

Safety of genetically modified food questioned

Interview with gene scientist, Dr Arpad Pusztai

Paul Mitchell
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The British House of Commons Science and Technology Committee (STC) has been investigating the nature of scientific advice to government. Genetically modified organisms (GMOs) are the subject of its first report, published this month.

The STC took evidence from scientists, business, consumer organisations, government ministers and non-governmental organisations. Its report concludes that there was no evidence to suggest that a moratorium on the use of GMOs was necessary. Instead, it makes several recommendations about “structural weaknesses in the advisory system”. It suggests the two existing advisory bodies should be merged into one. The new body should make more use of non-scientific experts, be more open and commission more research on the environmental impact of GMOs. It must continue to deal with the scientific issues and ministers should look elsewhere to address the ethical and political implications of genetic modification.

The report says “we condemn the unjust attacks that have been made directly or indirectly against public-spirited scientists who have served the community well” on the two advisory bodies. However, the report complains that “Dr Pusztai's appearance before us attracted far more press interest than did some of our more credible witnesses. The press continues to give credibility to Dr Pusztai's claim despite it being contradicted by his own evidence.” It suggests that scientists should be trained to respond to the media. Both must be more responsible, accurately reporting the facts. “GM technology and its potential benefits may be permanently lost to the UK unless there is rational debate.”

Dr Arpad Pusztai is a world authority on plant proteins called lectins. He was employed at the Rowett Research Institute in Scotland until he took part in the TV programme *World In Action* last year and provoked a controversy about the safety of GMOs. On the programme, Dr Pusztai explained his tests with modified potatoes. He had become concerned about what happened when he fed them to rats. He believes there were statistically significant changes to the rats' weight and immune response.

Pusztai appeared with the agreement of the Rowett Institute to explain that better methods were needed to test the new technology. The programme was broadcast on August 10 last year, but there was media interest in the days before because of a press release by the TV company. On the morning of August 10, before the programme was shown, the Rowett Institute issued its own press release saying the gene, known as ConA, from the jackbean plant, produced toxic effects that were well known. Therefore the results were to be expected.

In the press, Dr Pusztai was described as “an old man who had muddled the results”. The possibility of deliberate fraud was also raised.

The *World Socialist Web Site* spoke to Dr Pusztai about the controversy.

Q. The STC Report says the Rowett Institute's press release “had misreported the scientific findings of the experiments and, that indeed the experiments referred to had not been carried out.” Can you explain this?

A. I talked to three people on the Sunday night before the *World In Action* programme. What was curious was they were all talking about

ConA. This never came from me. I never spoke about any of the genes used, not even GNA [the actual gene used which comes from the snowdrop]. I was told not to mention them. The TV press release says nothing about ConA either. How did the Monsanto [a major GM food producer] people on breakfast TV on August 11 know they could talk about ConA? I was taken aback because I thought we had an agreement that we would not mention which genes we used. There must have been some misinformation going on. The whole thing is a mystery. Professor James, director of the Institute, should have listened to what people were saying. I don't know if you have ever come across directors of large institutes. They are extremely busy people and tend to have their own ideas. Listening is a great art and they just sometimes haven't the time to do it. To have only a bit of information is dangerous and he took it upon himself to issue the press release.

Q. The Rowett Institute issued a press release saying the gene used in your experiments was ConA, and no one checked it with you?

A. Yes. If you look at that press release—remember this is on August 10 before the programme went out that night—it says further details can be obtained from Professor James. I was not allowed to give out any information. It was incorrect information and when he realised it, he said it was because I was confused. A lot of people have known me a long time and “muddled” is not the way I'm usually described.

Q. You commissioned an independent statistical analysis of your data. The STC report says it questions the validity of your results.

A. This is definitely something we have to rebut. Dr Jones [1] was quite unfair in her questioning and very aggressive. Two of the things that are in the final [STC] report I very strongly contest. I am just putting something together to put out on the Internet. You see, there is a favourite ploy used by people in court. You are only supposed to reply to the question asked. Dr Jones quoted only a half sentence from the statistical report, leaving out the other half, which puts it in context. She asked me if there was any difference between the modified potatoes and normal ones. I said no. I then tried to explain that the modified potatoes had 20 percent less protein, so we had to add more protein. If you do a stupid experiment you get a stupid answer. You will get an answer that is known to every schoolboy—that if you start off with less protein you will get less growth. I was not able to go into the science. The final report does not reflect the evidence and we will be tackling that. On the second point, this was about the lack of consistency in the statistical report. When I tried to explain, the chairman, Dr Clark [2] waded in saying I must apologise, I understand you are replying to Dr Jones, but this is not a scientific business. I was not able to explain. We had four lines of potatoes and you cannot compare those which are not “substantially equivalent” [3].

Q. What did you think of the STC's final report?

A. I was very disappointed with the STC. If you look at the report and the evidence I gave, they are a world apart. This is only my personal opinion, but I think they were nobbled and you know who by. I take great exception to me being described as a “less credible witness”. I don't think

I gave any cause or reason for them to come to that conclusion. Some of the other witnesses got into real trouble when they were being questioned. I did not because I was telling the truth.

Q. The STC recommends that only published evidence should be used. Why did you go public before your evidence was peer-reviewed?

A. One of the most important points I made to the STC has been ignored by them. If the Novel Foods Committee, or any other regulatory body, had to rely on published evidence, they will always be two years out of date. Most of the evidence comes from the companies, who provide it unpublished. Fortunately, because Professor James was on the Novel Food Committee until 1998, I was able to see the reports. Nevertheless, I am not the British public. There are another 55 million of them. Even if I know about it, they don't. I cannot criticise it because it is unpublished. Anyway, why all this great secrecy? There is nothing particularly commercially sensitive. They just give analytical data and methodology. The real reason is they don't want the public to find out what is actually done. I could tear them to bits in 10 seconds. In fact, I have done so but not in this country because everything is confidential. If everything is so rigorously tested why can't they disclose this information?

Q. Is it true, as you say in your evidence to the STC, that there is "only one peer-reviewed paper on record (and) that this technology has been introduced on the back of a single paper in *Journal of Nutrition* in 1996"?

A. Yes. Even that people didn't know until I told them. In 1995 when we started our programme of research there wasn't a single one.

Q. In February this year, 20 international scientists issued a memorandum supporting you. Two weeks later a group of Fellows from the Royal Society [4] criticised those who release "alleged scientific results". The Royal Society issued a report last September which the STC used for its questions and provided six scientists to peer-review your work. They said your work was flawed. What is your opinion?

A. This will be answered when I put my papers on the Internet. Don't forget I'm a pensioner and I'm having to do all this myself. Even so, the wires on my computer are getting hot. The Royal Society only had an internal report from the Rowett to go on. How can my critics say the design of the experiment was flawed? The design is not in the Rowett report.

There were six reports from six different, anonymous scientists. I received the first on May 6 and had to reply to all of them by the 13th. The sixth report I received on May 11. It was not so favourable but it was quite a reasonable report—it advised caution in interpreting our results. Two days later, I got another version, but instead of caution our results were now declared unsafe. I think they told him to put a bit more "oomph" into it. This arrived half an hour before I had to reply because of the deadline.

The Royal Society should come clean. Why is it that their unnamed experts are any better than the 20 who supported my research? Those who supported me were full professors, six of them British. You can look up their credentials and publication records.

I shall put what the Royal Society said on the Internet with my comments. Transparency is the most important issue and I have nothing to hide from the public and the other scientists. On the contrary, the more people know about the way the Royal Society and the STC came to their "conclusions", the better for us all.

Q. Some of your data is already on the Internet. How come?

A. The documents were released by the Rowett Institute, not by me. This is what is normally called highway robbery. There were eight of us working for three years. Now the Rowett has published most of the data or at least some internal reports of the data on the Internet, we cannot publish them as a proper scientific paper. We will try and publish the remaining data as proper papers. But if I cannot do it, then I shall try and put the papers—not internal reports as the Rowett and the Royal Society did—on the Internet. They will be peer-reviewed by other relevant scientists and

the reviews will be published.

Q. The STC criticised you for saying people were being used as guinea pigs and therefore worrying them.

A. I felt concerned we are being used as guinea pigs in an experiment, a botched experiment. There are no controls. You don't know if you are eating it. I don't know. How can you trace it back? Linda McCartney's vegetarian sausages were guaranteed to be GM-free, but a laboratory found they contained a foreign gene. I think their report is just window dressing. There is no scientific content.

Q. How do you feel about the controversy you have generated?

A. We are not talking about a delicate sort of issue where two scientists are disagreeing. We are talking about our food. I hope for all our sakes that they are right when they say there is nothing wrong with GM food. Otherwise we will be in real trouble. You remember Jack Cunningham—the "Enforcer" [5]. He came on the TV last week and said there is no credible evidence to suggest there are problems with GM. Sir Robert May, the Chief Scientist, said my work was garbage. They have tried to destroy any opposition. I am old enough to remember the Nazi occupation of Hungary and under the Soviets. This reminds me of that. I think they must have learnt some of their methods. I never expected this. I think I am the fall guy.

But let's look at the positive side. I certainly did agree to talk to *World in Action*. The reason was that, as we started looking at our results and knowing that the companies are the ones submitting the data, there is a huge gap, a chasm between the usefulness of our testing technology and what they were doing.

Notes:

1. Dr Lynne Jones, a member of the STC and Labour MP
2. Dr Michael Clark, chairman of the STC and Conservative MP
3. The "Physicians and Scientists for Responsible Application of Science and Technology" web site defines "substantial equivalence" as follows: "If there is no apparent difference between the G[M] food and its natural counterpart, it is assumed to be safe according to present regulations. Only a limited set of characteristics need to be compared. If this testing reveals no difference, the G[M] food is considered to be 'substantially equivalent'. Then no testing is required to exclude *unexpected* presence of harmful toxic, carcinogenic (cancer-generating), mutagenic (mutation-generating) or allergenic substances." (emphasis in original at <http://home1.swipnet.se/~w-18472/subeqow.htm>)
4. Royal Society, the pre-eminent independent scientific society founded in 1660
5. Dr Jack Cunningham, Minister for the Cabinet Office



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