



Campaign to Protect
Rural England
Standing up for your countryside

CPRE's Vision for the future of farming: The future of arable farming

Arable farming produces a wide variety of crops, including cereals such as wheat, and barley, oilseed rape, peas and beans, sugar beet and potatoes. The sector has changed enormously over the past 60 years. There have been changes in the type and size of equipment and technology used, and the size of arable farms has greatly increased, resulting in significant changes to the character of many of our landscapes.

Of the 9.4 million hectares covered by agricultural holdings in England around half is 'croppable land' and about 2.5 million hectares are taken up by the main types of cereal crops and oil seed rape grows on about 600,000 hectares.

Wheat is the most widely grown arable crop in the UK, producing just over 15 million tonnes each year. The UK grows around 6 million tonnes of barley and approximately 1.5 million tonnes of oilseed rape each year.

Key issues

Environment

The increases in yield encouraged by UK and European agricultural policies since the Second World War have come at an environmental cost. Many thousands of miles of hedgerows were removed to accommodate larger machinery. Farmland bird numbers fell, and many other species of wildlife also declined as production intensified and farmers moved away from mixed farming.

The intensification of production has also led to problems with soil quality in some areas of England, with a loss of organic material and erosion by wind and rain. Silt can run into water courses which can affect the ability of some fish species to spawn.

Additionally, intensive arable production has led to problems with water quality caused by artificial fertilisers running into water courses. Microscopic organisms benefit from this supply of nutrients, creating population explosions of algae that can reduce oxygen levels and produce toxins, which can make some waterways uninhabitable for other forms of aquatic life.

Intensive arable farming is highly dependent on artificial fertilisers to continue producing high crop yields. Apart from the environmental problems caused by artificial fertilisers set out above, fertiliser production is a significant contributor to greenhouse gas emissions.

Economics

At the end of the Second World War, with food shortages continuing, the UK developed an agricultural expansion plan which aimed to raise output from agriculture by 60% above pre-war levels. The 1947 Agriculture Act resulted in generous price guarantees for major agricultural products. Crop yields improved due to higher yielding varieties, mechanisation and the widespread use of herbicides, pesticides and fertiliser. Labour use and costs were reduced as the level of mechanisation increased.

During the 1970s and after Britain entered the European Union (EU), price support was provided from the Common Agricultural Policy (CAP). The support farmers received from the CAP worked so well that during the 1970s and 1980s surpluses of agricultural commodities continued, resulting in the infamous grain mountains.

In an effort to address the issue of over-production the EU introduced a set-aside policy. Farmers received payments from the CAP to take land out of production. Over time environmental management conditions were attached to the payments so that set-aside land developed benefits for wildlife and for soil and water quality.

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In 2008 the set-aside scheme was abolished by the EU. This led to debates about how best to secure the environmental benefits that had accrued over the years on set-aside land. In the end the Government chose a voluntary approach which has become known as the Campaign for the Farmed Environment (CFE). The scheme uses a combination of voluntary measures and options from the Entry Level Environmental Stewardship Scheme.

The CAP reforms of 2003 broke the link between payments and how much farmers produced (a process known as decoupling, which means farmers now receive payments from the CAP based on the area of land they farm,) and also attached environmental conditions to CAP payments known as cross compliance. These have tried to deliver greater environmental benefits from the CAP by ensuring landscape features and habitats are better managed and protected. The CAP also provides funding for rural development measures, including green farming schemes such as Environmental Stewardship, which is essential to help farmers introduce management practices that maintain, enhance and restore the countryside. This includes better management and restoration of hedgerows and increasing areas of habitat, for example to encourage farmland birds, protecting archaeological features and restoring historic farm buildings such as barns and improving water quality by introducing buffer strips alongside water courses to prevent them being polluted by agri-chemicals such as fertilisers, herbicides or pesticides.

Recently, there have been price spikes for some types of cereals and arable crops caused by poor harvests in various parts of the world, (as well as concerns these have been exacerbated by speculation by commodity brokers in the financial markets) which has led to a renewed debate on global food security and how we can produce more food with less environmental impact, as the global population increases and diets change.

Bioenergy

The role of arable farming in bioenergy production raises a number of important issues. Bioenergy can be produced from some types of arable crops or the plant material left over after harvesting, which can either be used to produce

electricity or heat (biomass) or to make fuel (biofuel) which can be used, for example, in car and aircraft engines adapted to use them. Residues from arable crops (such as wheat stubbles) have also been used in pilot biomass schemes, although, so far, without much commercial success. There have also been a number of Government and EU strategies and initiatives to encourage the development of biofuel refineries to process wheat and other arable crops to produce biofuels. However, because of the environmental effects of intensive arable crop production (including the need for artificial fertilisers) and the predicted future rise in the demand for food, a debate has emerged on whether biofuels are truly sustainable. This has also led to discussion about whether it is ethical to use productive arable land to grow crops to produce fuel and energy.


Genetically modified crops

Another area of controversy is the growing of genetically modified (GM) crops. At present, varieties of maize, oilseed, brassica and soybean are available that tolerate particular herbicides that kill competing weeds or that are resistant to some insect pests. Further disease and pest-resistant cereal varieties are expected to be developed in the near future, with the emergence of varieties that can tolerate environmental stress, such as drought. The role GM crops will play in the future of agriculture will depend on the willingness of the public to accept and consume them and the results of scientific appraisals of their merits and environmental impacts.

The future of arable farming?

Conservation Grade is a crop certification scheme in which farmers grow their crops in a way that complies with specific production standards and requirements. These include: taking 10% of their land out of food production to develop a specific range of habitats for wildlife; creating an environment plan that covers the entire farm; passing an annual, independent, scientific audit; and participating in annual training programmes. In return for adhering to the above requirements and creating and managing wildlife habitats on their least productive land farmers receive a price premium for their crops.

The habitats must be created and managed to create the optimum conditions to benefit biodiversity on a farm. Wildflowers and clover are planted in field margins to provide insect food and habitat; plants are grown that provide seeds for birds in winter and early spring; grasses are sown to provide shelter for spiders, beetles and small mammals; and hedges, ditches, barns, ponds and woodland are maintained and managed to help wildlife. In some places the Conservation Grade approach has seen up to a 41% increase in birds and a thirtyfold increase in small mammals such as water voles. Farmers in the scheme supply crops that are used to make bread, cereals and other products which carry a label showing they use ingredients produced from crops in the scheme.



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This enables consumers to choose products that have been grown in a way that benefits wildlife.

The future of arable farming: CPRE's vision

It is clear that pressures on land use, climate change, and the increased demand for natural resources needed to make fertilisers, mean that in the future it is unlikely arable farmers will be able to continue to farm in the intensive way they have in the past and as they do at present. Farming practices will need to change. This could mean positive outcomes for farmers. Improving soil and water quality could help to raise yields. More efficient use of artificial fertilisers and crop protection products could mean less money spent on agri-chemicals boosting the profitability of arable farmers. In some cases a return to mixed farming systems could help to overcome the rising cost of fertilisers. This could benefit our countryside and wildlife by creating a more diverse landscape and range of habitats.

Making arable production more environmentally sustainable will require:

- restoring landscape features and habitats to maintain and enhance the character of the countryside and reverse the decline in farmland wildlife;
- maintaining and enhancing soil structure and fertility;
- maintaining and enhancing sustainable supplies of water and improving water quality by reducing contamination and pollution of soils and water due to poor nutrient and crop protection management;
- improving resource efficiency and reducing wastes from agricultural production;
- contributing to improved energy efficiency and the production of truly renewable bioenergy resources; and
- maintaining air quality and reducing greenhouse gas emissions while increasing the level of carbon stored in agricultural soils and vegetation.

CPRE is concerned about the effects on the environment of increasing cereal crop production without proper safeguards to prevent the mistakes of the past being repeated. Although arable farmers have made much progress in reducing the amount of crop protection products and fertiliser used on their crops, we would like to see the use of herbicides, pesticides and artificial fertilisers minimised to avoid negative effects on wildlife and soil and water quality. We would like to see all arable farmers using technology and innovative crop management and precision farming techniques, both to keep them profitable and to benefit the environment.

CPRE believes that there is scope to provide more information about how the crops that are used in food products have been grown. In contrast to many dairy and meat products it can be difficult for consumers to find out how, for example, the wheat used in the bread they eat has been grown. We believe there is scope to brand sustainably produced arable crops. We would like to see greater recognition for the efforts of arable farmers who are farming sustainably. The profile of arable crop certification schemes which incorporate high environmental standards need to be raised and promoted more widely by retailers to increase consumer awareness of their benefits.

CPRE welcomes the efforts being made by arable farmers to increase the number and variety of wildlife on arable farms through the Environmental Stewardship green farming scheme or through certification schemes and voluntary measures. CPRE has concerns that the success of voluntary approaches can be affected by economic factors and supports the use of mandatory requirements where voluntary approaches have failed. This means it is essential that agri-environment schemes are properly funded so that farmers do not have to rely solely on increasing production to remain profitable. CPRE is pushing for further reform of the CAP to increase the environmental benefits it provides, including introducing additional requirements to increase wildlife on arable farm land.

Bioenergy

CPRE is supportive of truly sustainable bioenergy production and believes arable farming can play an important role (alongside the production of biomass from our woodlands and forests) in supplying biomass crops. Growing biomass crops should not exacerbate the loss of wildlife, further reduce soil and water quality or contribute to global warming. We favour small-scale bioenergy production rather than constructing large biomass production plants that are likely to have an impact on landscape character and that may require the transportation of biomass crops over long distances. CPRE does not wish to see large-scale monocultures of



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crops being grown for bioenergy, or for biomass. We do not consider the growing of cereal crops to be made into biofuels to be sustainable. In our view it is not logical to increase crop production because of food security concerns while at the same time growing crops for use as fuel.

Genetically modified crops

CPRE continues to believe that decisions about growing GM crops should be science-led. We need to ensure our environment is protected from any negative effects that might be caused by growing GM crops. We are supportive of controlled testing of GM crops where the escape of GM material into the environment can be prevented or where the GM crop types being tested are extremely unlikely to cross-pollinate with related wild species. We also believe it is important that farmers who do not wish to grow GM crops can continue to do so and that consumer choice to eat food free of genetically modified material and ingredients is maintained. This means that if GM crops are to be grown cross pollination and cross contamination risks must be addressed.

What you can do

- Buy products made from crops that are produced through sustainable farming techniques including those bearing the Conservation Grade label, or similar schemes.
- Ask your supermarket or retailer what they are doing to support arable farmers grow cereals such as wheat and other arable crops in a way that minimises environmental impacts and increases farmland wildlife.



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