

Le courrier suivant a été adressé à la rédaction de Nature, suite à un article sur la dissémination accidentelle du maïs Bt10, non homologué en raison de la présence d'un gène de résistance à l'ampicilline.

## Correspondence

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### Ampicillin threat leads to wider transgene concern

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Sir:

We are concerned by the suggestion, in your Editorial "Don't rely on Uncle Sam" (*Nature* **434**, 807; 2005), that the US Food and Drug Administration does not consider the presence of the ampicillin-resistance gene in Syngenta's unapproved variety of genetically modified *Bt10* maize to represent a safety problem.

This is not the view of the UK government's scientific advisers (the DEFRA Antimicrobial Resistance Coordination Group), who state that some important veterinary pathogens remain susceptible to ampicillin (K. L. Goodyear *et al.* *J. Antimicrob. Chemother.* **54**, 959; 2004). They state that there is "extremely low or no detected resistance in certain bacterial species", so that "any occasional transfer of resistance genes to these organisms would be a very significant event". If, as a result of such horizontal gene transfer, it became necessary to use more modern antimicrobials to treat animal disease, they write, "then there could be significant consequences for the consumer through the food chain".

The risk of horizontal gene transfer from genetically modified organisms (GMOs) is not a theoretical one. One study found that, after *Bt* genes in plasmid form were incubated in the saliva in a sheep's mouth for a few minutes, they could still transform *Escherichia coli* bacteria so that they developed antibiotic resistance (P. S. Duggan *et al.* *Br. J. Nutr.* **89**, 159?166; 2003).

In addition, it is worth noting that the ampicillin-resistance gene in *Bt10* maize and other genetically modified crops is a remnant of the bacterial plasmid inserted into these varieties, and would therefore function very efficiently if taken up by bacteria as a result of horizontal gene transfer.

Once the *Bt10* maize incident has been dealt with, we feel there should be a review of the general question of horizontal gene transfer from GMOs. There is no reason to believe that any health implications are confined to antibiotic-resistance marker genes; they could, for example, equally apply to the inserted *Bt* toxin genes present in all genetically modified *Bt* crops. However, the transfer of antibiotic resistance is the only such risk currently being addressed by the authorities that regulate GMOs.

We consider that the case-by-case approval approach used by the authorities does not adequately address such problems, which are common to all GMOs.