OF&G WHITE PAPER SUMMARY

Growing organic - a multifunctional component of English land use policy

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PURPOSE

Organic farming is a high welfare, nature-positive, carbon negative food production system that at its heart seeks to work with and enhance natural processes and ecosystems. There is well documented evidence that demonstrates that it is capable of making a significant and cost-effective contribution that could help Government achieve its environmental targets. This surety is underwritten by clearly defined and auditable legal standards.

Within the context of a wider approach to addressing the climate and nature crisis, while delivering resilience and permanence for UK food production, this policy paper sets out the environmental benefits achievable if 10% of the English agricultural land area (about 2.5 times the size of Cornwall) was under organic production.

EXECUTIVE SUMMARY

In view of the nature and climate challenges that society faces, including organic production within a land use framework for England would provide a significant improvement in delivery of public goods and natural capital gains.

This paper explores how land use in England would change if we were to see an increase in organic farming and estimates the benefits we might expect to realise if 10% of agricultural land in England was organically managed. This represents a three-fold increase from the 3.5% of the English agricultural land area certified organic at present.

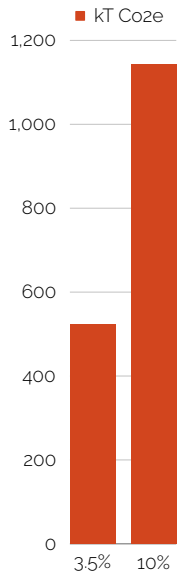
The white paper shows how an intervention to secure 10% organic land use would provide beneficial outcomes through the delivery of resilient and multifunctional landscapes.

Given the right support OF&G believes converting 10% of English land to organic is a realistic and achievable target.

KEY BENEFICIAL OUTCOMES IDENTIFIED

A 10% organic land area would deliver a 3.64% decrease in total English agriculture-related greenhouse gas (GHG) emissions.

This equates to just over one million tonnes of CO2e per year (the equivalent carbon sequestered as a third of a million acres of broadleaved woodland) whilst also producing nutritious food.



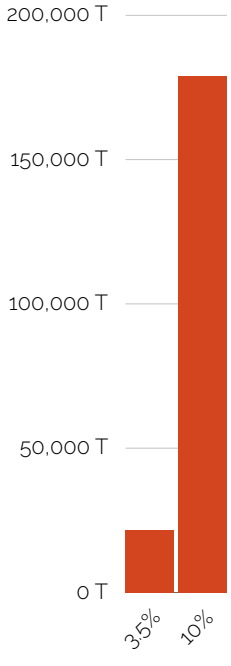
No synthetic nitrogen fertiliser is used on organic land. If there was 10% organic land the equivalent of around 179,000 tonnes of ammonium nitrate would not be applied each year, a reduction of 9.38% (the equivalent of removing 8,840 full lorry loads of fertiliser every year).

The manufacture of a tonne of synthetic nitrogen fertiliser results in 1,400kg CO2e emitted.

Excessive use of nitrogen has severe environmental consequences, including biodiversity loss, soil and freshwater degradation, and substantial GHG emissions from applications (85%-95% of nitrogen is lost and does not make it into our food).

Nitrogen fertiliser production uses significant amounts of energy (between 1-2% of the world's energy is currently allocated to fertiliser production).

The use of synthetic fertilisers has led to our food system's dependency on fossil fuels.



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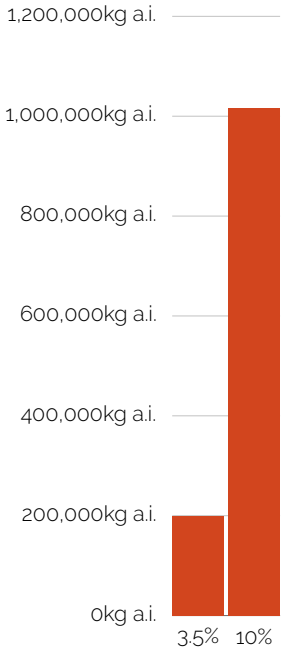
KEY BENEFICIAL OUTCOMES IDENTIFIED

No synthetic pesticides are used on the organic land. If there was 10% organic land area at least 1,000,000kg of pesticide active ingredients would not be applied each year, a reduction of 8.45%.



By removing pesticides (fungicides, herbicides and pesticides) that kill target species and so disrupt natural food chains, systems and cycles, biodiversity is improved and becomes more resilient, abundant and diverse.

There is increased evidence that pesticides have negative impacts on human health especially when consumed as a cocktail (more than one consumed at the same time).

The consumption of pesticides has been linked to particular diseases and negatively impact on the human gut micro-biome.

Organic is a robust foundation for the future of food and climate.

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WHY ORGANIC? WHY IT MATTERS

At present, our food system is failing to meet sustainability goals. Put simply, the more organic farmland, the greater the positive impact on our environment.

We recognise there is no single ‘right’ way to produce food. To effectively answer the critical challenges we face lies in dovetailing different approaches that reflect the topographical, climate and management experience of farmers across the UK.

Organic farms have greater biodiversity

- Arable plant species **95%** higher
- Field margin plant species **21%** higher
- Farmland bird species **35%** greater
- Pollinator species **23%** higher
- Biodiversity abundance **26%** higher
- Earthworm species **78%** greater
- Biomass almost double on organic farms

The Natural Capital Asset Value calculated in a Defra funded trial on an organic farm was more than five times that observed on a neighbouring non-organic farm.

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WHY ORGANIC? WHY IT MATTERS

As evidenced in OF&G's white paper, organic farming can make a significant contribution to delivering the climate and biodiversity restoration goals, within a wider land use framework.

This research reflects the acknowledged potential for organic farming to reliably deliver a resilient food production system alongside much reduced, multi-faceted environmental impacts. Organic farming delivers both wide and deep gains across the food system and wider environment. Organic farming is a standard and practice - it is not a dream.

Organic farming balances food, nature and climate priorities. It delivers a sustainable farming system that combines modern science and technology with traditional farming practices to maintain the long-term fertility of the soil, using less of the Earth's finite resources whilst producing high quality, nutritious food.

Underwritten by compulsory legally binding standards and annual inspection, organic provides certainty around claims with proven benefits of the approach.

Organic techniques have been developed over many decades. Organic farming is fundamentally based on an understanding of, and research into, soil science, crop breeding, animal husbandry and ecology. The maintenance of soil fertility relies principally on the use of legumes, crop rotations, and the application of composted animal manures and ground rock minerals. Pests, diseases and weeds are normally controlled by choice of appropriate species and varieties, appropriate rotations, mechanical cultivation, protection of natural pest enemies, physical barriers and thermal processes.

Synthetic fertilisers, pesticides, growth regulators and a number of livestock feed additives are prohibited, although some specified materials can be used in severely restricted circumstances.

The outcome is an organic farming system that is substantially different from non-organic farming, one which operates within planetary boundaries, which enhances biodiversity, reduces climate change impact and improves animal welfare.

WHAT NEXT?

- A clear land use policy that incorporates an organic option would help ensure the benefits already being delivered by existing organic farmers are secured whilst also encouraging more organic land management, so increasing the overall environmental benefit

- Support for the uptake of organic farming through Defra's Environmental Land Management Sustainable Farming Incentive and Countryside Stewardship can go some way to enable the increased uptake of organic production in England

- New policies are required to provide the necessary advice to farmers wishing to convert to organic methods, improve the flow of knowledge and information, and invest in research and development to further improve the performance of organic farming

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