



Effect of intercropping row ratios on yield and nutritive value of maize and cowpea fodder

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Abstract

A field experiment was conducted during *Kharif* seasons of 2020 at Agriculture Farm of ICAR- CIRG, Makhdoom to study the effect of various intercropping row ratios on fodder yield and quality in maize and cowpea combinations system. The treatments consist of nine intercropping combinations viz., sole maize, sole cowpea, maize + cowpea (1:1), maize + cowpea (2:1), maize + cowpea (1:2), maize + cowpea (2:2), maize+ cowpea (3:1), maize + cowpea (1:3), maize + cowpea (3:3). The experiment was laid out in randomize block design with three replications. The study indicated that highest value of growth parameters viz., plant height of maize (216 cm) and cowpea (212 cm), number of leaves plant⁻¹, stem thickness in maize and branches plant⁻¹ in cowpea were recorded in 1:3 row ratios of maize + cowpea intercropping. However, maximum value of total green and dry fodder yield was recorded with 2:1 row ratios of maize + cowpea intercropping (38.0 and 7.7 t ha⁻¹) followed by 3:1 row ratios (37.6 and 7.6 t ha⁻¹). Further, 1:3 row ratios of maize + cowpea intercropping recorded significantly higher value of crude protein (7.94 and 17.68%), ether extract (1.21 and 2.69 %), ash content (7.60 and 12.74%), total digestible nutrients (63.77 and 64.23%) digestible dry matter (66.22 and 66.50%), relative feed quality (110.74 and 139.10%) and net energy for lactation (1.54 and 1.55 Mcal/kg) in fodder maize and cowpea, respectively.

Keywords: Dry matter intake, Fodder production efficiency, Fodder quality, Relative feed value