# GOVERNMENT OF INDIA
# ATOMIC ENERGY
# LOK SABHA

STARRED QUESTION NO:334
ANSWERED ON:17.08.2005
NUCLEAR AGRICULTURE PROGRAMME OF BARC
Patel Shri Kishanbhai Vestabhai;Singh Shri Sugrib

**Will the Minister of ATOMIC ENERGY be pleased to state:**

(a) whether the nuclear agriculture programme of the Bhabha Atomic Research Centre(BARC) covers development of high yielding crop seeds to be used in the country;

(b) if so, the details thereof; and

(c) the details of the crop varieties released so far and notified for commercial cultivation in the country?

## Answer

THE MINISTER OF STATE IN THE PRIME MINISTER`S OFFICE (SHRI PRITHVIRAJ CHAVAN)

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

STATEMENT REFERRED TO IN REPLY TO LOK SABHA STARRED QUESTION NO:334 BY SHRI SUGRIB SINGH AND SHRI KISHANBHAI V. PATEL REGARDING NUCLEAR AGRICULTURE PROGRAMME OF BARC FOR ANSWER ON 17/8/2005

(a) Yes, sir.

(b) BARC has been working on the genetic improvement mostly in oilseeds and pulses (groundnut, mustard, soyabean, sunflower, mungbean, pigeonpea, uridbean, and cowpea) and also in cereals such as rice and wheat by using radiation induced mutations and recombination breeding. The breeding lines with various desirable characters like high yield and disease resistance are evaluated in the all India coordinated varietal trials organized by Indian Council of Agricultural Research (ICAR) or in the state agricultural universities before the mutants or mutant derivatives are released for commercial cultivation. The breeder seeds of the varieties in demand are multiplied by BARC or in collaboration with state agricultural universities and supplied to National and State Seeds Corporations, State Agricultural Universities, Research Institutes, Agricultural Departments, Krishi Vigyan Kendras, NGOs, seed companies, farmers etc. As a result, quality seeds of the BARC varieties have reached the farmers. BARC has developed linkages and interactions with Department of Agriculture and Cooperation (DAC), Ministry of Agriculture, Govt. of India, Departments of Agriculture in different States, National Centres under ICAR, many Agriculture Universities, Krishi Vigyan Kendras etc.

(c) So far twenty five (25) such improved crop varieties have been released for commercial cultivation. These include 4 of blackgram, 4 of greengram, 2 of pigeonpea, 10 of groundnut, 2 of mustard and 1 variety each of rice, jute and soyabean. The detailed characteristics of these varieties are given in the Annex.

Annex to Lok Sabha Starred Question No.334 (c)

Crop varieties developed at BARC, Trombay (Released and Notified)

| Crop | Name | Year of Release/ Identi- fication | Maturity (M) Yield (Y) Yield increase (YI) | Released for | Seed source |
|---|---|---|---|---|---|
| Black gram | TAU-1 | 1985 | M: 70 -75 days<br>Y: 800-1000 kg/ha<br>YI: 24% | Maharashtra | MSSC, Akola |
| | TAU-2 | 1992 | M: 70-75 days<br>Y: 900-1000kg/ha<br>YI: 18% | Maharashtra | MSSC, Akola |
| | TPU-4 | 1992 | M: 70-75 days<br>Y: 900-1000kg/ha<br>YI: 22% | Maharashtra Madhya Pradesh | MSSC, Akola |
| | TU94-2 | 1999 | M: 70days<br>Y: 900-1000kg/ha<br>YI: 19-37% | Andhra Pradesh KarnatakaKerala, Tamil Nadu | BARC Mumbai |

Greengram TAP-7 1983 M: 60 days Maharashtra MSSC, Akola
Y: 700-800kg/ha Karnataka
YI: 23%
TARM-2 1992 M: (Rabi 90 days) Maharashtra MSSC, Akola
Y: 1000-1100kg/ha
YI: 80%
TARM-1 1995 M: 80 days Maharashtra BARC Mumbai
Y: 765kg/ha Gujarat,MP,
YI: 45% AP, Kerala
Karnataka,
Tamil Nadu,
Orrisa
TARM-18 1995 M: 65-70 days Maharashtra BARC Mumbai
Y: 1051 kg/ha

Pigeonpea TT-6 1983 M: 135-140 days MP, Maharashtra MSSC, Akola
Y: 1200-1300kg/ha Gujarat, AP,
YI: 15% Karnataka,Kerala

TAT-10 1985 M: 110-115 days Maharashtra MSSC, Akola
Y: 900-1000kg/ha

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(Released and Notified)

Crop Name Year of Maturity (M) Released for Seed source
Release/ Yield (Y)Yield
Identi- increase (YI)
fication

Groundnut TG-1 1973 M: 130-135 days Maharashtra, Gujarat BARC. Mumbai
Y: 2400-2500 kg/ha
YI: 15-20%

TG-17 1985 M: 115-120 days Maharashtra BARC, Mumbai
Y: 1700-2000kg/ha
YI: 15-20%

TG-3 1987 M: 110 days Kerala OUAT & OSSC,
Y: 2000-2500kg/ha Bhubanaeswar

TGS-1 1989 M: 110-125 days Gujarat GAU, Junagadh
Y: Kharif 2000kg/ha BARC, Mumbai
YI: 23%

TAG-24 1991 M: Kharif 100-105 days Maharashtra MSSC, AkolaNSC,
& Summer 112-117 days West Bengal New Delhi
Y: kharif 1300kg/ha Rajasthan UAS, Dharwad
Summer 2500kg/ha Karnataka
YI: Kharif 24%
Summer 50%

TG-22 1992 M: Kharif 115-120 days Bihar BAU, Ranchi
Y: Kharif 1677kg/ha
YI: 30%

TKG-19A 1994 M: 120-125 days Maharashtra MSSC, Akola
Y: summer 2000-2500kg/ha
YI: 12-13%

TG-26 1995 M: 110-120 days Gujarat MSSC, Akola,
Y: summer 2500kg/ha Maharashtra, MP UAS, Dharwad
YI: 23-39% MPKV, Rahuri

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(Released and Notified)

| Crop | Name | Year of Release/ Identification | Maturity (M) Yield (Y) Yield increase (YI) | Released for | Seed source |
|---|---|---|---|---|---|
| Groundnut | TPG-41 | 2004 | M: 120 days<br>Y: Summer 2407 kg/ha<br>YI: 26% | All India | BARC, Mumbai |
| | TG-37A | 2004 | M: 110 days<br>Y: Kharif 1993kg/ha<br>YI: 26-38% | Rajasthan, UP, Punjab, Haryana | BARC, Mumbai |
| Mustard | TM-2 | 1987 | M: 90 days<br>Y: 1370kg/ha<br>YI: 25% | Assam | BARC, Mumbai |
| | TM-4 | 1987 | M: 95 days<br>Y: 1470 kg/ha<br>YI: 35% | Assam | BARC, Mumbai |
| Rice | Hari | 1988 | M: 135-140 days<br>Y: 6000 kg/ha<br>YI: 20% | Andhra Pradesh | BARC, Mumbai |
| Jute | TKJ-40 | 1983 | M: 125-130 days<br>Y: 2800-3100 kg/ha<br>YI: 10-13% | Orissa | BARC, Mumbai |
| Soybean | TAMS-38 | 2005 | M: 93 days<br>Y: 2248kg/ha<br>YI: 23-25% | Vidharbha M.S. | Dr. PDKV, Akola |