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India develops two genome-edited rice varieties

The new genome varieties hold the potential for revolutionary changes in higher production, climate adaptability, and water conservation

By **Sanjiv Das** | May 7, 2025



rice

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Union Agriculture and Farmers Welfare Minister Shivraj Singh Chouhan recently announced the development of two genome-edited rice varieties in India.

Chouhan said that the development of these new crops will not only enhance production but will also yield positive results in environmental terms. It will save irrigation water and reduce greenhouse gas emissions, thereby lowering environmental pressure. This is a classic example of getting both benefits – increased production and environmental conservation.

Chouhan emphasised that in the coming times, there is a need to ensure food security, increase nutritious production, and provide food for both India and the world, while making India the food basket of the world. He stated, "We are proud that our efforts have led to the export of 48,000 crore worth of Basmati rice annually."

The Minister also urged the need to take further steps to increase the production of soybean, arhar, tur, lentils, urad, oilseeds, and pulses.

Present on the occasion were Dr Devendra Kumar Yadava, Deputy Director General, (Crop Science) ICAR, Dr RM Sundaram, Director, ICAR-Indian Rice Research Institute, Hyderabad, Dr Ashok Kumar Singh, Former Director, ICAR, and Dr CH Srinivas Rao, Director, ICAR-IARI.

The DRR Rice 100 (Kamala) variety was developed by ICAR-IIRR, Hyderabad, based on Samba Mahsuri (BPT 5204). Its objective is to increase the number of grains per panicle. It matures 20 days earlier (~130 days). Due to its shorter duration, it helps save water and fertilisers and reduces methane gas emissions. Its stalk is strong and does not fall. The rice quality is similar to the original variety, Samba Mahsuri.

The second variety, Pusa DST Rice 1, was developed by ICAR-IARI, New Delhi, based on MTU 1010. This variety can increase yields by 9.66 per cent to 30.4 per cent in saline and alkaline soils, with the potential for up to 20 per cent increase in production.

These varieties have been developed for states such as Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Puducherry, Kerala (Zone VII), Chhattisgarh, Maharashtra, Madhya Pradesh (Zone V), Odisha, Jharkhand, Bihar, Uttar Pradesh, and West Bengal (Zone III).

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