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## **Comparative Evaluation of Varietal Performance of Elite Short Round Grain Type Rice Varieties (*Oryza sativa* L.) Cultivated in the Low Country Dry Zone of Sri Lanka**

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### **Abstract**

Rice (*Oryza sativa* L.) is included in the family Graminae, is one of the most essential cereal crops and obliges as the main source of staple food for more than half of the global community. Approximately, around 90 % of the global rice is cultivated in the Asian continent and constitutes a staple food for 7.9 billion people worldwide. Demand for rice in the Asian region is expected to grow substantially as the population is currently growing rapidly and rice consumption is rising faster than that of any major food. Short round grains type rice cultivars such as At 373, Bg 360, and Suduru samba are normally grown in the low country dry zone of Sri Lanka expecting to fulfill the short round grain requirement. However, locally available short round grain type rice varieties were not achieved the national yield requirement. Comparative studies among the short round grain type rice varieties are very important to understand the performance of each variety under the local condition. A field investigation was carried out at Ambalantota Rice Research Station, Sri Lanka during the 2020/21 *Maha* and 2021 *Yala* seasons. The experiment was laid out in randomized complete block design (RCBD), with four rice varieties as At 373, Bg 360, At 09 - 898 (crossed between IRFAON 32/Bg 2571) and Suduru samba (Traditional variety) with four replicates where used the similar seed rate (400 seeds per m<sup>2</sup>) for each variety. The experiment was carried out under the Department of Agriculture recommended fertilizer level (N - 105 kg/ha, P205 - 25 kg/ha and K20 - 35 kg/ha). During the experimental period plant height, tiller count per unit area, panicle count per unit area, leaf area and grain yield were collected. Analysis of variance was performed using STAR for Windows version 2.0.1 and means were separated using LSD. Rice variety At 09 - 898 was shown significantly higher yield (average yield 7.58 t/ha) comparatively to At 373 (average yield 6.42 t/ha), Bg 360 (average yield 6.71 t/ha), Suduru samba (average yield 2.95 t/ha) therefore further improvement of At 09 - 898 variety may be achieve the national demand.

**Keywords:** Grains, Panicle, Rice, Tiller, Yield

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