

## Effect of intercropping of corn and soybean on dry matter yield and nutritive value of forage corn

### ABSTRACT

Cereal-based forage production could be considered to have potential to supply great deal of energy-rich feed in animal diets. Experiment was conducted to evaluate effect of corn-soybean combinations of 75:25, 50:50 and 25:75 in addition to monocrops of corn and soybean to determine forage dry matter (DM) yield and quality in corn-soybean intercropping. The crop combination ratio had significant effects on dry matter yield and nutritive quality of forage. The ratio of 75:25 and 50:50 recorded DM yields similar to those of monocropped corn (14.77 t/ha). Forage quality in terms of crude protein (CP) (75:25 ratio 12.75%, 50:50 ratio 13.73% and 25:75 ratio 14.68%) was improved by intercropping due to higher nitrogen availability for corn in intercropping compared with its sole crop (10.83% CP). Increase ratio of corn in corn-soybean mixture, negatively affected neutral detergent fiber (NDF), acid detergent fiber (ADF) of forage and declined with increasing ratio of soybean plants. Combination ratio of 50:50 gave higher protein yield (1886.45 kg/ha) than other crop combination ratio. Among all the combination ratios, the 50:50 corn-soybean ratio was the optimum giving highest forage yield, protein content as well as protein yield.

**Keyword:** Corn-legume forage; Intercropping; Nutritive quality; NIRS; Protein yield