

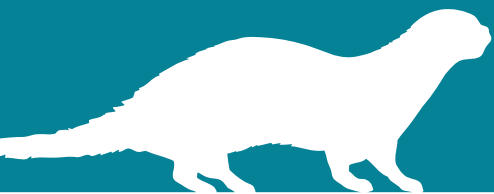


The  
**Wildlife**  
Trusts

# Farming at The Sweet Spot

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A Briefing for Policy Makers



## Summary

- Farming at the Sweet Spot, a report published by The Wildlife Trusts and Nature Friendly Farming Network, shows how moving to nature-friendly farming can be productive and financially robust for farm businesses across the agricultural sector. The report publishes the findings of Nethergill Associates' analysis of the financial sustainability of 165 farm businesses in the UK.
- The report builds on previous research in the uplands which introduced the concept of a Maximum Sustainable Output (MSO) for farm businesses<sup>1</sup>, and explores the application of MSO to a broader range of farm systems, including lowland and upland livestock, dairy, arable, and mixed farms.
- Across the 165 farm businesses studied, moving towards a farm system based on MSO was modelled to result in **an average increase of between 10–45% in commercial returns** across the different farm types, alongside a reduction of artificial inputs to zero.
- The analysis demonstrates that moving towards an approach to farming that works in harmony with nature would help farm businesses become more profitable, increase their resilience to external shocks and stressors, and reduce reliance on inputs such as fossil fuels, fertilisers and animal feed.

## Background and Context

Disruptions in recent years such as Covid-19, the war in Ukraine, and Brexit-related labour shortages have exposed the fragilities of our current food system. Farmers facing impossibly tight profit margins are feeling the added financial pressure of sky-high inflation in energy and fuel costs while navigating increasingly unpredictable and extreme weather events. Many farmers have responded to these pressures by adopting strategies to increase farm output, but have not increased their resilience, or found freedom from volatility.

Not only is the approach to increasing productive output failing farm business accounts, it puts nature's recovery at risk. Our approach to farming and food production has been dominated by a fixation on increasing levels of productivity and yield, which in many cases has been achieved through a heavy reliance on chemical inputs such as fertilisers and pesticides. Although this has led to greater availability of food at a lower price for consumers, this has come at a cost – greater food waste, growing malnutrition, and environmental degradation such as polluted rivers and declining soil health.

How we farm is critical to our food security and in achieving the UK's legally binding targets for nature & climate. 69% of the UK is farmed, producing over 50% of the food we eat, but how this land is managed has significant implications for nature, the climate, air and water quality, and in turn the health of the natural environment, which underpins long-term food security.

In 2019, The Wildlife Trusts, RSPB, and National Trust published the *Less is More* report<sup>1</sup> with Nethergill Associates which introduced the concept of Maximum Sustainable Output (MSO) – reducing outputs to a level where production relies on the farm's naturally available resources – and looked at its practical application in upland and marginal farm systems.

Since then, Nethergill Associates has applied the MSO approach to a much wider population of farm business accounts, including a wider range of farm types such as lowland arable and dairy systems. 'Farming at the Sweet Spot', looks at the implications of this approach for the environment, farming systems, and UK food security (Full Report available here<sup>2</sup>).



FARMER IN WILDFLOWER FIELD © MATTHEW ROBERTS

1 [Less is More \(2021\) Improving profitability and the natural environment in hill and other marginal farming systems](#)

2 [https://www.wildlifetrusts.org/sites/default/files/2023-06/Farming%20at%20the%20Sweet%20Spot\\_1.pdf](https://www.wildlifetrusts.org/sites/default/files/2023-06/Farming%20at%20the%20Sweet%20Spot_1.pdf)

## The MSO Approach

The analysis used in the report employs ‘the Nethergill approach’, which applies standard micro-economic theory to farm accounts in a way that farmers can relate to. The central concept of this approach is to identify the point where commercial returns are maximised for the farm business, which is termed the ‘Maximum Sustainable Output’ or MSO.

This involves removing ‘corrective variable costs’ from the business, namely costs used to increase production beyond what is possible using the naturally available resources (e.g. artificial fertilisers, plant protection products or bought in feed).

While the calculations are modelled estimates, it ultimately provides an indication of a direction of travel for improving commercial returns. This approach is described in detail in the 2019 ‘Less is More’ report, and a summary is provided in the Technical Annex to the Sweet Spot report<sup>3</sup>.

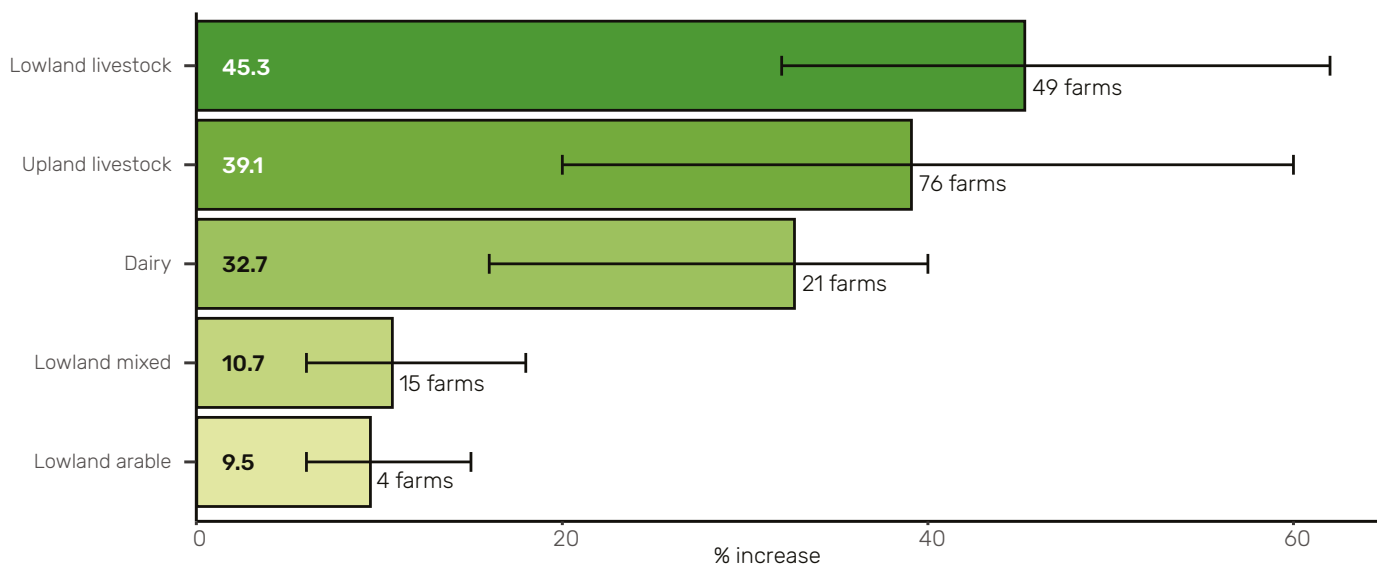
## Key Findings

### For Farm Profitability

The approach taken by Nethergill Associates indicates that farming at the level of MSO improves commercial returns for farm businesses. This was found to apply across all farm types studied in both upland and lowland situations. The economic assessment of the farm accounts predicts an average increase in commercial returns (before farm support payments) of between 10–45%. The only farming systems for which this approach has not yet been assessed (and therefore evidence is lacking) are pigs and poultry and horticulture.

The report explores a number of case studies which shows that the application of this concept under real world conditions is delivering positive results, with a number of farm businesses increasing their profitability by applying this approach.

**Increase in Commercial Gains from moving to MSO by Farm Type (%)**



**Graph 1:** Impacts of moving to MSO on outputs and commercial returns, based on the sample of farm accounts assessed (commercial returns is taken to mean revenues before support less variable and fixed costs). Source: Nethergill Associates



LIVESTOCK © ELEANOR CHURCH

<sup>3</sup> <https://www.wildlifetrusts.org/farming>

## For the Environment

The transition to MSO involves farming in keeping with the natural resources available on the farm and the removal of artificial inputs, which has been shown to lead to environmental benefits including increase in insect populations, improvement in water quality and ecosystems, recovery of soil health, and a reduction in GHG emissions.

However, shifting farm systems towards MSO alone will not be enough to put nature into recovery. Restoring pollinator populations and improving biodiversity will also require the creation and appropriate management of habitats, restoring precious wetlands will require targeted support and management, and improving water quality and soil health will require ambitious changes to overall management.

## For Food Security

The predictions, based on an assessment of farm businesses' accounts by Nethergill Associates, suggest that the shift to MSO implies a reduction in output of on average between 23-29% depending on farm type. However, in reality this level of reduction is unlikely to be reached. This is due to improved natural assets on farm, such as soil fertility, which can often make up for yield penalties due to reductions in inputs over time. The alternative, continuing to employ intensive agricultural practices which are eroding our ability to produce food, is not an option. Shifts to farm systems which work with nature are fundamental to ensuring future food security.

The widespread adoption of farming systems operating at MSO across the UK would:

1. Strengthen farm business resilience by helping to reduce reliance on expensive fossil fuel and artificial inputs, and recover natural on-farm assets which can mitigate the impacts of climate change;
2. Help drive the delivery of the Government's environmental commitments, including those relating to achieving net zero emissions, nature recovery, and improving water quality;
3. Enable a shift towards more sustainable food production which underpins long-term UK food security;
4. Facilitate land use change in the UK to support the delivery of nature and climate outcomes, whilst also improving food security. For example, through repurposing arable land used to grow feedstocks to instead grow food for people;
5. Puts farmers in a position to take advantage of a new era of farm support that is increasingly focused on the provision of public goods.

If adopted more widely, this could help achieve a transition to more profitable and sustainable farming systems over large areas of the countryside, while delivering key environmental benefits.

## Implications for Policy

Tackling the nature and climate crises are critical to the nation's economic prosperity and food security. A fundamental shift in the nature of farming is essential to meet the multiple challenges faced. This must lead to methods of food production which are compatible with restoring and improving nature, and that help mitigate and adapt to climate change. The Sweet Spot report shows that this is possible and that it can be profitable for farms to do so.

This has significant implications for the direction of new agriculture and environment policies across the devolved nations of the UK following the departure from the EU CAP system. In particular:

- Increased food security will not be achieved via the adoption of a maximalist approach to output<sup>4</sup>. Furthermore, it would represent a suboptimal system for farm profitability and would put the Government's nature and climate targets at risk.
- Moving towards an MSO model will often require changes in farm management systems and practices, which should be supported through land management schemes. These schemes should offer support for ambitious actions for farmers to restore nature and address climate change and help farmers reduce input costs through nature-based alternatives.
- Stricter regulations on the use of fertilisers and pesticides in farming to deliver environment and climate targets should not be in conflict with improving farm business prosperity. Policies should support farmers along a staged reduction of artificial inputs, whilst also implementing a heightened regulatory baseline over time.
- Dietary change is needed to deliver on many of the Government's key targets, particularly around greenhouse gas emissions and Water. This report highlights that if managed well, the reduction in livestock numbers could actually help improve the profitability of many farmed businesses
- A widespread adoption of MSO principles across the UK, particularly on livestock farms, could significantly relieve pressure on the demands for land use. A shift to more pasture-based livestock systems in the UK could free up much of the 40% of cropland currently used to grow crops for animal feed<sup>5</sup>. This land could then be used to produce crops and vegetables for human consumption, while also freeing up land that where nature restoration could be the primary focus.

[Read the full report here.](#)

4 This is supported by the findings of the UK Food Security Report (2021), "Food security rests ultimately not on maximising domestic production (which is market driven), but on making best use of land types".

5 WWF (2022) *The Future of Feed*

The Wildlife Trusts are a federated movement of 46 charities, supported by a central charity, the Royal Society of Wildlife Trusts. Together we have more than 900,000 members, 35,000 volunteers and 3,000 staff across the UK. We share a vision of nature in recovery, with abundant, diverse wildlife and natural processes creating wilder landscapes where people and nature thrive.



Wildlife Trusts care for – and have restored – some of the most special places for wildlife in the UK. Collectively we manage more than 2,300 nature reserves, operate 123 visitor and education centres and own 29 working farms. We undertake research, we stand up for wildlife and wild places under threat, and we help people access nature.

We work with businesses who are committed to being nature positive and take action to help restore 30% of land and seas for nature by 2030.

### **The Wildlife Trusts**

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