nature biotechnology

Letters may be edited for space and clarity.
They should be addressed to:
Correspondence
Nature Biotechnology
345 Park Avenue South
New York, NY 10010-1707, USA
or sent by e-mail to biotech@natureny.com
Please include your telephone and fax numbers.

## GM food labeling

*To the editor:*

In the article, "'GM [genetically modified]-free' food labels are value-free" (*Nature Biotechnology* **17**, 420, 1999), an employee of Genetic ID is quoted as saying "the one Achilles heel [of GM food testing] is that [the test] needs coherent DNA." You follow with, "the smallest fragment [of DNA that] the [Genetic ID] test can detect is 200 nucleotides," and state that our methodology is consequently "useless for highly processed foods such as soup [and] pizza." These statements are incorrect.

First, we can detect sequences ranging from 80 to 120 nucleotides in length, enabling us to detect DNA in virtually all foods with sensitivity equal or better to that claimed by other laboratories. Second, our methods are effective for virtually all highly processed foods. We routinely analyze soups, pizza, and other highly refined multi-ingredient products successfully.

But there is a larger inaccuracy here. You state the claims that will be made by the consortium of retailers are "value-free" and "little more than a publicity stunt." You base that on the claim that "it is impossible to make GM-free claims based on testing." In fact, the program that the retailers have embarked upon is not based on testing of end products. They are developing a system of traceability and identity preservation that will enable them to track non-GM foods and ingredients all the way back to the farm. Testing will be primarily used to verify that the quality assurance system is operating effectively.

This ambitious project is designed to deliver to food consumers what they have been consistently calling for: choice and transparency regarding GM foods. Although *Nature Biotechnology* may not have caught on yet, most of the remainder of the world's population has: Acceptance of GM foods is not a scientific issue, but an issue of consumer food preferences and skepticism regarding potential long-term negative effects of agricultural biotechnology. Even the US Secretary of Agriculture, Dan Glickman, who has been one of the staunchest supporters of American agricultural biotechnology, has gotten the message:

"We also can't force these new genetically engineered food products down consumers' throats. [D]ismissing the skepticism that's out there is not only arrogant, it's also a bad business strategy. My confidence in biotech—or industry's confidence in biotech—is ultimately irrelevant. Only when consumers have confidence—and when they express that confidence at the grocery-store checkout line—will we be able to see the return on the enormous public and private investments we've made in biotechnology" [1].

*John Fagan*
*Genetic ID, Fairfield, IA*
*jfagan@genetic-id.com*

1. Purdue University, May 999. Full text at http://www.usda.gov/news/releases/1999/04/0187

*John Hodgson replies:*

*John Fagan complains that* Nature Biotechnology *was inaccurate in describing the limitations of Genetic ID's (and other companies) PCR-based tests for the presence of specific DNA sequences in food. It is possible that the information was inaccurate, but it did come directly from the operations manager at Genetic ID, John McCullough, to whom our reporter spoke directly by telephone. His questions to McCullough were highly specific and the answers unambiguous. I am confident that our reporting is faithful.*

*John Fagan ends by calling Dan Glickman to the witness stand in his defense. Far from stepping back from agricultural biotechnology as Fagan implies, Glickman was challenging those in the research community to recognize that public opinion and market research were integral parts of product development. He was reminding them not to assume that everything that springs from science and technology will find public favor. He was backing "public information and consumer education efforts that address concerns and allay fears." In the parts of the speech that Fagan regarded as excisable introns, the secretary of agriculture made it clear that he believes that "farmers and consumers will eventually come to see economic and health benefits of these products," and that the UK grocery chains who want to eliminate GM ingredients "need a little educating."*

*In the current climate of suspicion, tests that detect GM ingredients in food can indeed provide retailers with a competitive advantage in their markets. The tests are dressed with an aura of scientific worthiness; they are lab-based, have controls, and have stated levels of stringency. Their fundamental flaw, however, lies in their scientific emptiness. They demonstrate that GM ingredients can be detected (or not). But the big question still remains: "To what end?"*

## GM gene flow

*To the editor:*

The British press and other media have, of late, published inaccurate information on genetically modified (GM) organisms often gleaned from second-hand reports fed to them by organizations with a wide range of motives and political agendas. I was therefore saddened to see that your journal has fallen into the same trap (*Nature Biotechnology* **17**, 520, 1999).

Your report on "research from the University of Keele" on pollen flow was inaccurate; it appears that your reporter has not read the original report, since he would then have been able to ascribe it to the correct authors and understand the significance of the research.

In April 1999 there was an international conference on Gene Flow and Agriculture organized by the British Crop Protection Council at Keele[1]. This conference reviewed the wide range of research being conducted around the world on gene flow, particularly in relation to GM plants.

The particular research he referred to was conducted by myself and Evan Simpson at the National Institute of Agricultural Botany, Cambridge, UK. We have been engaged in studying the agronomic and environmental impact of GM crops for several years, primarily on behalf of government agencies and in collaboration with other UK and European institutes.

The paper referred to by your correspondent reported levels of cross-pollination occurring in different rapeseed varieties at different isolation distances from GM rapeseed. It noted (inter alia) that composite hybrid varieties, consisting of 80% male sterile plants, were pollinated at higher frequencies than fully fertile varieties. Experiments showed that cross-pollination at set distances was higher where little or no competing pollen from recipient plants was present. Composite rapeseed varieties are grown in northern Europe at present and it was important to identify that isolation requirements for these composite varieties (i.e. those consisting of a significant proportion of male sterile plants) may need to be greater than those for normal fully fertile varieties. This information is also important for isolation of non food rapeseed from food crops, or organic crops from GM crops.

*Jeremy Sweet, Jane Thomas, Carol Norris, Euan Simpson*
*National Institute of Agricultural Botany*
*Cambridge, UK.*
*jeremy.sweet@niab.com*

1. BCPC Symposium Proceedings No. 72.

*John Hodgson replies:*

*We must apologize to the researchers at NIAB. Not only did we translocate them approximately 100 miles to the northwest, but we also failed fully to appreciate the significance of their work. It is careful and thorough investigation such as that undertaken by the Cambridge group that will help establish the true nature and extent of any environmental impact of GM crops.*