Genetically engineered soybean are impacting growth in offspring from goats

Italian scientists report changes in milk and reduced body weight in kids

17 February 2015 / A recent scientific publication has reported significant impacts on the offspring of goats fed with genetically engineered soybeans. According to the publication prepared by the University of Naples (Italy), there were changes in the composition of the goats' milk and the weight of the kids was significantly reduced. DNA sequences stemming from genetically engineered soybeans were resistant to digestion and subsequently found in the milk. The study showed that feeding genetically engineered herbicide resistant soybeans to the goats led to a significant reduction of immunoglobulins in the milk just after birth, which then led to the reduced weight in kids. The scientists had already in a previous study reported finding specific DNA sequences in goats' milk and specific changes in the blood chemistry of kids fed with the milk.

When fed with genetically engineered soybeans produced by Monsanto the goats showed a reduction of around 40% in the content of an important immune substance (immunoglobulin G) in the mothers' milk and in the blood serum of the kids. The authors believe this could be due to the impairment of a specific group of white blood cells (B lymphocytes) in the mother animals. It has often been observed that genetically engineered plants influence the immune system amongst others in mice, rats, pigs and fish.

"Recent findings have triggered new questions and show just how large the gaps are in the risk assessment of genetically engineered plants. Even though several publications have reported effects on the immune system of mammals, the European Food Safety Authority (EFSA) still does not request any specific investigations before authorisation", says Christoph Then for Testbiotech. "Consequently, we cannot exclude effects on human health."

In the light of these recent findings, which must be followed by further investigations, goats might react differently when fed with genetically engineered plants than, for instance, cows where a transfer of specific genetically engineered DNA into the milk or impacts on the immune system have not yet been proven. These observations raise questions concerning the transfer of findings from feeding studies with rats and mice to humans. Even twenty years after the introduction of genetically engineered plants into agriculture there have still been no investigations on the real impact in humans.

There are in effect some methodological shortcomings in the details of the Italian study. For example, residues from spraying with herbicides where not investigated. Testbiotech, however, believes that these shortcomings cannot be used to throw out the results of the investigation, since there are to date no other comparable studies.

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The Study:
R. Tudisco R., Calabrò S. Cutrignelli M.I., Moniello G., Grossi M., Mastellone V., Lombardi P., Pero M., Infascelli F. (2015) Genetically modified soybean in a goat diet: Influence on kid performance , Small Ruminant Res., http://dx.doi.org/10.1016/j.smallrumres.2015.01.023 [2]

Further information: The Study [2]

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