

**GOVERNMENT OF INDIA
AGRICULTURE
LOK SABHA**

UNSTARRED QUESTION NO:3202
ANSWERED ON:24.04.2012
BIO TECHNOLOGY RESEARCH
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Will the Minister of AGRICULTURE be pleased to state:

- (a) the agricultural products on which bio-technology research has been undertaken during each of the last three years;
- (b) the products on which research has been completed;
- (c) the agro products which the Government is considering for commercialization; and
- (d) the decision taken by the Government in this regard?

Answer

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE, FOOD PROCESSING INDUSTRIES AND PARLIAMENTARY AFFAIRS (SHRI HARISH RAWAT)

(a) The major areas of biotechnological research are: insect resistance in rice, maize, brinjal, cotton, chickpea, pigeonpea, sorghum, sugarcane, cabbage, cauliflower and tomato; for disease resistance in potato, cotton, watermelon, tomato, papaya and groundnut; drought tolerance in rice, sorghum, chickpea and groundnut as well as for aroma/grain length/salt tolerance/grain filling in rice; herbicide tolerance in maize and cotton; protein quality improvement and cold induced sweetening in potato; male sterile line for rice and mustard; molecular diagnostic kits and vaccine for livestock and poultry diseases; development of nutraceuticals and functional foods, cloning of embryos and stem cell research.

(b) In rice, bacterial blight resistance Samba Mahsuri, Improved Pusa Basmati-1 and Swarna-Sub 1; in maize, QPM Vivek Hybrid-9; in pearl millet, downy mildew resistance improved HHB 67; in cotton, for insect resistance, Bollgard I and Bollgard II, Event I of IIT Kharagpur, GFM Cry1A, and Event 9124 have been approved for commercial cultivation. In livestock, DIVA and ELISA kits for Foot and Mouth Disease, diagnostic kits for blue tongue disease and gastrointestinal parasites have been developed.

(c) Commercial cultivation of above products are in place. The vaccines are also under commercial use.

(d) At present, Bt brinjal, a GM biotech product is under moratorium.