

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURAL RESEARCH & EDUCATION

LOK SABHA
UNSTARRED QUESTION NO. 4253
TO BE ANSWERED ON 19TH AUGUST, 2025

IMPACT OF GENOME EDITED RICE IN SUSTAINABLE AGRICULTURE

4253. SHRI BALASHOWRY VALLABHANENI:

Will the Minister of AGRICULTURE AND FARMERS WELFARE कृषि और किसान कल्याण मंत्री be pleased to state:

- (a) whether it is true that India has recently released world's first genome edited rice varieties;
- (b) the manner in which the two varieties – DRR Dhan 100 (Kamala) and Pusa DST Rice 1 – game changer in sustainable agriculture;
- (c) the details of additional Paddy production could be achieved with the above varieties, the quality of water per hectare can be saved and to what extent the new varieties are climate-resistant; and
- (d) whether it is true that the above varieties are suitable to only selected States, including Andhra Pradesh, if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR AGRICULTURE AND FARMERS WELFARE
कृषि और किसान कल्याण राज्य मंत्री (SHRI BHAGIRATH CHOUDHARY)

- (a) & (b): Yes. The genome edited variety DRR Dhan 100 (Kamala) gives 20-25% higher grain yield, and matures 20-25 days early than Samba Mahsuri. It performs well even under 50% of recommended dose of fertilizers. Similarly, Pusa Rice DST 1 has shown strong tolerance to coastal and inland salinity. Both these varieties help saving water and fertilizers and are suitable in stressed ecologies which will prove game changer in sustainable agriculture.
- (c): The new varieties are climate resilient. Because of earliness, DRR Dhan saves 1-2 irrigation and has shown moderate tolerance against drought. Pusa DST Rice 1 has shown strong tolerance (10-30% yield advantage over parent variety) under inland salinity, alkalinity and coastal salinity areas.
- (d): Yes, both these varieties have been identified for the states of Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Puducherry, Kerala, Chhattisgarh, Maharashtra, Madhya Pradesh, Odisha, Jharkhand, Bihar, Uttar Pradesh, and West Bengal.
