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[Home](#) > [Science Magazine](#) > [21 August 1998](#) > Enserink , pp. 1124 - 1125

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NEWS OF THE WEEK

SCIENCE IN SOCIETY: Institute Copes With Genetic Hot Potato

Martin Enserink*

A premature warning about the potential dangers of transgenic potatoes sparked a global media frenzy last week and appears to have ended the career of a food safety expert at the Rowett Research Institute in Aberdeen, Scotland. In a press statement, the institute said it regretted "the release of misleading information about issues of such importance."

The incident is the latest high-profile setback for agricultural biotechnology, which in Europe is still struggling to gain consumer acceptance (*Science*, 7 August, p. [768](#)). Indeed, activists have torn up dozens of trial plots in Europe over the last year, and in a June interview with the *Daily Telegraph*, Prince Charles declared that tinkering with genes for food production "takes mankind into realms that belong to God and God alone."

That was the backdrop for the 10 August British TV show "World in Action," on which Rowett researcher Arpad Pusztai announced findings on rats fed potatoes containing the gene for concanavalin A, or Con A, a compound found in jack beans. Con A is a member of the lectins, a huge family of insecticides that occur naturally in plants. Biotech companies have spliced lectin genes into various crops, to try to get them to resist insect pests. Pusztai warned, however, that rats in his experiments suffered from stunted growth and suppressed immune function. He said more safety research was needed, adding: "If you gave me the choice now, I wouldn't eat it."

Even before the show aired, the institute was flooded with calls from journalists who had received a press release touting Pusztai's comments. In most of the ensuing coverage, reporters failed to distinguish between genetic engineering and the specific use of lectins, making it appear that Pusztai warned against eating anything transgenic. The publicity alarmed consumer groups and prompted several members of the British Parliament to call for a moratorium on genetically engineered foods. Biotech companies staged a defense.

Facing "a megacrisis that we didn't remotely anticipate," Rowett director Philip James decided to look into the details of Pusztai's experiments himself--only to discover that these were, he says, a "total muddle." The data presented on the TV show were from a trial in which the rats had been fed nontransgenic potatoes, with Con A added later, instead of transgenic potatoes. "I couldn't believe what I was

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suddenly being told," says James. He says Pusztai's team had also carried out some experiments with transgenic potatoes, but these contained GNA--a different lectin found in snowdrops.

After the discovery, James suspended Pusztai indefinitely. "We immediately sealed the laboratories and took the data, according to the guidelines of the Medical Research Council," says James. He ordered Rowett senior scientist Andrew Chesson, a member of the European Union work group on transgenic food safety, to analyze the data and report to the British Ministry of Agriculture, Fisheries, and Food and to the European Union. James says Pusztai, 68, will retire; he was unavailable for comment. "He's totally overwhelmed, the poor guy," says James.

The incident has left a bitter taste in the mouths of biotech boosters. It "caused a tremendous amount of confusion among consumers, which will take years to undo," claims Anthony Arke of EuropaBio, a Brussels-based biotech association. Even if the studies show that lectin-containing potatoes are harmful to rats, says Arke, that would be little reason for concern, because detecting hazards early on is exactly what experiments like the ones carried out at Rowett are for. Says Arke: "This only proves that the safety assessment procedures are fine."


Martin Enserink is a science writer in Amsterdam.

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