

Intercropping corn with high protein forages for potential fall/winter grazing of beef cattle

T.S. Tober¹, E.J. McGeough¹, K.H. Ominski¹, and Y. Lawley²

¹Department of Animal Science and ²Department of Plant Science, Faculty of Agricultural and Food Sciences, University of Manitoba, Winnipeg, Manitoba, Canada, R3T 2N2

Tobert@myumanitoba.ca emma.mcgeough@umanitoba.ca kim.ominski@umanitoba.ca
yvonne.lawley@umanitoba.ca

Corn is a high energy and yielding crop for grazing beef cattle, however, its low crude protein limits its value for growing cattle. This experiment aimed to identify high protein annual forage species to intercrop with corn for fall grazing of beef cattle. This experiment was a randomized complete block design with four replicates at two Manitoba sites (Carman and Glenlea) in 2022 and 2023. Seven treatments consisting of five intercropped with high protein annual forage species seeded between 152 cm-spaced corn rows and two non-intercropped corn Controls on 76 cm (Std) and 152 cm (Wide)-spaced corn rows. Biomass samples (corn and intercropped forages) were harvested in November to determine yield and chemical composition (crude protein, total digestible nutrients and nitrates). In 2022, combined biomass yield of corn and radish, crimson clover, and hairy vetch did not differ from the Control Std. However, in 2023, biomass yield for corn and intercrops was lower than Control std, irrespective of the intercrop forage species. Crude protein yield of corn and radish or hairy vetch treatments were higher than the Control Std at Carman and Glenlea, respectively. Therefore, intercropping corn with annual forage has the potential to increase the protein concentration of corn for fall/winter grazing of beef cattle.