

**GOVERNMENT OF INDIA  
AGRICULTURE  
LOK SABHA**

UNSTARRED QUESTION NO:3685  
ANSWERED ON:05.08.2014  
COMMERCIAL RESEARCH IN AGRICULTURAL SECTOR  
Patel Smt. Jayshreeben

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

- (a) whether several Bio-technology companies are carrying out commercial research in the agriculture sector;
- (b) if so, the details thereof;
- (c) whether some Government agencies are reviewing the outcome of these companies research work; and
- (d) if so, the details thereof along with the benefit accrued to the farmers from these research work?

**Answer**

MINISTER OF STATE FOR AGRICULTURE & FOOD PROCESSING INDUSTRIES (DR. SANJEEV KUMAR BALYAN)

- (a) Yes, Madam.
- (b) There are 64 agri-based and 97 pharma based companies involved in bio-tech commercial research on agriculture in the country.
- (c) Yes, Madam.
- (d) Biotechnology Industry Research Assistance Council regularly reviews and monitors the research work carried out by the companies supported through its schemes. Major benefits from this research work are resistant R-lines for bacterial Blight and Blast in rice; nanotechnology based delivery vehicles to supply micro-nutrients & pesticides to crops to boost crop health, quality and yield; herbicide and stress tolerant transgenic plants and development of nutritionally improved double low mustard varieties/hybrids having low erucic acid and low glucosinolate content by marker assisted selection.

Bt cotton is the only transgenic crop approved for cultivation in India subsequent to extensive evaluation and regulatory process. Bt cotton was introduced primarily for bollworm control. Yields of cotton stagnating at about 300 kg/ha from 1992 to 2002 rose to 488 kg/ha during 2013. Prior to the introduction of Bt cotton, in 2001, about 13,176 M tonnes of insecticides were used for cotton pest control in India in an area of 86 lakh hectares. In 2011, only 6828 M tonnes were used for cotton pest control in 121.9 lakh hectares.