BACKGROUND BRIEFING DOCUMENT

GREENPEACE

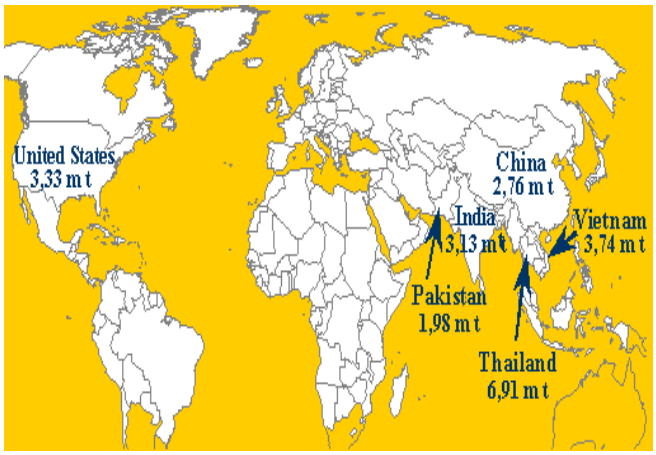
Chasing the GE rice trail

Genetic Engineering (GE) or Genetic Modification (GM) is a technology used to alter or add genetic material of plans and animals. Since foreign genes from unrelated species are added during this process these Genetically Engineered crops when released into the environment have been known to causes uncontrolled potentially dangerous environmental and health effects.

If a plant is genetically engineered, it cannot be considered organic as per IFOAM guidelines. Most countries that import food today have strict laws which demand mandatory labeling of all GE products.

For the last 5 to 8 years GE rice has been the focus of Genetic Engineering research across the world. This newsletter brings to the front issues related to rice trade that is emerging as a result of Genetic contamination of rice across the world.

TOP RICE PRODUCERS OF THE WORLD (average from 1998 to 2002, in millions of tons[1])



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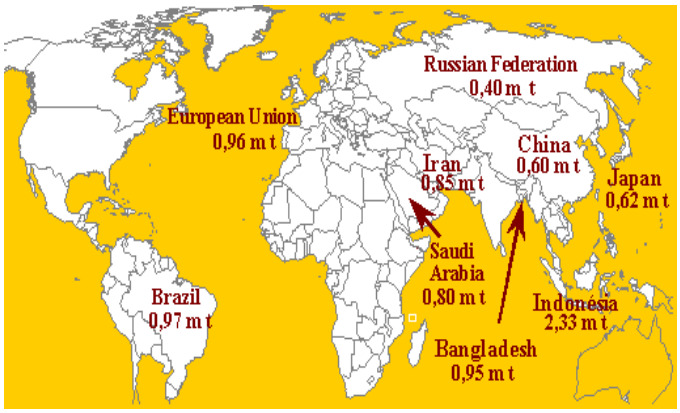

THAILAND: In October 1999, the Thai International Economic Policy Committee decided a policy on GMOs that prohibits the import of GE seeds for commercial cultivation. Labelling law in place.

VIETNAM: No labeling regulation

INDIA: Under Indian law, it is illegal to import, produce or sell any GE food without governmental approval. No Labelling law in place.

CHINA: GE labelling took effect in March 2002. They are part of the "Biosafety regulation of GMOs in Agriculture" which is the legislative framework safeguarding biodiversity, the environment and human health against the potential adverse effects of GMOs.

EU: In March 2004. All GE food and feed ingredients,will have to be clearly labelled. The labelling threshold for authorised GMOs in food and feed was lowered to 0,9 %. It allows for up to 0,5 % accidental contamination in food and feed from GMOs that have not been authorised in the EU; however, this provision will be a three-year transitional regime, after which there will be a return to the 'zero tolerance' regime.

JAPAN: Mandatory labelling for certain GE products where DNA or novel protein are detectable and GE ingredients constitute more than 5 per cent of the final product. Japan has a zero tolerance for unapproved GE varieties in foods.

INDONESIA: GE food is regulated under the Food Act 1996, which lays down mandatory labelling of foods resulting from genetic engineering or containing GE ingredients

SAUDI ARABIA: The Ministerial Directive No 166 placed a total ban on the import of foodstuffs containing GE animal products to the country. GMOs or GE products, which are exported to Saudi Arabia, must be accompanied by a health certificate by the GMO licensing government agency in the country. In March 2003, a decree was issued that also requires the labelling of all imported and locally produced GE animal and plant products.

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CONTAMINATION IS INEVITABLE; CO-EXISTENCE IS IMPOSSIBLE

The draft Biotechnology Policy of India recognizes the impact that GM contamination could have on Indian exports. The alternative suggested is a co-existence strategy:

"Transgenic plants should not be commercialized in crops/commodities where our international trade may be affected."[1]

It is a well-documented fact that a genetically modified plant can transfer their specific characteristics through pollen transfer thereby making non- GM plants GM. Another form of contamination is by the mixing of GM and non- GM seeds after harvesting. Therefore even if Basmati rice is grown in a GM free zone with precautions there is no guarantee that it will not be contaminated in trace amounts of GM ingredients.

With little information and awareness of GMOs, physical movement of GE seed is a major source of contamination: It could accidentally or purposely sold as non-GE or organic seed; it could be carried by people; it could fall off the truck or tractor; it could get mixed up with non-GM seed and get planted.

Contamination could occur at any of the four stages:

GENETICALLY ENGINEERED RICE VARIETIES TO WATCH OUT FOR:

Bt RICE is developed to be resistant to certain pests such as leaf folder and yellow stem borer. *Bt* crops are created by inserting a synthetic version of a gene from the naturally occurring soil bacterium, *Bacillus thuringiensis* (*Bt*) into the plant's own DNA, so the plant creates its own toxin to destroy pests. **STATUS:** China has completed several of field-testing. In 2004 it was being sold illegally in the open market. India is currently field testing Bt Rice.	**BB RICE** Scientists in China are proposing the commercial release of genetically engineered rice, which is resistant to bacterial blight disease. The rice is based on an introduced *Xa21* rice gene, which has been isolated from African wild rice. **STATUS:** Currently being field tested in China , India and the Phillipines.
LL RICE LibertyLink rice is the commercial name of rice genetically engineered for tolerance to the herbicide glufosinate, which is recognized under the brand name/trade mark 'Liberty'. **STATUS**: United States: Approved for cultivation and consumption of two varieties – 62 and 06. No GE rice currently being cultivated. Rice association has indicated that they will not grow until there is both regulatory approval and consumer acceptance. Despite not beig cultivated LLRice has already contaminated a long grain shipment to Japan.	**GOLDEN RICE** is a rice variety that has been genetically engineered (GE) to produce beta (β) carotene. Beta-carotene is converted to vitamin A in the human body. The proponents of Golden Rice say that this GE rice will solve the problems of vitamin A deficiency in developing countries. **STATUS:** In 2004 the Ministry of Agriculture GOI stated that Golden rice would be ready for use in two years time however across the world there are still conclusive experiments after 10 years of research.

[1] Department of Biotechnology; National Biotechnology Development Strategy (Draft); Pg 24

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GE RICE CONTAMINATION: OUT OF CONTROL

April 2005: Genetically engineered rice illegally contaminates the food chain in China
Between 950 and 1,200 tons of untested unapproved Genetically Engineered (GE) rice entered the food chain after the 2004 harvest of the field trials with GE rice conducted by scientists of the Huazhong Agriculture University in Wuhan, the provincial capital of Hubei in China

March 2006: Heinz Baby Rice Cereal Contaminated by Illegal GE Rice
On 1 March, Greenpeace notified Heinz China about the finding, asking for an immediate callback and a change of suppliers. Mr. Donald Gadsden, CEO of Heinz China, replied on 8 March, saying that "Heinz will take any alerts seriously and we are now conducting a thorough inspection."

August 22 2006: Japan bans US long grain rice due to traces of GE contamination
Japan bans of long-grain rice from the United States after supplies were found to contain trace amounts of a genetically engineered variety (by Bayer Crop Science) that is not approved for sale.
"Biotech does not recognize a fence line where one farmer's property ends and another begins," said Bryce Lundberg, a rice grower with Lundberg Family Farms, supports keeping California free of genetically modified organisms, or GMOs. Lundberg said the situation surrounding the Japanese rice ban "points at the heart of the reason the farm opposes them."
The U.S. Department of Agriculture said Friday that the contamination had been found in samples from storage bins in Arkansas and Missouri, but that the exact source had not been identified because the bins held rice from several Southern states.

September 2006: More contaminated rice in Europe
Discovery of illegal GE (genetically engineered) rice in Chinese food products in France, Germany and the UK signals a major contamination problem in Europe and probably beyond.

ACCESSING MARKETS AND STAYING GMO FREE: OPPORTUNITIES FOR INDIA

Accessing Japanese Rice markets with GE free rice from India
Japan is the biggest foreign market for California rice – a $500 million industry that relies on exports for 50 percent of annual sales. The U.S. will no longer export rice to Japan as lawmakers overseas fight the importation of genetically modified food. According to the Financial Express, unapproved, gene-modified rice made by Bayer CropScience AG, was found in commercial U.S. rice supplies last week following which Japan, the second largest importer of rice from the US, announced a ban After previously buying 291,000 tons of rice from the U.S. last year, Japan will have to quickly find a new supply. India is positioned to sell 300,000 to 400,000 tons of non-basmati rice to Japan.

GE free soya from India enjoys a competitive price in the international market
According to chairman of the Soybean Processors'Association of India Mr Rajesh Agrawal, Indian soya meal was being sold at $205-206 a tonne free on board to Southeast Asia, which is competitive with the meal from other origins like Argentina and Brazil. Mr Aggarwal recognized that Indian soya meal was better accepted because "it is non-genetically modified and of good quality".

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