

New GM plants could help to feed world — if Luddites don't interfere, say farmers

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Trials of wheat genetically modified to repel aphids Times photographer Rii Schroer

A new, less intrusive way of genetically engineering plants would help to feed the world's growing population but is at risk from the same "Luddite attitudes" blocking GM crops, according to a farming industry report.

The technology, known as cisgenics, involves transferring genes from closely related plant species rather than genetically modifying crops by importing "foreign" genes. It more closely resembles conventional breeding but uses similar technology to GM methods.

The report, being debated today at the Oxford Farming Conference, says: "New technology, post GM, is emerging but must not be allowed to fall victim to the same Luddite attitudes which have left Europe isolated from transgenic technology. The cost of doing so would be catastrophic in terms of food production failing to increase to feed the world's growing population."

The report, based on interviews with 100 farmers and 50 agricultural experts, says skills and techniques developed by GM researchers could be used to produce crops that should be "deemed conventional".

It gives the example of "gene-silencing", which involves switching on or off genes within a plant rather than introducing DNA from a different species.

The report criticises European regulators, such as the European Food Safety Authority, for focusing too heavily on environmental concerns at the expense of what the authors describe as "sustainable intensification".

It says Europe's farms risk becoming uncompetitive because of the threatened "revocation by European directive of most insecticide products".

Huw Jones, who is leading trials by Rothamsted Research of wheat genetically modified to repel aphids, said cisgenics was very promising but being held back by EFSA's insistence on treating it the same way as established GM technology.

He said cisgenics should be more acceptable to people who opposed GM crops: "It uses a gene that is within the gene pool and avoids the objection to moving DNA from one species to another in a very unnatural way."

Cisgenics “clearly carries less risk” and should have a “much lighter touch risk assessment than for conventional GM”, he said, adding that “gene editing” could allow the development of wheat that would be safe for people with gluten intolerance. “If you could alter the gene that encodes wheat gluten you could potentially make wheat that would still make nice bread but would be less or zero allergenic.”

The Soil Association said cisgenics was still a form of genetic engineering and therefore it would be opposing its use. Peter Melchett, the association’s policy director, said the industry had previously failed in an attempt to make genetic engineering more acceptable by rebranding it as “genetic modification”.

“I don’t think they are going to be any more successful with cisgenics,” he said, adding that research had shown that DNA was more complex than previously thought and that disrupting it could have unforeseen consequences.

Owen Paterson, the Environment Secretary, has accused opponents of GM crops of being “wicked” and suggested that they were responsible for the deaths from malnutrition of children in the developing world.