

Evaluation of the yield of upland rice varieties under open field trial

ABSTRACT

Rice is a major staple food in most Asian countries. In Malaysia, the self-sufficiency level is currently at 72% that is, still 8% lower than the 80% target. One of the constraints in the industry is low rice production especially rice farms in hilly areas. Hence, the objective of this study was to evaluate the phenotypic diversity and yield of selected upland rice varieties under open field trial. The study was carried out from March to October 2017. Three upland rice varieties were selected in this study, which was Bario, Tadong, and Kondoduvon. The varieties were sampled from Telupid and Ranau, Sabah, Malaysia. The study was conducted at a 30 m X 10 m plot of Faculty of Sustainable Agriculture, Universiti Malaysia Sabah, Malaysia (5°55'43.8"N 118°00'20.2"E) in a randomized complete block design (RCBD) with six replications. Selected seeds were directly sown in beds of size 5 m X 1 m on 3rd March 2017 with 3 seeds per hill. The spacing between hills was 30 X 30 cm. Granular fertilizer, NPK green was manually applied ten days after sowing at 200 Kg/ha. Application of 200 Kg/ha of NPK blue fertilizer was done at panicle initiation of each variety. Ultisols soil was used as a planting medium. Bario showed the highest mean of the productive tiller (26.83) and percentage of filled grain (61.5%). Tadong showed the longest panicle length (28.47 cm) and highest extrapolated yield (3.77 tons ha⁻¹) while Kondoduvon showed the highest mean of 100-grain weight (3.39 g) and number of spikelets (159.67). In conclusion, Tadong is suggested to be the most suitable candidate for future breeding of high yielding upland rice variety.