

Press Conference on
Pusa Krishi Vigyan Mela 2025
ICAR-Indian Agricultural Research Institute, New Delhi

Pusa Krishi Vigyan Mela (PKVM) 2025 of ICAR-IARI New Delhi is going to be held during February 22-24, 2025. The theme of the mela is *Unnat Krishi – Viksit Bharat*. Hon'ble Union Minister of Agriculture and Farmers Welfare, Shri Shivraj Singh Chauhan Ji will be the Chief Guest of the inaugural function. Sh. Ramnath Thakur, Hon'ble Minister of State for Agriculture and Farmers Welfare will be the Guest of Honour during the event. Sh. Bhagirath Choudhary, Hon'ble Minister of State for Agriculture and Farmers Welfare will be the Chief Guest of the Valedictory Session on February 24, 2025. Dr. Himanshu Pathak, Secretary DARE and Director General, ICAR will preside over the inaugural and valedictory sessions.

The main attractions of the PKVM this year will be:

- Live demonstrations of the new varieties and technologies developed by IARI
- Exhibitions on promising technologies, products and services of IARI as well as ICAR Institutes, Agricultural Universities, KVKs, FPOs, entrepreneurs, start-ups, public and private companies
- Technical Sessions and Farmers-Scientists interactions on important issues like Climate Resilient Agriculture, Crop Diversification, Digital Agriculture; Entrepreneurship Development of Youth and Women; Agricultural Marketing, Farmers Organizations and Start-ups; and Farmers' Innovation
- Sale of Pusa Seeds of important varieties
- On-Spot agro-advisories

Realizing the growing significance of climatic risk and nutrition, the research program at IARI laid emphasis upon on developing climate-resilient crop varieties and bio-fortified cultivars with enhanced nutrient profile along with higher productivity. During 2024, a total of 27 crop cultivars in 10 different crops namely, 7 in bread wheat, 3 in rice, 8 maize hybrids, 1 pearl millet hybrid, 2 chickpea cultivars, 1 pigeon pea hybrid, 3 mung bean varieties, 1 lentil variety, 2 double zero mustard varieties and 1 soybean variety have been released. These include 16 varieties and 11 hybrids. IARI has been making stupendous contributions in Basmati rice production and trade through development of superior varieties. Basmati rice varieties including Pusa Basmati 1718, Pusa Basmati 1692, Pusa Basmati 1509 and the ones with resistance to both bacterial blight and blast diseases namely, PB 1847, PB 1885, and PB 1886 contribute to about 90% of the 5.2 million tons of Basmati rice exports earning of Rs. 48389 crores from India in 2023-2024. During April to November 2024, the export earnings from our Basmati rice stands at Rs 31,488 crores. Two short duration non-Basmati rice varieties namely, Pusa 1824 and Pusa 2090 have been released, which can help provide sufficient time for after-harvest operations. Pusa RH 60 is a high-yielding, short-duration, aromatic rice hybrid with long slender grains, best suited for Bihar and Uttar Pradesh. Pusa Narendra KN1 and Pusa CRD KN2 are improved *Kalanamak* varieties with better resistance and higher yield, recommended for Uttar Pradesh.

Institute's research program also laid focus upon nutritional security and developed eight biofortified cultivars. One bread wheat variety (HI 1665) and one durum wheat, HI 8840 was developed with high iron and zinc content, suitable for central zone. A multi-nutrient hybrid Pusa Biofortified maize Hybrid 5 has been developed, which is enriched with α -tocopherol (21.60 ppm) provitamin A (6.22 ppm), high lysine (4.93%) and tryptophan (1.01%). Pusa Biofortified Maize Hybrid-4 is biofortified with high provitamin A, lysine, and tryptophan. Pusa Popcorn Hybrid-1 and Hybrid-2 offer high popping percentage and butterfly-type popped flakes, ideal for NWPZ and PZ zones. Pusa HM4 Male Sterile Baby Corn-2 is a male sterile-based hybrid developed for NEPZ, PZ, and CWZ zones.

Two double zero mustard varieties (Pusa Mustard 35 and Pusa Mustard 36) were released with low erucic acid and glucosinolates content; which provide high yield under timely sown irrigated conditions in Zone-III (Madhya Pradesh, Uttar Pradesh, Uttarakhand, and Rajasthan). Pearl Millet Pusa 1801 (MH 2417) is a dual-purpose variety (grain and fodder) biofortified with high iron (70 ppm) and zinc (57 ppm) content. It is resistant to multiple diseases and is best suited for the NCT of Delhi. Chickpea var Pusa Chickpea Vijay 10217 is a high-yielding variety resistant to Fusarium wilt, recommended for irrigated conditions in Uttar Pradesh. Chickpea var Pusa 3057 has high seed protein content (24.3%) and is resistant to multiple diseases, including Fusarium wilt, collar rot, and dry root rot. It is also moderately resistant to pod borer and has large seeds with excellent grain color and shape. Pigeon pea var Pusa Arhar Hybrid-5 is a high-yielding variety (23.35 q/ha on average, with a potential of 25.46 q/ha) resistant to SMD, Phytophthora stem blight, Macrophomina blight, and Alternaria leaf spot, making it suitable for Delhi and NCT.

Striving towards attainment of goals of crop diversification for economic as well as ecological benefits, Institute has standardized Integrated Farming System Models (IFS). Integrated farming system model of 1.0 ha area for small farmers involving crops, dairy, fishery, duckery, biogas plant, fruit trees and agro-forestry developed by ICAR-IARI has potential to generate the net returns up to Rs. 3,79,000/ha/year with an employment generation of 628 man-days. Similarly, Integrated Farming System Model of 0.4 ha area for marginal farm holders integrating polyhouse culture, mushroom cultivation along with crop and horticulture enterprises has the potential to generate the net income of Rs. 1,75,650/acre/year.

Horticulture-based crop diversification has been popular among farmers. Cultivation of vegetables, fruits and flowers has been profitable, while fruits and vegetable cultivation is also useful in promotion of nutritional security. To promote vegetable cultivation, IARI has developed 268 improved vegetable varieties in 48 vegetable crops comprising of 41 hybrids and 227 varieties. IARI has developed nutritionally superior varieties in carrot (Pusa Prateek, Pusa Rudhira, Pusa Asita), okra (Pusa Lal Bhindi-1), Indian bean (Pusa Lal Sem), broccoli (Pusa Purple Broccoli-1) & Vitamin C rich spinach variety (Pusa Vilayati Palak) to address the issue of malnutrition. Yellow vein mosaic virus (YVMV) resistant and Enation leaf curl virus ELCV tolerant okra varieties (Pusa Bhindi-5 and DOH-1) were released to minimize the application of pesticides use and reduction in cost of cultivation. Six varieties and one

hybrid in brinjal, three varieties in onion, two varieties and one hybrid in cucumber, three varieties in Indian bean, three hybrids in bitter gourd, two varieties and one hybrid in musk melon were released for cultivation. Two soft-seeded guava varieties, Pusa Aarushi (red pulp) and Pusa Pratiksha (white pulp), have been developed along with a gynodioecious, semi-dwarf papaya variety, Pusa Peet. One marigold variety *i.e.* Pusa Bahar has been recommended for release. A mid-season gladiolus var. Pusa Sinduri has been released for West Bengal, Punjab, New Delhi and Rajasthan. The production of quality seeds has increased more than four times since 2018-19 (239.861 tons) to 975.478 tons in 2023-24. The nutritious food products developed by the Division of Biochemistry are Divine Dough which is pearl millet flour with richness of quality protein, resistant starch, fibre and micronutrients like Fe and Zn. PearlyLoaf is a gluten-free bread pre-mix made entirely from whole pearl millet, offering a nutritious alternative to wheat-based bread. With a low glycemic index (pGI 68-69%), it supports blood sugar management while being rich in fiber, essential minerals, and bioactive compounds.

A rapid colorimetric test kit named '*SpeedySeed viability kit*' has been developed by our institute to distinguish between viable and non-viable seeds within 1–4 hours, depending on the seed type. Pusa STFR Meter developed by ICAR-IARI is a low cost, user-friendly, digital instrument to analyse fourteen important soil parameters including secondary and micronutrients *viz.*, soil pH, EC, organic carbon, available N (derived from organic carbon), P, K, S, B, Zn, Fe, Cu, Mn as well as lime and gypsum requirement. Pusa Decomposer developed by ICAR-IARI is an eco-friendly and economically viable effective microbial solution for in-situ and ex-situ residue management. It has also been developed into ready to use powder formulation, which is completely dissolvable in water and can be used easily with mechanical sprayers. 500g per acre is recommended for decomposition of paddy straw in the field. The farm Sun Fridge developed by ICAR-IARI is an off-grid, battery-less solar refrigerated and evaporative cooled (SREC) structure. The objective of the technology is to have a solar cold store on farm fields. The cold store is used for storage of perishables. "PUSA MeFly KIT" and "PUSA CueFly KIT" are ready-to-use kits to manage fruit fly menace in a wide range of fruit and cucurbit vegetables, respectively. Point of care diagnostic kit and Easy PCR detection kit have been developed for rapid detection of chilli leaf curl virus and mung bean yellow mosaic virus, respectively. Pusa Dhan Bakanae parikshan kit has been developed for identifying pathogens causing bakanae disease in seed as well as in soil.