

Agronomic and nutritional characteristics of selected *Brachiaria* hybrids and varieties harvested at three stages of growth

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Introduction

Shortage of quality feed is a persistent livestock productivity constraint and it is accentuated by climate variability and increased unpredictability of precipitation in many areas in Sub-Saharan Africa. Improved *Brachiaria* genotypes are some of the interventions that can improve feed security and contribute to the global climate change mitigation efforts.

Materials and Methods

A study was conducted to identify the most productive species/cultivars and age at maturity (AAM) for optimum nutrient productivity in semi-arid areas of Rwanda. Nine *Brachiaria* grass cultivars were evaluated against Napier grass (*Pennisetum purpureum*) in an on-farm trial in a Complete Randomised Block Design with four replicates without any fertiliser application. Ages at maturity were 60, 90 and 120 days after planting (DAP).

Results and Discussion

Results showed that contents of dry matter (DM), crude protein (CP), organic matter (OM), *in vitro* apparent dry matter digestibility (ADDM_{iv}) and digestible organic matter (OMD) increased from 60 to 90 DAP and declined thereafter. Fibre (NDF) contents increased while CP contents decreased consistently with maturity. Metabolisable energy (ME) contents decreased from 90 to 120 days. Yields (kg/ha) of DM, CP and ME increased consistently up to 120 days.

Conclusion

The most promising genotypes were *Brachiaria decumbenes* cv. Basilisk, *Brachiaria brizantha* cv. MG-4 and *Brachiaria brizantha* cv. Piata as their nutrient yields were higher and more comparable with Napier than other cultivars of *Brachiaria* genotypes.

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