GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
LOK SABHA
UNSTARRED QUESTION NO-2864
ANSWERED ON 17/12/2025

APPLICATION OF ATOMIC ENERGY TECHNOLOGIES IN UTTAR PRADESH

2864. SHRI PUSHPENDRA SAROJ

Will the PRIME MINISTER be pleased to state :-

(a) whether any agricultural universities, Krishi Vigyan Kendras or research institutions in Uttar Pradesh have been identified for the adoption of radiation-induced crop improvement technologies and gamma-based bio-fertiliser/biocontrol innovations and if so, the details thereof;

(b) the number of farmers benefitting from Bhabha Atomic Research Centre (BARC) developed radiation-bred crop varieties, State-wise and district-wise particularly for Uttar Pradesh along with the plans to expand adoption;

(c) whether proposals are under consideration to establish additional food irradiation or medical sterilisation facilities in Uttar Pradesh beyond the existing units in Mathura and Lucknow and if so, the details thereof;

(d) whether the Government proposes to set up a BARC and Board of Radiation and Isotope Technology (BRIT) technology incubation or isotope distribution centre in Uttar Pradesh and if so, the details thereof and the timeline thereof; and

(e) the measures taken to develop skilled manpower in Uttar Pradesh in nuclear agriculture, radiopharmaceuticals and radiation-based healthcare?

ANSWER

THE MINISTER OF STATE FOR PERSONNEL, PUBLIC GRIEVANCES & PENSIONS AND PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH)

(a) Yes, Bhabha Atomic Research Centre (BARC) a constituent Unit of Department of Atomic Energy (DAE), is actively involved in improvement of local aromatic rice landrace 'Kalanamak' using radiation induced mutation breeding in collaboration with Acharya Narendra Dev University of Agriculture and Technology (ANDUAT), Kumarganj, Ayodhya. Six (6) different Krishi Vigyan Kendras (KVK's) namely

Siddharthnagar, Maharajganj, Basti, Gorakhpur I & II and Balarampur stations are involved in the R&D work on Kalanamak rice improvement, which will benefit the farmers in Tarai region of Uttar Pradesh. Ten (10) Regional Adoptive Testing and Demonstration Stations (RATDS) of Uttar Pradesh state agriculture department have been identified for testing of radiation-improved mutant derivatives of rice in different zones of Uttar Pradesh. In addition, radiation-induced wheat and okra improvement program is being carried out in collaboration with Rani Lakshmibai Central Agricultural University (RLBCAU), Jhansi and ANDUAT, Ayodhya. Further, Indian Institute of Pulses Research (IIPR), Kanpur, also evaluates BARC-improved mutant lines in national evaluation trials regularly. Presently yield evaluation trials for mustard and wheat crop for Uttar Pradesh state in collaboration with Banda University of Agriculture and Technology (BUAT), Banda, are underway. DAE/Board of Research in Nuclear Sciences (BRNS) has funded ICAR-IIPR, Kanpur, for a research project on radiation-induced mutagenesis for improvement of disease resistance in lentil.

BARC groundnut variety, TG 37A has been evaluated and released for Uttar Pradesh in collaboration with Chandra Shekhar Azad University of Agriculture & Technology, Mainpuri, Uttar Pradesh. Trombay Linseed Variety TL 99, first Indian edible oil variety having low linolenic acid content, having high seed yield, high oil yield developed by BARC, was released for commercial cultivation for the state of Uttar Pradesh.

(b) Typically, seeds are categorised as nucleus, breeder, foundation and certified seeds during the various stages of commercial cultivation.

Seeds of Trombay crop varieties are supplied to farmers of different states in collaboration with respective Agricultural Universities. 10.0 kg Nucleus seed of TL-99 was given to IIPR, Kanpur for seed production and popularisation. BARC has supplied breeder seed of groundnut varieties to various agencies for foundation and certified seed production.

Breeder seed of Trombay groundnut was supplied to seven districts of Uttar Pradesh to expend the adoption of BARC developed crop varieties.

(c) Three such facilities have already been commissioned in private sector in the state of Uttar Pradesh and they are providing radiation processing services on demand basis. Proposal from Yamuna Expressway Industrial Development Authority to set up one such facility for medical product sterilization is in primitive stages.

(d) Presently, no proposal is under consideration in the Department.

(e) Students of various institutes in Uttar Pradesh undergo research project work at BARC, Mumbai in different aspects of nuclear agriculture. Based on the common research interest, BARC is also in the process of formulating MoUs with Agriculture Universities of Uttar Pradesh. Further, DAE/BRNS has funded research projects in nuclear agriculture in different research centres located in the state. To enhance awareness and understanding, lectures on the beneficial uses of radiation technologies were delivered to students and faculties of Acharya Narendra Deva University of Agriculture & Technology (ANDUAT), Ayodhya, and public awareness programmes under the aegis of the Indian Nuclear Society were conducted at four premier institutions in Lucknow on different aspects of nuclear technology for agriculture, food, health and energy.

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