

# Scientists appeal to anti-GM 'cereal killers'

Activists plan to destroy a field trial of genetically modified wheat. Now, the creators of the new wheat variety have released an emotional appeal, asking protesters to spare the mutant crop.

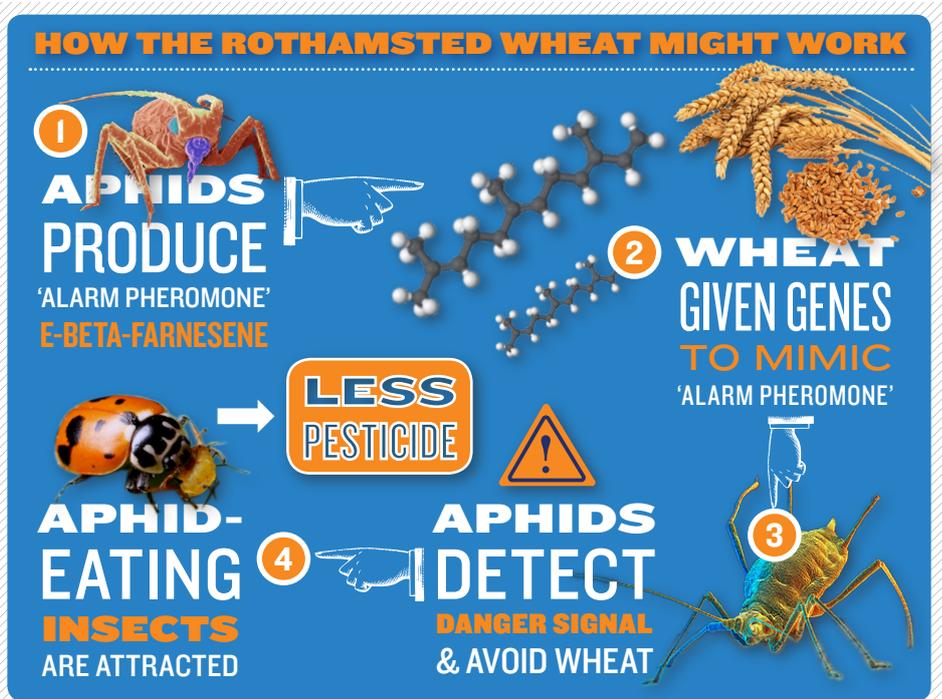


SCIENCE  
CITIZENSHIP  
GEOGRAPHY

Scientists at the Rothamsted agricultural research station tend to be happier among plants and petri dishes than facing the public eye. But, when a group of activists decided to destroy an experimental wheat crop, one research team decided to take their case to the world wide web, addressing an emotional appeal directly to their opponents. Don't wreck our work, the scientists plead. Come in for a chat instead.

This is the latest skirmish in the long-running war over the future of genetically modified organisms, or GMOs. Back in the 1970s, biologists working on DNA worked out that they could transfer genes from one organism to another, giving plants and animals properties they never had before. Soon, newspapers were full of stories about bacteria producing human hormones, or mice that glowed in the dark.

But some of the most practical uses of



the new technology are in agriculture. Pest resistant cotton and herbicide tolerant maize are already widely used.

And now, a Rothamsted research team claims to have identified a new way to boost farming productivity. When modified with a special artificial gene, wheat plants can be made to send out a chemical signal, or 'pheromone', usually produced by aphids in distress. In lab tests, this fake distress signal appears to make real crop-eating insects stay away. The result? Less need for expensive man-made pesticides. The modified wheat, if it works, could help the environment and boost yields for farmers in the developing world.

The Rothamsted wheat is currently in open field trials – a crucial next step to see whether the anti-aphid gene could work in the wild.

But many environmentalists are bitterly opposed. An activist group called 'Take the Flour Back' has called the trial an act of 'environmental terrorism'. GMOs,

they claim, are unnatural, unsafe and unnecessary.

On the 25th of this month, a group of protesters will gather at Rothamsted for a 'decontamination', aiming to pull up every last stalk of the mutant wheat, putting the modified strain out of action for good.

## FRANKENFOOD

The researchers who have spent years designing this GM strain are horrified. How can we know whether or not GM crops work, they ask, if we are not allowed to do tests? Wrecking the experiment is more than just anti-GM. It is anti knowledge and understanding.

GMOs are so dangerous, campaigners reply, that even trials are too great a risk. Mutant plants could pollinate neighbouring wheat fields. Bacteria and fungi have been known to absorb modified DNA. With genetic engineering, science has gone too far, and must be stopped.

## Q & A

**Q This all sounds a bit academic!**

**A** Maybe. But the chances are, you will already have eaten at least *some* GM food. In the US, people eat it all the time, and GM ingredients get into all sorts of products you might not expect.

**Q That's alarming! Could it damage my health?**

**A** Many people, backed up by organisations like Greenpeace and Friends of the Earth, believe that GM food may cause health problems. Scientists point out that no link between GM food and health problems has ever been proved, and that DNA mutations occur naturally in crops all the time, without producing any ill effects.

**Q So scientists think GM is fine?**

**A** It isn't as simple as that. GM crops could

have risks for health, the environment and society. All these need to be evaluated. Scientists just tend to think that wrecking experiments doesn't much help.

## SOME PEOPLE SAY...

**'Nothing that increases human knowledge can ever be bad.'**

**WHAT DO YOU THINK?**

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### WORD WATCH

**DNA** – The genetic information that determines a person’s physical make-up is encoded on long molecules of deoxyribonucleic acid, or DNA for short.

**Pest resistant** – One of the most common GM crops is called ‘bt-cotton’, a strain of cotton that

uses bacterial genes to produce its own pesticide.

**Herbicide tolerant** – Another common use of GM technology is to make crops resistant to a herbicide called glyphosate. The herbicide can then be sprayed directly onto crops, where it will kill weeds without damaging valuable plants.

**Unnecessary** – One of the major points in the pro-GM argument is that GM can help the world produce more food to feed a growing population. Anti-GM activists, on the other hand, say that there is already plenty of food to go around. The problem is that the world’s food is not shared equally. Some eat too much, while others starve.

### YOU DECIDE

1. Should the Rothamsted field trials be allowed to go ahead?
2. Should protesters be arrested if they break the law – even when they are following deeply held principles?

### ACTIVITIES

1. In groups, devise and perform a short piece of theatre, dramatising the moment when protesters arrive to destroy the modified crops and find scientists there trying to persuade them not to.

2. Write a short story about a case, real or imaginary, where science goes too far.

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 **NOTES**

