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Research article

Evaluation of different row proportions in intercropping of pearl millet and cluster bean for forage yield and quality

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Abstract

The suitable intercropping combination of pearl millet (*Pennisetum americanum* L.) and cluster bean (*Cyamopsis tetragonoloba* L. Taub) for fodder yield and quality enhancement was studied in Yamuna ravines of Uttar Pradesh. In this experiment, nine treatments were evaluated which included two treatment of sole crop (pearl millet and cluster bean) and seven intercropping combinations of pearl millet + cluster bean *viz*., 1:1, 2:1, 1:2, 2:2, 3:1, 1:3 and 3:3. Maximum value of quality parameters (crude protein, ether extract, ash content, TDN, RFV, NE_l etc.) was obtained with intercropping of 1:3 row ratio. Highest total green and dry fodder yield of pearl millet + cluster bean was obtained with 3:1 intercropping combination which was at par with 2:1 row ratio. Further maximum values of crude protein yield, ether extract yield and dry matter intake was recorded with 1:3 row ratios, which was statistically at par with 2:1 row ratio; and maximum value of ash yield was recorded with 2:1 row ratio. It was concluded that two rows pearl millet + one row cluster bean (2:1) intercropping combination could be recommended to obtain maximum yields of green fodder as well as crude protein.

Keywords: Cluster bean, Dry matter intake, Fodder intercropping, Fodder quality, Pearl millet