

**GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA**

STARRED QUESTION NO:357
ANSWERED ON:16.12.2005
GENOME OF RICE
Masood Shri Rasheed

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

- (a) whether Indian Scientists have succeeded in preparing the genome of rice ;
- (b) if so, the number of these genes ;
- (c) whether any such project is proposed to be undertaken in other crops including coffee, tomato, wheat and sugarcane etc; and
- (d) the quantum of production likely to increase annually on account of the new genomes of rice ?

Answer

MINISTER OF STATE (INDEPENDENT CHARGE) OF THE MINISTRY OF SCIENCE & TECHNOLOGY AND MINISTER OF STATE (INDEPENDENT CHARGE) OF THE DEPARTMENT OF OCEAN DEVELOPMENT (KAPIL SIBAL)

(a),(b),(c) & (d) : A statement is laid on the Table of the House.

STATEMENT IN RESPECT OF LOK SABHA STARRED QUESTION NO. 357 TO ANSWERED ON 16/12/2005 REGARDING 'GENOME OF RICE'

- (a). Yes, Sir. Indian scientists have participated in the International Rice Genome Sequencing Project (IRGSP). With the participation of scientists from ten Nations (Japan, USA, China, Taiwan, France, India, Korea, Thailand, UK and Brazil) IRGSP sequenced 370 million bases of rice genome. As part of IRGSP the Indian scientists have successfully decoded the genome information of the rice chromosome number 11.
- (b). The rice genome has been shown to have 37,544 genes, of which 1443 genes have been identified in the region sequenced by Indian Scientists.
- (c). India is already participating in a similar International Tomato Genome Sequencing Project. However, in case of other crops like sugarcane, coffee and wheat research efforts has been started on genome mapping, expression sequence tags and genetic variability.
- (d). The decoded rice genome information would play a pivotal role in the discovery of new gene functions and DNA markers for the development of improved rice varieties through molecular breeding. The new varieties are likely to break the yield plateau that has been now reached through conventional breeding efforts. It is at this stage difficult to quantify the increase in production but the future rice variety improvement programme would definitely benefit from rice genomic research efforts.