

ABSTRACT

Participatory Evaluation and Yield Determination of Climate-smart Brachiaria Grasses for Improving Livestock Production among the Farmers in Embu and Meru Counties

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Aims: To introduce brachiaria grasses in Meru and Embu Counties to increase the range of fodder/forage varieties available to smallholders through the use of climate-smart brachiaria grasses for increased income. The project also aimed at identifying the best brachiaria varieties suitable for the target Agro-Ecological ones through evaluation by the farmers and yield assessment. Study Design: Randomized Complete Block Design (RCBD) Place and Duration of Study: The study was carried out in Embu and Meru Counties during the short rains of 2015. Methodology: Three varieties of brachiaria were introduced in the short rains of 2015 in KALRO Embu, Geeto Igoji in Meru, and Embu County. These were Brachiaria decumbense -Cultivar Basilisk, Brachiaria brizantha- Cultivar BRS Piata and Brachiaria brizantha- Cultivar Toledo. Plots of 5x5m were planted and replicated three times using Randomized Complete Block Design (RCBD) to increase the range of fodder/forage varieties available to smallholder and assess the yield and acceptability of the different brachiaria grasses varieties. The three varieties were planted in the mega demonstration sites. The grass performance was analyzed through pairwise ranking and the grass with the best attributes was selected. Yield data was also collected. Results: After ranking, the results indicated that the rate of growth and the amount of biomass as the most important attributes followed by the animals' response after feeding and the rate of rejuvenation after harvesting respectively. Using the attributes, the group members concluded that Brachiaria decumbense- Cultivar basilisk was the best followed by brachiaria brizantha- Cultivar piata and finally brachiaria brizantha- Cultivar Toledo. **Conclusion:** In conclusion, based on the attributes, the best brachiaria varieties for use in Embu and Meru Counties are Brachiaria decumbense –Cultivar Basilisk and Brachiaria brizanthaCultivar Toledo. Based on yield, Brachiaria brizantha- Cultivar Toledo is the best in Embu County while Brachiaria brizantha- Cultivar Basilisk is the best in Meru County.

Keywords: Brachiaria, climate-smart, agro-ecology, yield, performance.