Genetic engineering solves major toxin problem in peanuts

“Aflatoxin is a very important health concern,” Dr. Pooja Bhatnagar-Mathur, senior scientist at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in Hyderabad, India, told the Alliance for Science.

“What's happening is that the fungus, Aspergillus flavus, produces this aflatoxin, which bioaccumulates in the body, and it just stays in that food chain,” she said. “Studies have shown aflatoxin also being traced back to human milk, meat and other agricultural commodities. These toxins just keep on bioaccumulating, and chronic exposure can result in predisposition to compromised immune systems, as well as major diseases like cancer and liver cirrhosis.”

The problem is compounded for people in developing countries in Asia and Africa, where crops rejected for export to Western nations due to high levels of aflatoxin are recycled back into the domestic market due to lack of control or food testing facilities. “And that's where the local population is exposed to much, much higher levels of this particular toxin,” Bhatnagar-Mathur explained.

Scientists were challenged in finding a solution because aflatoxin is a complex problem, involving an interaction of fungus and drought. The fungal spores can remain in the soil for years, infecting plants when they are stressed by heat or drought. Grains also can become infected when stored in the hot, humid, poorly-ventilated conditions characteristic of tropical regions. Read more..