

Rajendranagar Vari-2 [IET 26143 (RNR 15435)] – An aromatic long grain rice variety

**Vanisree S, Surender Raju Ch, Krishna L, Damodar Raju Ch, Chandra Mohan Y*,
Narasimha Reddy P, Rama Gopala Varma N and Jagadeeshwar R**

Rice Research Centre, ARI, PJTSAU, Rajendranagar, Hyderabad, 500030, Telangana, India.

*Corresponding author email: drycmohan@gmail.com

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Abstract

A cross was performed between RNR 17818 and Vasumathi with an aim to develop aromatic long grain rice varieties suitable for Telangana and forwarded the generations following pedigree of breeding. Rajendranagar vari-2 was identified in F₇ generation during the year 2011 and evaluated in yield and screening trials. It is an aromatic long grain, medium duration (135-140 days) culture suitable for *kharif*. It has recorded 58.8%, 13.19%, 17.4% yield superiority over check, Sumathi in station trials, multilocation trials and minikit trials, respectively. Rajendranagar vari-2 has moderate resistance to blast and brown spot. It also has good cooking quality parameters with aroma, intermediate amylose and more kernel length after cooking. Rajendranagar vari-2 was notified for cultivation in the state of Telangana vide Indian Gazette No. S.O. 8 (E) Dated 24.12.2021.

Keywords: Aromatic rice, Telangana, long grain, high yield

Introduction

In Telangana, with concerted efforts of the government to improve irrigation water availability, rice area has increased enormously and occupied about 1 crore acre annually with the production of 218 lakh tons. However, the demand for rice has not increased as that of production in the state and accordingly, a decrease in the rice area is being advocated in the state. In this context, farmers are interested to grow speciality rices like aromatic long and short grain varieties to fetch good market price. Hitherto, only one aromatic long grain variety, Sumathi was available for cultivation in the state but it has poor cooking quality. Hence, there is a need to develop aromatic long grain variety with good eating quality. Accordingly, a cross between RNR 17818 (short duration, non-aromatic, tolerance to BPH) and Vasumathi (aromatic variety) was attempted during the year 2005 and studied different generations through pedigree method of breeding with an objective to developing aromatic long grain variety. Rajendranagar vari-2 was identified during 2011 in advanced F₇ progeny and promoted for yield evaluation.

Morphological traits

Rajendranagar vari-2 is an aromatic long grain, medium duration (135-140 days) culture suitable for *kharif*. It has erect, semi tall plant type, light green drooping foliage with good panicle exertion and medium tillering habit (**Figure 1**). Panicle is long and semi-compact with grains having short awns at upper half of the panicle. Grains ripen to bright straw colour and classified as long slender. The kernels have 7.19 mm length, 1.59 mm breadth and 4.52 L/B ratio. The test weight ranges from 17 to 19 g (**Figure 2**).

Yield performance

Rajendranagar vari-2 recorded 58.8%, 13.19% yield superiority over check, Sumathi in station trials (2012 to 2017) and multilocation trials (2017), respectively. It recorded 17.4 per cent higher yield (5101 kg/ha) compared to the check, Sumathi (4435 kg/ha) in minikit testing over three years across 190 test locations at farmers' fields (2018-2020). Rajendranagar vari-2 was evaluated during 2016 under IET 26143 and recorded mean yield of 3039 kg/ha over 9 test locations across the country.



Figure 1: Field view of Rajendranagar vari-2 (RNR 15435) variety



Figure 2: Paddy and rice of Rajendranagar vari-2 (RNR 15435) variety

Reaction to biotic and abiotic stresses

Station and AICRIP screening trials data against insect pests and diseases revealed that Rajendranagar vari-2 has moderate resistance to blast and brown spot. However, it was found to be susceptible to BPH, stem borer, gall midge, sheath blight and sheath rot.

Grain quality parameters

Rajendranagar vari-2 has good milling percentage (69.81%), head rice recovery (48.9%), intermediate amylose content (23.98%), alkali spreading value of 2.5, gel consistence of 49.5 with very occasional chalkiness. It has very good kernel length after cooking (11.23 mm) with aroma.

Release and notification

Rajendranagar vari-2 was recommended for released through State Sub-Committee on Crop Standards and Release of Varieties during the year 2021 and notified by Government of India vide Gazette Publication No. S.O. 8 (E) Dated 24.12.2021 for cultivation in Telangana state.