ACNFP
THE ADVISORY COMMITTEE ON NOVEL FOODS AND PROCESSES

STATEMENT ON THE EFFECT OF GM SOYA ON NEWBORN RATS

The Committee has examined a report provided to it by Dr Irina Ermakova containing preliminary results from a study of genetically modified (herbicide-tolerant) soya that was conducted in Russia. The report described reduced growth and increased mortality amongst pups born to rats given soya flour from GM soya beans, when compared with those born to rats given non-GM soya flour or a control group given no soya.

The report lacks detail essential to meaningful assessment of the results. In particular, it does not provide key information concerning the composition and nutritional adequacy of the test diets. Also, the Committee notes that these are preliminary results; the study has not been quality-controlled through the normal peer review process preceding scientific publication.

It is well known that rodents fed large quantities of raw soya will suffer various nutrient imbalances that cause reduced growth rates and other adverse effects. This would be expected whether the soya beans are from a GM or non-GM source. It is also well known that protein quality varies between varieties and geographical origins of soya, independently of whether they have been genetically modified. It is therefore essential to ensure that diets which contain a high proportion of different types of soya are carefully balanced and equivalent in terms of nutrients and anti-nutritional components. It is not known whether this was done in the present study.

Unusually, the soya flour was given to the animals alongside conventional feed pellets rather than incorporated into the feed. The mothers received up to 20g of soya flour per day during the study, which could have displaced a significant quantity of the conventional feed pellets which normally assure optimum vitamin and mineral intake. The quantities of soya consumed by each animal are not known and there are no data on the consumption of the conventional feed. Neither were any data on cause of death provided.

The GM and non-GM soya samples were obtained from different sources and there is no information on the presence of potential contaminants, such as mycotoxins, resulting from contamination during transportation and storage.

In conclusion, there are a number of possible explanations for the results obtained in this preliminary study, apart from the GM and non-GM origin of the test materials. Without information on a range of important factors conclusions cannot be drawn from this work. The Committee Secretariat is contacting Dr Ermakova to obtain further information on this study and the Committee will consider any further information that can be obtained and review the position if a full report of the study is published in the peer-reviewed literature.

The Committee also notes that Dr Ermakova's findings are not consistent with those described in a peer-reviewed paper published in 2004.[1] In a well controlled study no adverse effects were found in mice fed on diets containing 21% GM herbicide-resistant soya beans and followed through up to 4 generations.

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[1] "A generational study of glyphosate-tolerant soybeans on mouse fetal, postnatal, pubertal and adult testicular development" Brake DG and Evenson DP; Food and Chemical Toxicology 42 (2004) 29-36.