

## **RSPB Briefing: Genetically Modified Crops and food security**

Currently, across the world nearly one billion people suffer from chronic hunger and a further one billion cannot access enough vitamins and minerals to keep them healthy. Some people have suggested that Genetically Modified (GM) crops may provide an answer to the failure of the food system to ensure everyone has access to the food they need. The RSPB does not rule out GM and other biotechnologies as part of the solution, but calls for a careful, evidence-based assessment of the situation.

First, it is important to understand that the world already produces enough food for everyone. Hunger is not a result of insufficient food production, but of socio-economic factors such as poverty. To tackle these problems in developing countries we need to focus on creating employment, raising incomes and minimising input costs, giving back control of land and food supply to communities, sustainable management of local resources, and appropriate technology.

In some parts of the world, increasing local food production is an important step towards increasing incomes and access to food. In these situations people need to be able to decide whether GM crops are the best way to meet their needs. Experience around the world shows that GM crops have not always met their promises of increased yield, or may require expensive chemical inputs to meet their potential. Traditional crop breeding and improved husbandry, including organic techniques, can produce large yield increases using approaches that are well-suited for poor areas.

Similarly, work is ongoing to develop biofortified GM crops to tackle malnutrition in certain parts of the world. It is important that GM is not the only approach taken, given the urgency of the problem and the limited resources available. For example Golden Rice, genetically modified to contain Vitamin A, has been in development for over a decade and is not yet on the market. During this time a World Health Organisation project distributing vitamin A supplements alongside education and development programmes has saved hundreds of thousands of lives.

Future GM technologies, alongside other approaches, may help to maintain food production in the face of climate change by creating crop plants with the necessary characteristics to grow in the changing conditions. However, it is vital that the use of GM does not lead to further narrowing of the range of crops grown: diversity is key to ensuring resilience in the face of unpredictable change.

In summary, while GM may yet have an important role to play, there are tried and tested solutions to many aspects of the food security challenge that do not carry the risks and disadvantages of GM and which could be deployed immediately. Examples include techniques used in organic farming and agroecology (such as crop rotation), traditional plant breeding (which can be enhanced by non-GM biotechnologies such as Marker Assisted Selection), and planting locally-adapted landraces from seed that farmers have saved. The advantages and disadvantages of proposed GM solutions should be compared with sustainable approaches, not weighed against unsustainable industrial farming systems.