

China sacks officials over Golden Rice controversy

Chinese families did not give consent for children to consume genetically modified rice in the part US-funded study.

Jane Qiu

10 December 2012

China has sacked three officials for breaching Chinese laws and ethical regulations during a trial in which children were fed genetically modified rice.

The trial's legitimacy was questioned in August by the environmental group Greenpeace. A three-month investigation, led by the Chinese Center for Disease Control and Prevention (CDC), culminated in the decision on 6 December to sack two members of the CDC's own staff — Yin Shi'an, the principal investigator of the Chinese arm of the project, in Beijing, and Hu Yuming at the CDC's regional office in Hunan province, where the study took place — as well as Wang Yin, head of science and technology at the Zhejiang Academy of Medical Sciences.

The genetically modified rice strain at the centre of the controversy is engineered to produce β -carotene, a precursor of vitamin A, with the aim of fighting vitamin A deficiency in developing countries. It has been dubbed Golden Rice because of its bright yellow colour.

The trial was designed to test how efficiently the β -carotene is converted to the vitamin once ingested. The US study team was led by Guangwen Tang, a nutrition scientist at Tufts University in Boston, Massachusetts, and was part-funded by the US National Institute of Diabetes and Digestive and Kidney Diseases, and the US Department of Agriculture.

According to a paper published online by the *American Journal of Clinical Nutrition* on 1 August, each group of two dozen or so children aged six to eight ate meals containing Golden Rice, spinach or β -carotene capsules for lunch every week day during the three-week trial¹.

But none of the children, their parents or school teachers was aware that Golden Rice was involved, according to a 45-minute investigative news programme broadcast on 8 December on CCTV, China's state television channel.

The informed-consent form said that the rice contained β -carotene, but not that it was genetically modified or that it was Golden Rice. Nor did it highlight uncertainty around any potential risks of ingesting such rice.

"Too sensitive"

The CCTV programme disclosed an email sent by Yin to Tang in which the CDC official said that he had changed the wording to avoid mentioning Golden Rice because it was "too sensitive".

Moreover, Wang didn't apply for ethical evaluation of the trial, instead fabricating the approval documents, according to CDC. And Tang brought Golden Rice from the United States to China illegally, without due declaration to the relevant Chinese authorities, it said.



International Rice Research Institute

Beta-carotene gives "Golden Rice" — aimed at boosting vitamin A in people eating the staple food — its characteristic colour.

"If it's safe, why did they need to deceive us into this?"

Both Yin and Wang admitted in the documentary that they had wanted to save time and push the project through, and said they did not realise how serious the matter was. Tang did not respond to *Nature's* request for comments. Tufts University spokeswoman Andrea Grossman said in an official statement that "it would be premature for Tufts University to reach any conclusions before investigations currently underway in the United States are completed".

The incident has outraged the families of children who ate the Golden Rice. Some have refused to accept the 80,000-yuan compensation and have demanded a guarantee that the rice will not affect their children's health. "If it's safe, why did they need to deceive us into this?" said one angry father in the CCTV program.

Serious offence

The development of genetically modified rice enjoys strong government support in China, but the public remains sceptical about its safety. Incidents such as this “could seriously erode public trust and taint the reputation of research on genetically modified crops,” says Lu Baorong, an ecologist who studies the environmental safety of genetically modified crops at Fudan University in Shanghai.

Critics note that discrepancies remain over the full details of the trial. For instance, the CDC’s investigation revealed that the children ate Golden Rice just once during the study — and not lunch every day during the three-week study as the paper states.

“How much Golden Rice did the children have exactly?” asks Wang Zheng, a policy researcher at the Chinese Academy of Sciences’ Institute of Policy and Management in Beijing. “Either the researchers are lying about this now or they lied about it in their paper. It’s a serious offence either way.”

Nature | doi:10.1038/nature.2012.11998

References

1. Tang, G. *et al. Am J. Clin. Nutr.* **96**, 658–664 (2012)