

**GOVERNMENT OF INDIA  
AGRICULTURE  
LOK SABHA**

STARRED QUESTION NO:77

ANSWERED ON:27.11.2012

GM CROPS

Upadhyay Seema;Verma Smt. Usha

**Will the Minister of AGRICULTURE be pleased to state:**

- (a) the number of Genetically Modified (GM) crops that have been introduced for commercial cultivation in the country along with the research conducted/being conducted by the Indian Council of Agricultural Research (ICAR) on such crops;
- (b) whether any objections were raised from certain quarters in regard to introduction of Bt. Cotton;
- (c) if so, the details thereof and the reaction of the Government thereto;
- (d) whether the objectives of these crops for increasing yields and reducing herbicide and pesticide use have been achieved and if so, the details thereof along with the extent of benefits accrued to the farmers; and
- (e) the preventive measures taken/ proposed to be taken by the Government to address its likely impact on human health?

**Answer**

THE MINISTER OF AGRICULTURE (SHRI SHARAD PAWAR)

(a) to (e): A Statement is laid on the Table of the House.

STATEMENT IN RESPECT OF PARTS (a) to (e) OF LOK SABHA STARRED QUESTION NO. 77 TO BE ANSWERED ON 27/11/2012 REGARDING "GM CROPS"

(a) Bt cotton is the only transgenic crop approved for commercialization in India till date subsequent to extensive evaluation and regulatory approval process that is undertaken for commercialization of any GM crop under Environment (Protection) Act, 1986. Indian Council of Agricultural Research (ICAR) is undertaking agricultural research projects related to biotechnology and GM Crops like rice, wheat, pulses, oilseeds, cotton and vegetables through its Research Institutes.

(b) Yes, Madam.

(c) From the inception of the Bt cotton, there has been a sustained objection from some of the Non-Governmental Organizations besides Civil Society, Technical Expert Committee (TEC) constituted by Hon'ble Supreme Court, Parliamentary Standing Committee on Agriculture, etc on the grounds that

- (i) Biosafety assessment of Bt cotton before its introduction and post release monitoring of Bt cotton is not adequate;
- (ii) Bt cotton is not suitable for cultivation in rainfed areas which has adversely affected the economy of small farmers, and
- (iii) Cattle death and farmers' suicides have been attributed to introduction of Bt cotton in some regions such as Warangal and Vidarbha.

The objections have been very speculative and confusing, without any reasonable assessment of the technological strengths of Bt-cotton. In spite of the controversy regarding Bt cotton, the ground reality is that during the last decade, area under cotton cultivation (approx. 12 million hectares of which 90% is under Bt cotton) and productivity of cotton has gone up significantly. During the post Bt cotton era, Indian economy has benefited as India is the second largest exporter of cotton. Pursuant to the release of Bt cotton in 2002, the Genetic Engineering Approval Committee (GEAC) of Ministry of Environment and Forests had sought the views of the State Governments in 2005 on whether approval for Bt cotton cultivation should be renewed or not. So far, the Ministry of Environment and Forests has not received any request from any of the State Government to withdraw the approval for Bt cotton cultivation in the cotton growing States. There is no scientific evidence to show that Bt cotton has adversely impacted the biodiversity or human/cattle health.

(d) The main purpose of, Bt cotton was to control the dreaded insect pests, viz., bollworms. Bt cotton effectively controls bollworms, especially *Helicoverpa armigera*, thus preventing yield losses from an estimated damage of 30 to 60% each year in India. The biggest gain from the technology was in the form of reduced insecticide usage for bollworm control. Prior to the introduction of Bt cotton, about 9,400 metric tonnes of insecticides were used for bollworm control in cotton during 2001-02, while only 222 metric tonnes were used for bollworm control in 2011-12. Yields are estimated to have increased at least by 30% due to effective protection from bollworm damage.

(e) The Government of India is following a policy of case by case approval of genetically modified (GM) crops. Extensive evaluation and regulatory approval process takes place before any GM crop is approved for commercial cultivation. This includes generation of

relevant biosafety information, its elaborate analysis to ensure food, feed and environmental safety. The environmental safety assessment includes studies on pollen escape, out-crossing, aggressiveness and weediness, effect of the gene on non-target organisms, presence of protein in soil and its effect on soil micro-flora, confirmation of the absence of terminator gene and baseline susceptibility studies. A final view on the commercialization of GM crop plants is taken only when there is a clear economic and technical justification besides suitability for environment and human consumption.