

## **Comments on Commercial Release of Bt Brinjal by Govt of India**

Anupam Paul  
Agricultural Scientist, Kolkata  
[anupampaul99@gmail.com](mailto:anupampaul99@gmail.com)

GEAC has hurriedly approved the controversial GM vegetable crop-bt Brinjal in India. This is the first GM vegetable crop to be cultivated in farmers' field after the failure of delayed ripening Flavr Savr tomato in the USA. Meanwhile, the scientists are not aware of functional genomics. How, the alien gene- construct along with the Promoter will function is not clear. It is now clear that one gene is not meant for one function. Any foreign gene can produce unknown protein which paves the way for tumour - growth and other unknown diseases.

Several bio-safety procedures like toxicological studies, feeding studies and pest resistance have not been done scientifically. The authorities seem to please the promoters of GM crops without going for any safer and eco friendly cheaper techniques. Needless to mention that the seeds are patented and the farmers cannot keep seeds for the next season. It is mainly to control over the Indian seed industry. We are aware of the bt cotton farmers; its cost of production and the farmers are made dependent on the patented Bt hybrid cotton seed. The entire report is biased towards the introduction of GM crops as if it is necessary to introduce for huge profit. Many points like profit of the company, farmers' choice, Environmental Impact Analysis, long term sustainability, cost of production etc have been ignored deliberately. Famous geneticist Dobzansky once said that Nothing in Biology makes except in the light of evolution. How can we knowingly eat the bt toxins? How it has been tasted safe?

Conventional varieties are time tested and characters are stable. Only 8 year long study is very inadequate for introduction in the farmers' fields where the gene function is unpredictable. Crops like GM corn and GM soy are cleared only for animal feed in the US. But in their processed forms, they are used for human consumption

### **EC II**

#### **DEVELOPMENT OF Bt Brinjal by M/S Mahyco in India**

##### **SECTION 1**

##### **1.2.1-Economic Loss due to pest damage:**

It is estimated that FSB causes yield losses up to 60-70% even after repeated insecticide spray.

Comments: It seems very dull and drab statement about a pest in order to fit Bt Brinjal in agro ecosystem. Pest infestation does happen but in different magnitude not in the same magnitude every year and in every season. There are many organic fields where the farmers are not facing any serious pest problems.

What is the method of this study? Who did this study and where? What is the variety and

the season?

Is there any comparative study with Non Pesticidal Management, indigenous variety and organic farming including mixed cropping?

C Benbrook and others in the USA has showed that GM soybean (Herbicide Tolerant Soybean) has increased more pesticide usage as the minor pest become major pests. This is also true for bt cotton also. For bt brinjal there is a chance to use more pesticide for minor pests which becomes the major pests. So the profit of the GM promoters goes unabated.

But (Page 52:4.2.1) Efficiency of unintended traits states different story. The mean cumulative yield fruit damage in bt Hybrids ranges from 6.28%-10.04% where as the range for non Bt Hybrids and checks was 23.52% and 30.36%.

The first sentence in section 1 does not match with this statement. It seems that the authorities has not collected data from farmers' field.

Table 2.2

Status of Compliance to the conditions in the permit letter issued by GEAC

Point C: Pollen flow study is very lackadaisical. It has been mentioned that the whole plant has become toxic due Cry 1ac protein. Its pollen is of no exception. Honey bees, butterflies etc feed on pollen so they would die naturally. Hilbeck et al in 1998 showed the ill effects on green lace wing when fed on GM corn.

Environmental Safety Assessment 3.2:-(page 35-36)

Further, the EC-II opined that even if there is a very small influx of pollen originating from Bt brinjal varieties, it is not of any consequence, as the Bt protein has been extensively tested for its safety to the environment and food/feed and thus pollen transfer to other cultivated brinjal would not pose any safety risk.

How the authorities came to such a conclusion? India has large number of small and marginal farmers. Is it possible for them to keep an isolation distance of 300m? What is the refugia study in WB?

Point g:-Soil impact assessment is not clear. Continuous release of bt toxin through roots is bound to effect soil microbes.

Environmental Safety Assessment 3.2 (Page 35-36)

It has been mentioned that-extremely low levels of Cry1Ac.

What does it mean by extremely low level? Is it a scientific term?

Page 39-It stated that several beneficial insects like green lace wing, lady bird, spiders, praying mantis were both active in Bt and non bt brinjal crops.

The meaning of the word active is not clear. What is age of the plants and the number of active insects?

Base Line Susceptibilities Studies 4.2.2(page 55)

Agronomic Performance : The marketable yield for Bt brinjal hybrids, non-Bt

counterparts and checks ranged from 293.45 q/ha (MHB 10 Bt) to 638.02 q/ha (MHBJ 99 Bt), 171.76 q/ha (MHB 10 Non Bt) to 305.83 q/ha (MHB 39 Non Bt) and 189.70 q/ha to 221.90 q/ha, respectively .  
Comment: The growing season of the non bt brinjal has not been mentioned. In some parts of Bengal farmers are getting 300qt- 500qt a ha even after application of pesticides. Some organic farmers are also getting the same result. The authorities are either aware of it or they deliberately suppressed it for promoting GM crops.

### Compositional Analyses 3.3.3 (page 51)

Comments: In cows, milk production and composition was changed by about 14 per cent. There was more milk, which indicated that the animals were given a hormone (Test Tube Brinjal)

They did not mention the particular breed of cow and they did not include the study with local breed. Mere 90 days study does give any meaningful result.

Rats fed on GM brinjal had diarrhoea and liver weight decrease.

Brinjal's medicinal property has not been uttered in the entire text as they consider it a normal crop. Brinjal leaves and raw brinjal has several medicinal properties.

It is very painful to see that the authorities have almost rejected Prof Seralini ,Dr J Carmen and Dr Puspa Bhargav's observation as they raised some some scientific points with regard to bio safety. It justifies the corporate control of science to rob the pockets of Indian farmers.