

# Farm support, the new Environmental Land Management System and the funding gap – Effect on net profits by farm type & productivity

September 2019

## At a glance

<p>This paper extends the analysis we did on the potential impact of the government's proposals to reduce Basic Payments to zero by 2028 and to introduce a new Environmental Land Management System.</p> <p>This second paper models the effect of the proposed changes for seven farm types and for three levels of productivity. An important assumption we have made is that the profits that farmers earn from agri-environment measures are double compared with current levels.</p>	<p>The changes will most affect farms that are highly reliant on Basic Payments - cereals, mixed and lowland livestock farms. Sectors like dairy will be less affected.</p> <p>The net profits of the middle 50% of farmers will fall significantly, by 47-68% (excluding dairy).</p> <p>The bottom 25% also suffer significant falls, of 22-63%.</p>	<p>The top 25% performing farmers are much less affected, with profits falling by 6-19%. They are less reliant on Basic Payments and the cut is largely negated by increases in farm productivity and agri-environment payments.</p> <p>Please <a href="#">contact us</a> if you would like to run your farm through our model.</p>
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## Introduction

Our first paper, called *Farm support, the new Environmental Land Management Scheme and the funding gap*, considered the effect of the proposed transition to new farm support policies, in particular the reduction of Basic Payments to zero and the introduction of a new Environmental Land Management System (ELMS), on farm profits across England.

Its final section modelled the impact on a 'typical' farm – based on the average performance of the 'all farm types' data in England from the Farm Business Survey. It showed that even if payments under the new ELMS double, as they may require more complex management, farm profits still fall by over 30%.

This second paper extends the modelling by looking at how the transition will affect seven different types of farm and, for each farm type, the effect of different levels of productivity:

Type of farm	See page:	Productivity (measured as the ratio of farm outputs compared with inputs)
All farm types	3	Top 25% of farms
Cereals	3	Middle 50% of farms
General cropping <sup>1</sup>	5	Bottom 25% of farms
Dairy	9	
Livestock in Less Favoured Areas <sup>2</sup>	6	
Livestock in lowland areas <sup>3</sup>	7	
Mixed farms <sup>4</sup>	8	

Our models can be run using actual data for most farms (we think!), so [contact us](#) if you would like to run your farm through it.

<sup>1</sup> Farms with over two-thirds of their total output in arable crops (including field scale vegetables) or a mixture of arable and horticultural crops.

<sup>2</sup> Farms with 50% or more of their total area in the LFA, both the Disadvantaged and Severely Disadvantaged classifications.

<sup>3</sup> Farms with less than 50% of their total area in the Less Favoured Area.

<sup>4</sup> Farms where crops account for one-third, but less than two-thirds of total output and livestock accounts for one-third, but less than two-thirds of total output. It also includes holdings with mixtures of cattle and sheep and pigs and poultry, and holdings where one or other of these groups is dominant, but does not account for more than two-thirds of the total output.



## Assumptions

To assess the effect of the transition proposals on farm profits, we have made a number of assumptions about how net profits from different activities on the farms will change and how the new policies will be introduced throughout the transition period, which is 2021 - 2028. The assumptions will be amended as we learn more.

The profits generated by the different types of farm are:

- (i) net profits after all costs have been deducted, and
- (ii) are generated from four different types of activity – farming, agri-environment, diversification and Basic Payments. The four activities are shown separately on the charts below.

The net profits can be summed into a 'total profit', which is the equivalent of Farm Business Income, which is one of the main measures generated by the Farm Business Survey and used by Defra to assess the economic health of farming.

Farming net profit	We have assumed a 3% increase in net profits per year. This may be optimistic as productivity has not been rising this fast in recent decades.
Agri-environment net profit	<p>Countryside Stewardship</p> <p>We have assumed that current agreements run until 2024 and are then replaced by a new ELMS agreement.</p> <p>New ELMS</p> <p>We have assumed that the area on a farm covered per agreement remains the same as under Countryside Stewardship (which is 77 ha per agreement, so just under half of Utilised Agricultural Area (UAA) per farm).</p> <p>We have assumed that the average profit earned per agreement DOUBLES (i.e., IS 200% OF CURRENT LEVELS)<sup>5</sup>. This may be optimistic<sup>6</sup>.</p>
Diversification net profit	We have assumed a 3% increase in net profits per year. This may be optimistic but net profits from diversification have been rising faster than this in the last five years (by an average of 10%).
Basic Payments net profit	<p>The Government has said that payments will be cut over the seven years from 2021 to 2028. They will be cut in 2021 by between 5 and 25% depending on the total Basic Payments received; it has not said what happens afterwards.</p> <p>Therefore we have assumed there will be an (average) 10% cut in 2021, followed by a straight line cut to 2028 of @ 14% pa until Basic Payments are zero.</p>

Based on these assumptions, profits on the different types of farms could be as shown below (using a five-year average of 2013 - 17 as the baseline).

Net profits are shown in £s for the whole farm and also in £s per hectare of UAA, which represents the cropped or farmed area better than the total area of the farm.

Red shading of cells in the tables shows a fall in net profits of 50% or more; amber shows a fall of 25 – 50%.

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<sup>5</sup> For example, for the all farm type with middle 50% performance the new ELMS payments would be £72 / ha of UAA and £134 / ha of land in current Countryside Stewardship and Higher Level Stewardship agreements. Eagle-eyed readers may notice that the payment of £72 / ha is slightly higher than the £65 we quoted in paper 1. This is because paper 1 used 2017 as the baseline period while we have used a five-year average of 2013-17 in this paper as we feel it is more representative of farm performance across different growing conditions.

<sup>6</sup> It may seem optimistic but our assumptions (of doubling the average spending per agreement and tripling the number of agri-environment scheme agreements (which is less than Defra's ambition of 82,500 agreements)) requires an annual spend of £1.9bn in 2028, which is not significantly less than the current £2.2bn spending on total direct payments to farmers in England. See paper 1 for details.



## Effect on net profits on all farm types

	Net profit in £ for the whole farm	Profit in 2013 – 17	Profit in 2028	% change in net profits
Overall average	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>45,000 40,000 35,000 30,000 25,000 20,000 15,000 10,000 5,000 0</p> <p>■ Farming ■ Diversification ■ Basic Payment scheme ■ Agri-environment</p>	£41,765 £288/ha UAA <sup>7</sup>	£26,266 £181/ha UAA	-37%
Top 25% of farms  (measured as the ratio of farm outputs compared with inputs, of farms in England)	<p>120,000 100,000 80,000 60,000 40,000 20,000 0</p> <p>■ Farming ■ Diversification ■ Basic Payment scheme ■ Agri-environment</p>	£108,882 £566/ha UAA	£102,886 £535/ha UAA	-6%  Profits fall less as Basic Payment account for a much smaller proportion of total profits (see left-most red column in figure).
Middle 50% of farms	<p>45,000 40,000 35,000 30,000 25,000 20,000 15,000 10,000 5,000 0 -5,000 -10,000</p> <p>■ Farming ■ Diversification ■ Basic Payment scheme ■ Agri-environment</p>	£33,277 £228/ha UAA	£17,528 £120/ha UAA	-47%
Bottom 25% of farms	<p>30,000 20,000 10,000 0 -10,000 -20,000 -30,000 -40,000</p> <p>■ Farming ■ Diversification ■ Basic Payment scheme ■ Agri-environment</p>	-£10,040 -£110/ha UAA	-£14,932 -£162/ha UAA	-49%  Payments under ELMS would have to be four times current levels (i.e., 400%) for profits to remain at 2013 – 17 levels (which are still a loss!)

<sup>7</sup> UAA is 145ha for the overall average, 192ha for the top 25%, 146ha for the middle 50% and 93ha for the bottom 25%.



## Effect on net profits on cereals farms

	Net profit in £ for the whole farm	Profit in 2013 – 17	Profit in 2028	% change in net profits
Overall average	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>£47,476</p> <p>£240/ha UAA<sup>8</sup></p>	£21,765	£110/ha UAA	-54%
Top 25% of farms (measured as the ratio of farm outputs compared with inputs, of farms in England)	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>£117,895</p> <p>£515/ha UAA</p>	£100,043	£437/ha UAA	-15%
Middle 50% of farms	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>£41,811</p> <p>£204/ha UAA</p>	£18,518	£90/ha UAA	-56%
Bottom 25% of farms	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>-£16,352</p> <p>-£111/ha UAA</p>	-£22,887	-£156/ha UAA	-40%

<sup>8</sup> UAA is 197ha for the overall average, 228ha for the top 25%, 207ha for the middle 50% and 147ha for the bottom 25%.



## Effect on net profits on general cropping farms

	Net profit in £ for the whole farm	Profit in 2013 – 17	Profit in 2028	% change in net profits
Overall average	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>■ Farming ■ Diversification ■ Basic Payment scheme ■ Agri-environment</p>	£69,125 £309/ha UAA <sup>9</sup>	£39,351 £180/ha UAA	-43%
Top 25% of farms  (measured as the ratio of farm outputs compared with inputs, of farms in England)	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>■ Farming ■ Diversification ■ Basic Payment scheme ■ Agri-environment</p>	£178,398 £562/ha UAA	£159,216 £508/ha UAA	-11%
Middle 50% of farms	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>■ Farming ■ Diversification ■ Basic Payment scheme ■ Agri-environment</p>	£53,811 £234/ha UAA	£18,230 £80/ha UAA	-66%  Profits fall more than for bottom 25% farms as Basic Payments account for a greater proportion of total profits.
Bottom 25% of farms	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>■ Farming ■ Diversification ■ Basic Payment scheme ■ Agri-environment</p>	-£12,534 -£120/ha UAA	-£19,767 -£186/ha UAA	-58%

9 UAA is 225ha for the overall average, 326ha for the top 25%, 231ha for the middle 50% and 107ha for the bottom 25%.



## Effect on net profits on livestock farms in Less Favoured Areas

	Net profit in £ for the whole farm	Profit in 2013 – 17	Profit in 2028	% change in net profits
Overall average	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>£20,681 £138/ha UAA<sup>10</sup></p>	£14,275 £96/ha UAA	-31%	This type of farm is much more reliant on agri-environment payments than most other types of farm, so their profits are supported more by the doubling of ELMS payments.
Top 25% of farms  (measured as the ratio of farm outputs compared with inputs, of farms in England)	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>£55,486 £223/ha UAA</p>	£47,669 £194/ha UAA	-14%	Even the top 25% of this type of farm makes a loss from farming. The biggest element of profit is from agri-environment.
Middle 50% of farms	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>£16,654 £125/ha UAA</p>	£8,830 £66/ha UAA	-47%	
Bottom 25% of farms	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>-£7,431 -£105/ha UAA</p>	-£9,368 -£134/ha UAA	-26%	As for other types of bottom 25% farm, it is losses from farming that dominate total net profit.

10 UAA is 147ha for the overall average, 247ha for the top 25%, 134ha for the middle 50% and 70ha for the bottom 25%.



## Effect on net profits on lowland livestock farms

	Net profit in £ for the whole farm	Profit in 2013 – 17	Profit in 2028	% change in net profits
Overall average	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>£16,705</p> <p>£178/ha UAA<sup>11</sup></p>	£16,705	£9,066	-46%
Top 25% of farms (measured as the ratio of farm outputs compared with inputs, of farms in England)	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>£50,288</p> <p>£371/ha UAA</p>	£50,288	£45,129	-10%
Middle 50% of farms	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>£12,258</p> <p>£135/ha UAA</p>	£12,258	£4,542	-63%
Bottom 25% of farms	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>-£8,496</p> <p>-£143/ha UAA</p>	-£8,496	-£10,371	-22%

<sup>11</sup> UAA is 94ha for the overall average, 136ha for the top 25%, 91ha for the middle 50% and 59ha for the bottom 25%.



## Effect on net profits on mixed farms

	Net profit in £ for the whole farm	Profit in 2013 – 17	Profit in 2028	% change in net profits
Overall average	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>£28,056 £182/ha UAA<sup>12</sup></p>	£28,056  £182/ha UAA <sup>12</sup>	£12,837  £84/ha UAA	-54%
Top 25% of farms  (measured as the ratio of farm outputs compared with inputs, of farms in England)	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>£87,143 £401/ha UAA</p>	£87,143  £401/ha UAA	£70,698  £326/ha UAA	-19%
Middle 50% of farms	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>£18,531 £124/ha UAA</p>	£18,531  £124/ha UAA	£5,885  £39/ha UAA	-68%  These middle performing farms could experience the largest drop in profits, due to their current high reliance on basic Payments and low (negative) profits from farming.
Bottom 25% of farms	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>-£14,069 -£144/ha UAA</p>	-£14,069  -£144/ha UAA	-£17,725  -£177/ha UAA	-26%

12 UAA is 152ha for the overall average, 217ha for the top 25%, 144ha for the middle 50% and 99ha for the bottom 25%.



## Effect on net profits on dairy farms

	Net profit in £ for the whole farm	Profit in 2013 – 17	Profit in 2028	% change in net profits
Overall average	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>90,000 80,000 70,000 60,000 50,000 40,000 30,000 20,000 10,000 0</p> <p>■ Farming ■ Diversification ■ Basic Payment scheme ■ Agri-environment</p>	£77,033 £516/ha UAA <sup>13</sup>	£69,105 £462/ha UAA	-10%
Top 25% of farms  (measured as the ratio of farm outputs compared with inputs, of farms in England)	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>200,000 180,000 160,000 140,000 120,000 100,000 80,000 60,000 40,000 20,000 0</p> <p>■ Farming ■ Diversification ■ Basic Payment scheme ■ Agri-environment</p>	£174,024 £1,086/ha UAA	£189,353 £1,183/ha UAA	9%  This is the only segment where total profits rise. This is mainly due to the assumption that farming profits rise by 3% pa. Also, Basic Payments are a small proportion of profits.
Middle 50% of farms	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>90,000 80,000 70,000 60,000 50,000 40,000 30,000 20,000 10,000 0</p> <p>■ Farming ■ Diversification ■ Basic Payment scheme ■ Agri-environment</p>	£68,432 £425/ha UAA	£66,253 £409/ha UAA	-3%
Bottom 25% of farms	<p>Baseline (2013/17) 2021 2022 2023 2024 2025 2026 2027 2028</p> <p>30,000 20,000 10,000 0 -10,000 -20,000 -30,000 -40,000</p> <p>■ Farming ■ Diversification ■ Basic Payment scheme ■ Agri-environment</p>	-£7,433 -£70/ha UAA	-£12,106 -£110/ha UAA	-63%

13 UAA is 148ha for the overall average, 161ha for the top 25%, 159ha for the middle 50% and 113ha for the bottom 25%.

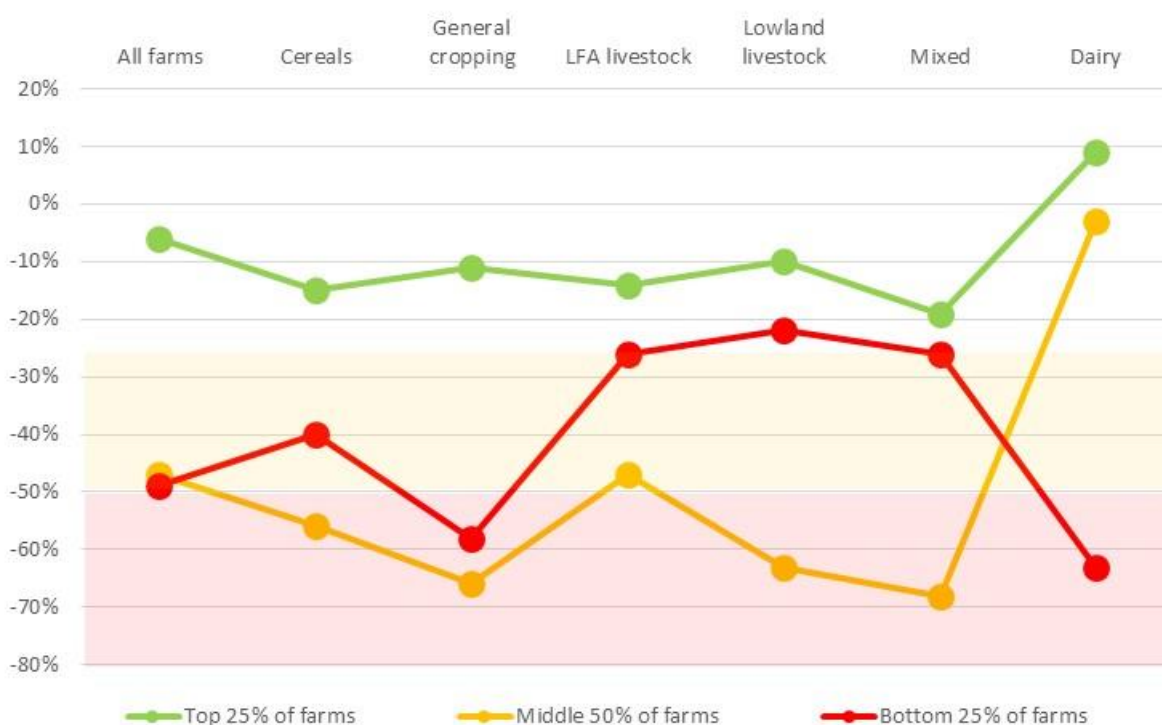


## Summary of effects by farm type and by level of productivity

The table and chart below summarise the % change in net profits for all seven farm types and by the different levels of productivity, which shows us a number of things:

	All farms	Cereals	General cropping	LFA livestock	Lowland livestock	Mixed	Dairy
Overall average	-37%	-54%	-43%	-31%	-46%	-54%	-10%
Top 25% of farms	-6%	-15%	-11%	-14%	-10%	-19%	9%
Middle 50% of farms	-47%	-56%	-66%	-47%	-63%	-68%	-3%
Bottom 25% of farms	-49%	-40%	-58%	-26%	-22%	-26%	-63%

NB Red shading of data shows a fall in net profits of 50% or more; amber shows a fall of 25 – 50%



### Effects by farm type

1. The dairy sector is likely to be the least affected type of farm, as it relies less on Basic Payments for profits.
2. The most affected types of farm are cereals, mixed and lowland livestock farms. They will be hoping that payments under the new Environmental Land Management System will make up most of the fall in Basic Payments, which it may do, although we expect a move of agri-environment scheme payments from the lowlands to the uplands (for afforestation and management of peatlands so that it sequesters rather than emits carbon dioxide).

**Effects by level of productivity**

3. The top-performing farms will be least affected by the transition as they rely less on Basic Payments for their profits. Net profits for all farm types apart from dairying could fall – by between 6 and 19%.
4. Profits fall the most for the middle 50% of farms – more so than the bottom 25% performers. This is because Basic Payment currently accounts for a greater proportion of total profits / losses for the middle performers as, although many make losses from farming, their losses are smaller than the bottom performers<sup>14</sup>.

**What if... ELMS payments are 500% current Countryside Stewardship levels?**

Defra has started to develop its ideas on how the new ELMS could operate and what the basis of payments to land managers might be. The new system will incentivise and reward land managers to restore and improve natural capital and rural heritage. It will aim to deliver more for the environment (including mitigation of and adaptation to the effects of climate change) and provide flexibility, putting more management decisions in the hands of farmers. New schemes will aim to keep bureaucracy to a minimum, and to provide a more user-friendly application process.

Currently, agri-environment payments are based on 'income foregone', which is the profit that could have been earned if the land was cropped or stocked in the same way as land not in the scheme. Defra has commissioned research on alternative payment methodologies that could be used, so the basis of payments may be different for the new scheme.

If it is different – perhaps based on the value of the benefits generated from the land – it is possible that payments will rise. These rises could be large in some places (e.g., for new woodland planting next to towns and cities, which increase access for recreation and absorb air pollution) or for some types of land (e.g., peatlands in the uplands or the Fens).

The table below shows the effects on net farm profits if payments under ELMS are 500% (i.e., five times) the current levels paid under Countryside Stewardship. This is the type of increase we discussed in our first paper as it is the level at which profits for 'all farms' do not change from current levels; this is why there is 0% change in the top left cell of the table below.

	All farms	Cereals	General cropping	LFA livestock	Lowland livestock	Mixed	Dairy
Overall average	0%	-20%	-13%	117%	22%	6%	5%
Top 25% of farms	19%	2%	9%	110%	32%	12%	16%
Middle 50% of farms	-4%	-14%	-34%	89%	20%	17%	15%
Bottom 25% of farms	-20%	-19%	5%	-62%	-25%	-42%	-62%

NB Red shading of data shows a fall in net profits of 50% or more; amber shows a fall of 25 – 50%

We would be astonished if this happens across the country. The point of this analysis is to show that even with an increase of this scale, most of the bottom 25% of farms and some of the middle 50% will be less profitable, so most farmers should expect lower total profits unless they start generating more profits from their farming activities.

<sup>14</sup> This can be seen visually by the very long yellow columns of farming losses for the bottom 25% of each type of farm.



## What if... there is a 'No Deal' Brexit

It is difficult to predict precisely what will happen to the farming sector if there is a 'No Deal' Brexit, particularly in terms of trade arrangements. Many people hope for quick agreement of a series of free trade agreements and this may happen. Those agreements will affect how farming regulations and standards will change – particularly whether the UK aligns to EU, US, WTO or our own new bespoke regulations.

One area where Brexit has already had an effect is on seasonal labour supply and, at the time of writing, a 'No Deal' Brexit will stop the free movement of EU workers, which will affect permanent workers. An analysis of the impact of Brexit on farming businesses commissioned by AHDB factored in a 50% reduction in the availability of overseas permanent staff and, due to the reduction, a 50% rise in the cost of regular labour. If costs rise by this much, many farms would become unprofitable.

Labour is critical in two ways – cost and quality. Lower fixed costs account for much of the difference between the top 25% farms and the rest. Labour costs are around 20-25% of fixed costs, so any changes can have a significant effect on profits. Further, the quality of labour and management differentiates top-performing farms so having the best staff available is critical.

## Summary and discussion

This paper has shown that the changes to farm support proposed will make all farms, including the top 25%, less profitable, unless the level of payments under the new ELMS are 500% of current levels.

The changes will most affect farms that are highly reliant on Basic Payments - cereals, mixed and lowland livestock farms. Sectors like dairy will be less affected.

For the 'average' farmer – those in the middle 50% in terms of performance – net farm profits could fall by 50% by 2028, even if ELMS payment levels double compared with Countryside Stewardship.

## What can farmers do now to prepare?

Eighteen months ago, when the government published its *Health and Harmony* consultation, we set out a number of broad principles that businesses should consider in order to ready themselves. We have updated them since then but the six key elements have remained the same:

1. People make the difference – so ensure that managers and staff have agreed a strategy for the business, based on critical reviews of how it is performing now and what the opportunities for improvement are. There is a clear link between successful businesses and highly skilled people; not all businesses have the right people, skills, drive and vision, in which case they should explore options to invest in training to inspire the current team or bring in the right staff.
2. Farm as efficiently as possible; the top 25% businesses are less reliant on direct payments and more resilient to volatility. Farmers should continue to look for ways to improve their farming systems, in terms of outputs and markets for their products, variable and fixed costs.
3. Take your approach to environmental management as seriously as your approach to crop and livestock management. This will prepare you for the new ELMS and other opportunities such as local natural capital investment plans, biodiversity offsetting, and environmental net gain.
4. Understand what valuable public goods your land produces, by reviewing Biodiversity Action Plans, Landscape Character Areas, flood risk maps, water risk maps and air quality maps.
5. Collaboration – this is not just about scale, but about using the best skills of the group, sharing labour and machinery, group buying and selling, sharing risk, cutting capital investment, and producing landscape-scale public goods, such as pollination.
6. Grow profits from diversification and environmental management to reduce the impact of the cut in Basic Payments and spread risk to the business.

End