

## Yield Performance of Traditional Rice Varieties at Rice Research Station, Murunkan

Rajeshkanna<sup>1</sup>, S., \*Bamithra<sup>1</sup>, N., Kaviraj<sup>1</sup>, T. and Jeyasundara<sup>1</sup>, J.A.P.

<sup>1</sup>Rice Research Station, Murunkan, Mannar, Sri Lanka

\*Corresponding E-mail: [bami1120@gmail.com](mailto:bami1120@gmail.com)

Government of Sri Lanka is attempting to re-introduce traditional rice to farmer fields as a component of organic rice production, mainly due to its nutritive and ayurvedic value and resistance to biotic and abiotic stresses. In order to expand the organic paddy cultivation and utilize the data for future breeding program to harness the medicinal value of these traditional varieties, this study explored the agronomic performances of traditional varieties at the rice research station in Murunkan. The study was conducted during 2020/2021 *Maha* season. There were fourteen Sri Lankan traditional rice cultivars were used for the experiment. The experiment was conducted in a randomized complete block design with three replicates. Fifteen plants from each cultivar were evaluated for the selected characters namely, plant height, leaf blade length, leaf blade width, number of tillers, number of reproductive tillers, panicle length, number of spikelets per panicle, number of fertile spikelets per panicle, seed length, seed width, seed weight and grain yield were recorded. Recommended modern rice cultivar *Bg360* was used as the reference variety. The average plant height of the tallest rice cultivar, Malkorarathu was 140.14 cm and that of the shortest rice cultivar, Kalundai was 88.68 cm. The longest leaf blade was also belonged to Malkorarathu. The highest number of tillers (8 tillers per plant) was recorded to Pachchaperumaal and the highest average number of reproductive tillers (6.7 per plant), was recorded for rice cultivar Kalundai. The highest value of 500 seed weight was recorded for rice cultivar Anilvariyan which was 26.63g. The reference *Bg360* variety (5.8 t/ha) gave significantly highest yield than the tested traditional varieties. The purpose of the study was to evaluate the performance of agronomic characters of landraces in developing new varieties that are adaptable to climate change and suitable for organic cultivation. The average yield of Beheth heenati, Pusparaga, Madathawalu, Rathkayan, Mottaikaruppan, Anilvariyan Weda heenati, Suwandal, Kadanvi, Rathu heenati, Pachchaperumal, Malkorarathu, Beheth heenati rathu and Kalundai were 4.21, 4.20, 3.98, 3.75, 3.63, 3.58, 3.56, 3.5, 3.23, 3.21, 3.19, 3.10, 2.48 and 2.34 t/ha, respectively.

**Keywords:** Ayurvedic value, Spikelets, Tillers, Traditional rice varieties