

Transgenic aubergines put on ice

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GENETICALLY MODIFIED (GM) AUBERGINE RISKS IN INDIA: EVALUATION OF THE CONFLICTING SCIENTIFIC HYPOTHESES

A few GM aubergine varieties have been modified to synthesize a mutated insecticide toxin (16-17 mg/kg) from a chimeric Cry1Ab-Cry1Ac transgenic sequence. There are also two antibiotic resistance marker genes. The Bt brinjal regulatory approval process is being challenged in the Supreme Court. In order to study health risks, it is necessary to evaluate the longest toxicological tests performed with blood analyses in mammals [1,2]. These are subchronic 90 day tests with goats, rabbits, and rats. The first important debate is about the possible occurrence of unintended chronic toxicity. This assessment requires long term testing; 90 days is inadequate for such observations. The second is about the interpretation of statistically significant differences in the blood and physiological parameters within 90 days, between animals eating the GM aubergine and those fed its closest isogenic variety used as a control. Various other reference groups were added, not demonstrated to have eaten exactly the same composition in the experiments. Significant observations include for example, in goats eating Bt brinjal, modifications of bilirubin and prothrombin time, as well as alkaline phosphatase. The two first parameters were also changed in rabbits as also albumin, lactose dehydrogenase, alanine and aspartate aminotransferases. Liver weights were modified among other criteria in GM-fed rats. These clear significant differences in the raw data are interpreted as natural variations by its owner Mahyco company [1,6]. MON 863 GM maize producing another insecticide is a comparable case. [3,4,5]. On the other hand, an alternative interpretation is that it cannot be discounted that these differences are first signs of hepatorenal toxicities varying according to the sex, or non linearly, to the dose of GM 2. The only scientific possibility to close this debate must be to repeat and prolong these toxicological tests to ensure the safety of Bt brinjal, since it is a significant source of calories across India.

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