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EFFECTS OF PLANT SPACING AND FERTILIZER LEVEL ON CHEMICAL COMPOSITION OF HYBRID *BRACHIARIA* CV. MULATO II GRASS DURING THE FIRST 150 DAYS OF GROWTH UNDER IRRIGATION SUPPLEMENTATION, IN CHAGNI RANCH, AWI ZONE, ETHIOPIA

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ABSTRACT

A study was conducted to evaluate the effects of plant spacing and N fertilizer application on chemical composition of Brachiaria hybrid cv. Mulato II grass for the first 150 days after planting. A factorial experiment with 3 urea fertilizer levels (0, 50 and 100 kg/ha) and 4 spacings between plants and rows (20 x 20, 30 x 40, 40 x 60 and 50 x 80 cm) with 3 replications was used. Chemical analyses were conducted for crude protein (CP), ash, neutral detergent fiber (NDF), acid detergent fiber (ADF) and acid detergent lignin (ADL). Results indicated that DMY, CP%, CPY, NDF% and ADF% were significantly (P<0.05) affected by plant spacing and fertilizer levels interactions. However, ash and ADL were significant (P<0.05) affected by only main effects. The highest CP% was recorded for wider plant spacing (50 x 80 cm) with higher urea fertilizer level (100 kg/ha) (S4F3) Similar studies need to be conducted over much longer periods to determine to what extent these findings relate to performance over the life of a permanent pasture.

KEYWORDS: *Urea; Spacing; Dry Matter Yield; Chemical Composition*

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