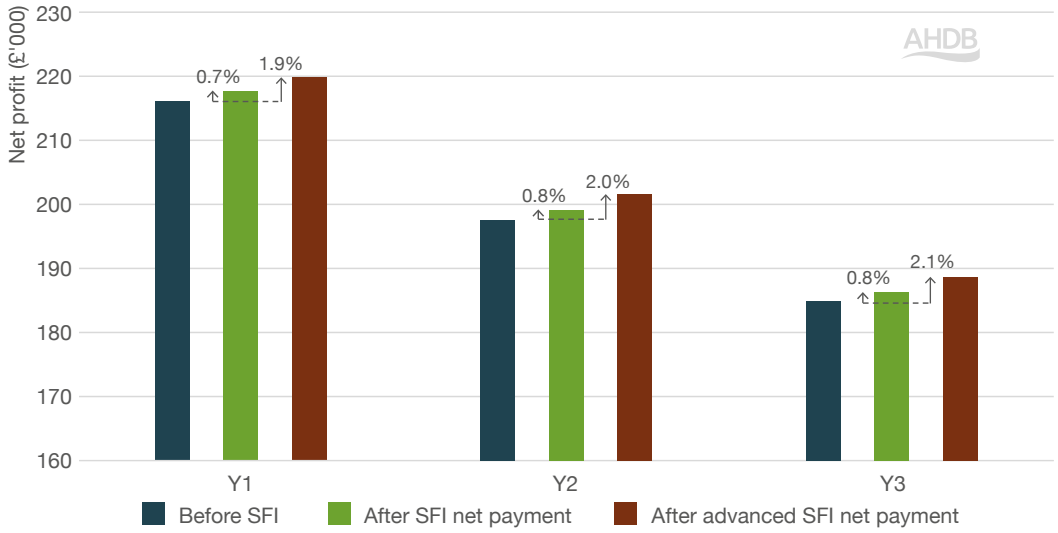



Figure A15. **Change in net profit of 1,325 ha arable farm after introductory and advanced level of hedgerows standard**

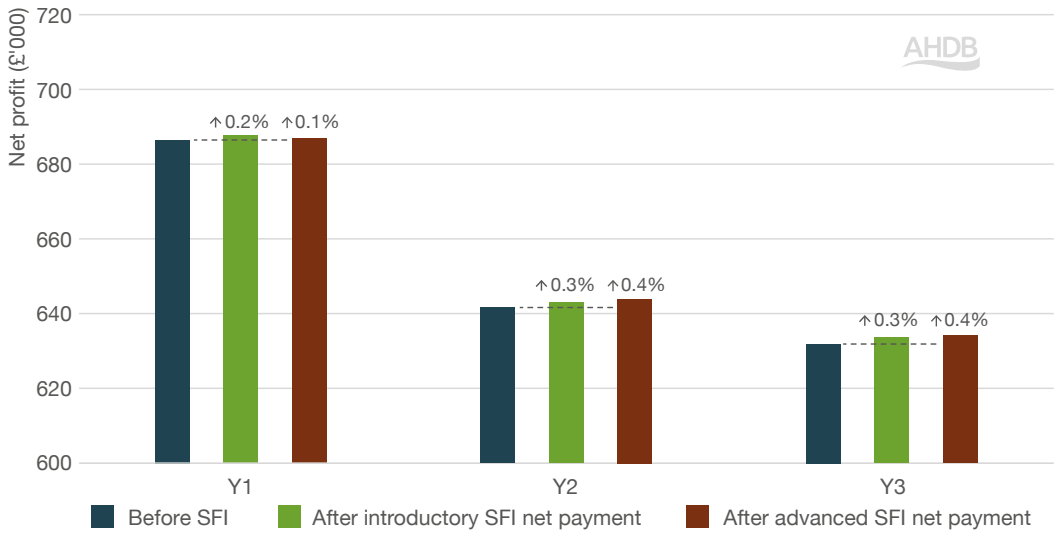


Figure A16. **Change in net profit of 375 ha arable farm after introductory and advanced level of hedgerows standard**

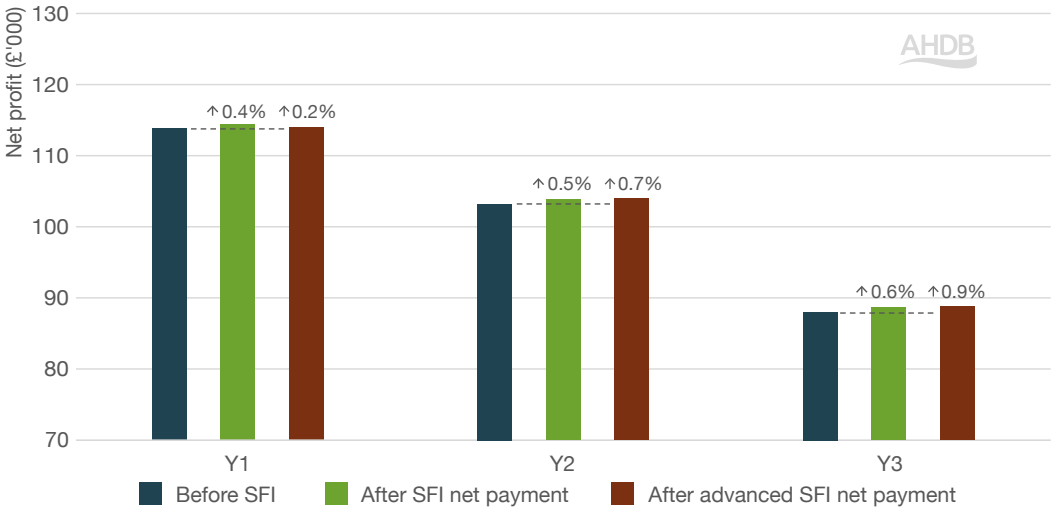
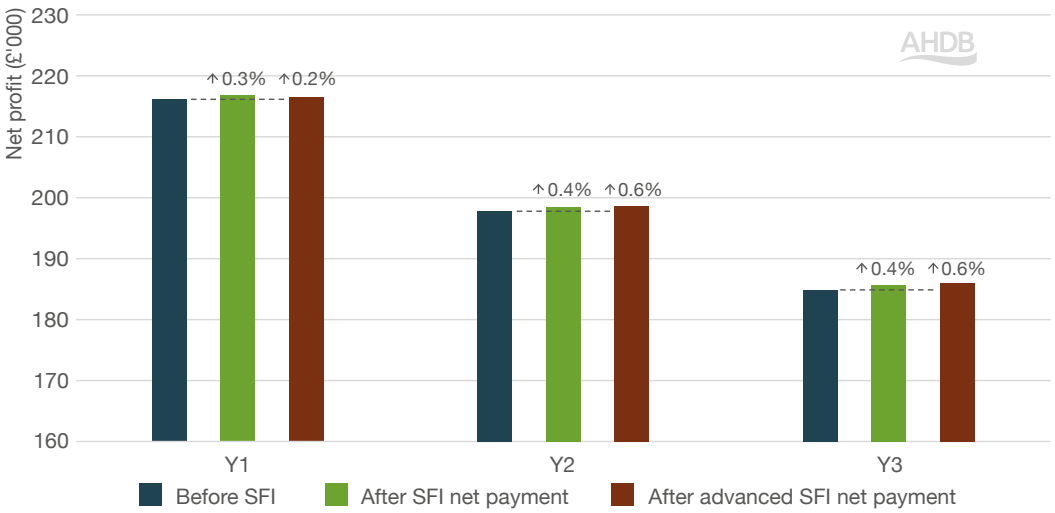



Figure A17. **Change in net profit of 455 ha arable farm after introductory and advanced levels of hedgerows standard**




Figures A18 to A21 show the net payment values calculated for the improved grassland and improved grassland soils standards for the mixed virtual farm and beef and sheep virtual farm (introductory and advanced levels)

Figure A18. **Gross and net payment rates for improved grassland standard (introductory level)**

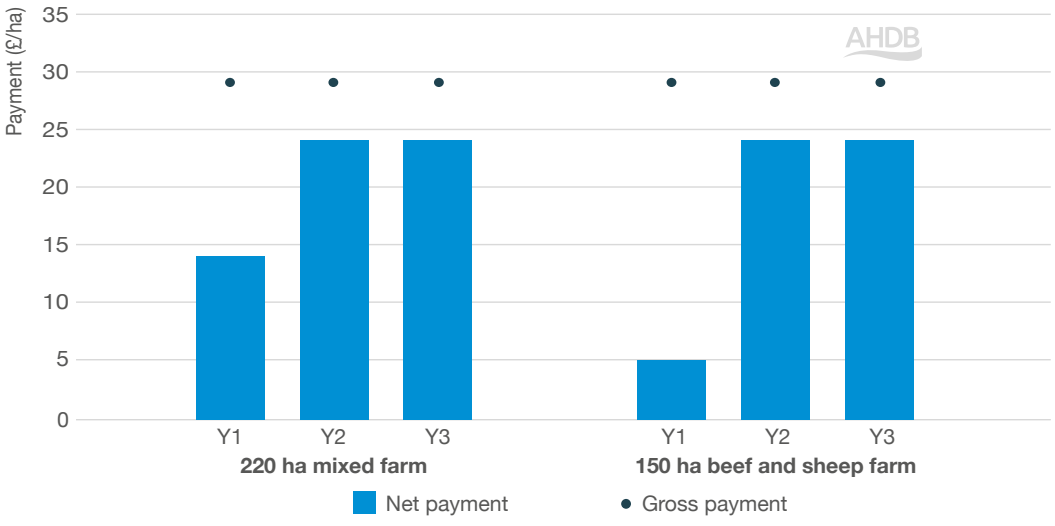


Figure A19. **Gross and net payment rates for improved grassland standard (advanced level)**

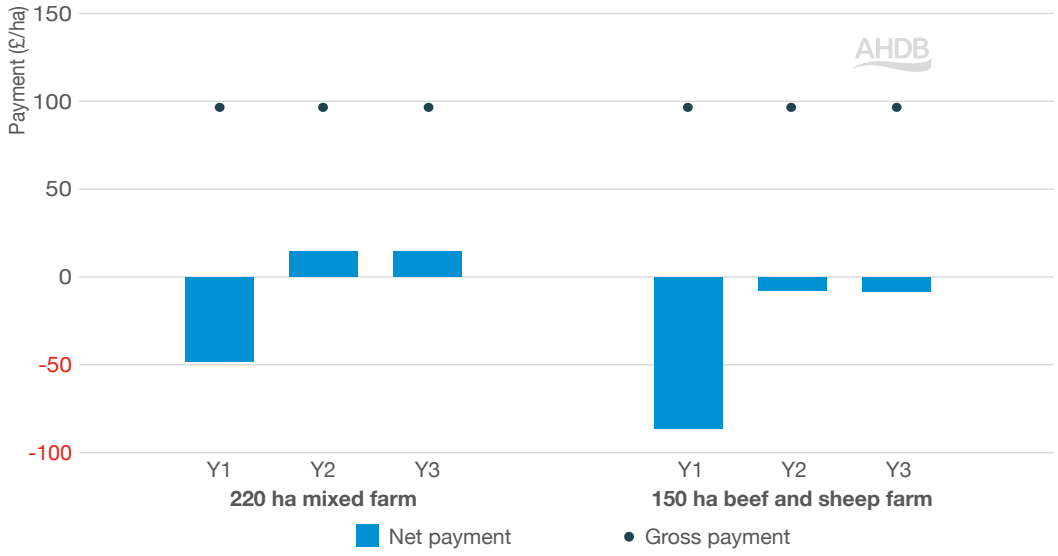



Figure A20. **Gross and net payment rates for improved grassland soils standard (introductory level)**

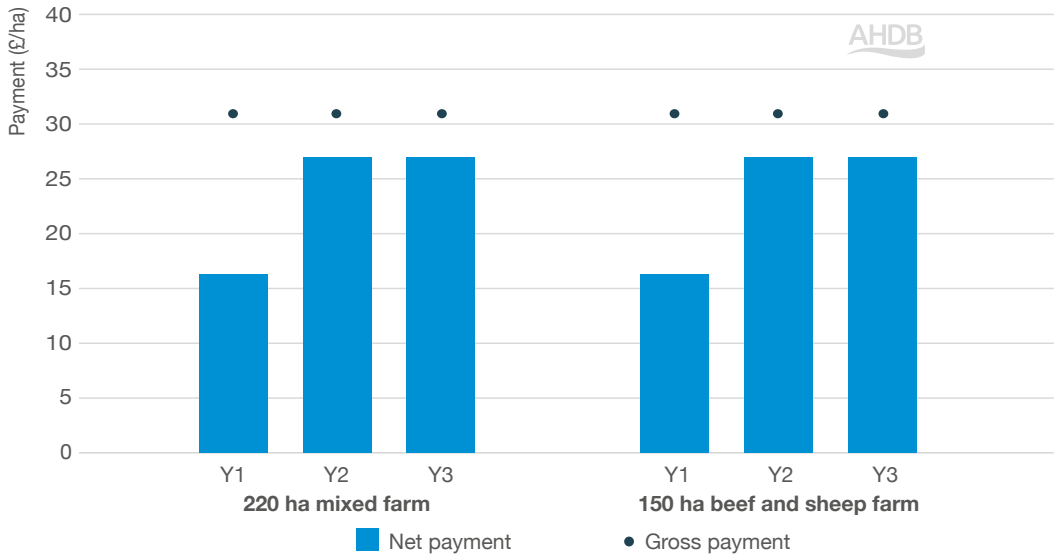
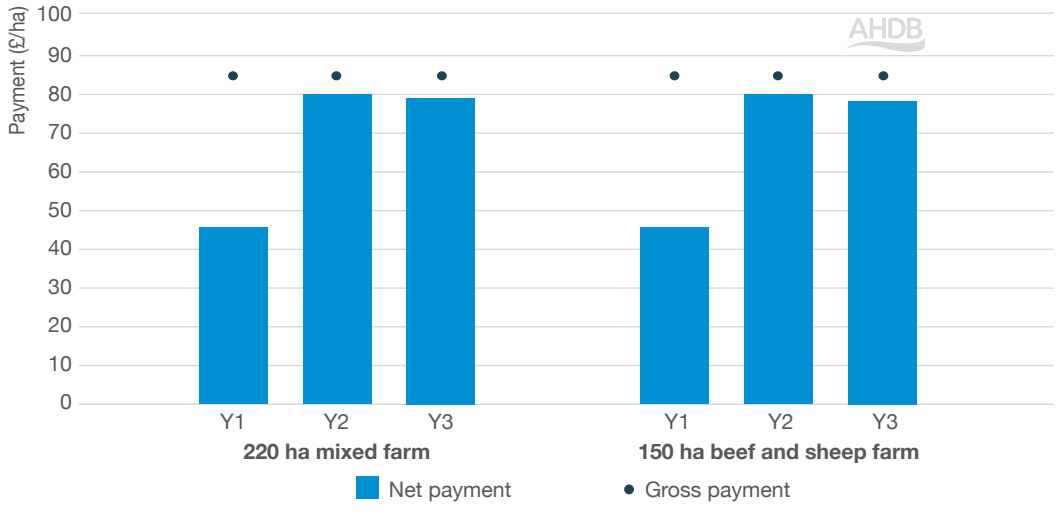



Figure A21. **Gross and net payment rates for improved grassland soils standard (advanced level)**



Figures A22 to A25 show the change in net profit of the mixed virtual farm and beef and sheep virtual farm after taking part in the introductory and advanced levels of the improved grassland and improved grassland soils standards.

Figure A22. **Change in net profit of 220 ha mixed farm after introductory and advanced level of improved grassland standard**

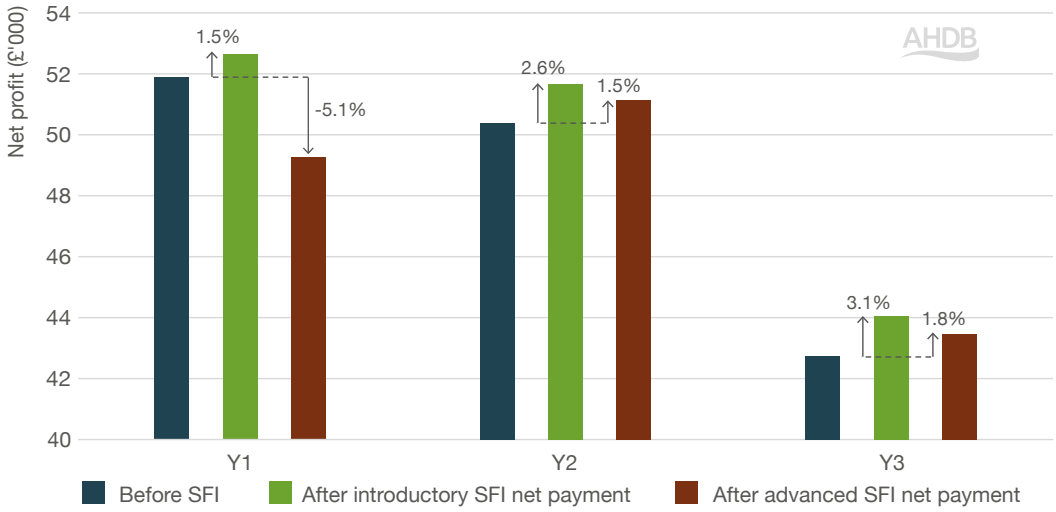



Figure A23. **Change in net profit of 150 ha beef and sheep farm after introductory and advanced level of improved grassland standard**

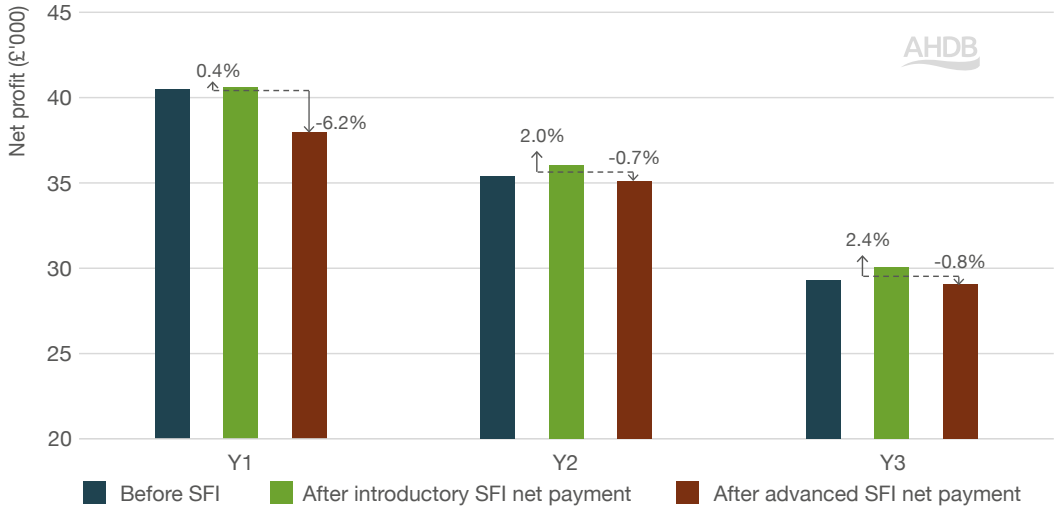



Figure A24. **Change in net profit of 220 ha mixed farm after introductory and advanced level of improved grassland soils standard**

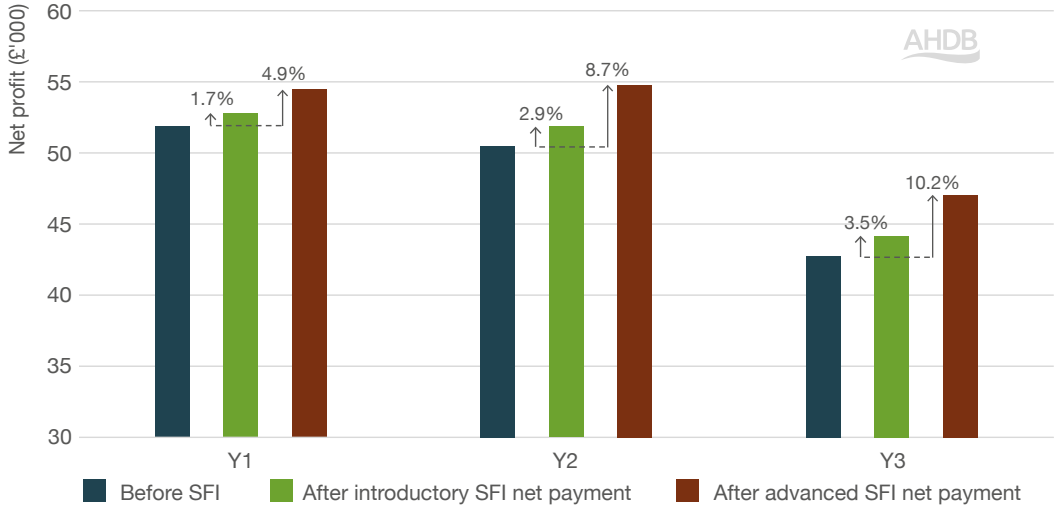
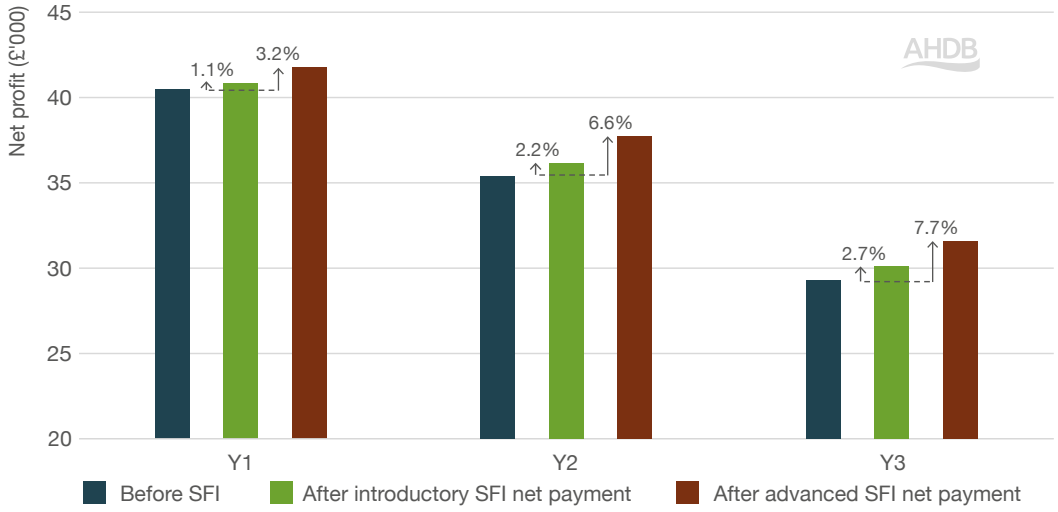


Figure A25. **Change in net profit of 150 ha beef and sheep farm after introductory and advanced level of improved grassland soils standard**



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