



Corn intercropping strategies for extended winter grazing of beef cattle.

CORN INTERCROPPING

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LEAD RESEARCHERS: Emma McGeough, Yvonne Lawley (University of Manitoba)

COLLABORATORS: Kim Ominski, Derek Brewin (University of Manitoba); Scott Jeffrey (University of Alberta); Ken Coles (Farming Smarter); Lance Ouellette (North Peace Applied Research Association), Sean Thompson (Olds College); Lana Shaw (South East Research Farm); James Frey (Parkland Cropland Diversification Foundation); Scott Chalmers (Westman Agricultural Diversification Organization)

Background: There are many economic benefits to extending grazing season on cow calf operations. Swathgrazing, stockpiled forages and bale grazing have been practiced by several producers in western Canada for many years. With the production of lower heat unit grazing corn, there is increasing interest in corn grazing to extend the grazing season. While corn is often higher yielding and higher in energy than most perennial forages, it also has increased agronomic costs (i.e., seeding), and tends to be lower in protein. Intercropping other annual forages with corn could help increase the protein content of the winter forage stand and may even reduce the amount of fertilizer needed.

Limited research has been done in Canada to identify which intercrop species (e.g., legumes, grasses, brassicas), fertility rates, row spacing, and herbicide strategies may be best to optimize corn intercropping on the Canadian Prairies.

Objectives: The objectives of this study are to:

1. Identify optimal high-protein forage species and nitrogen fertilizer application rates to be intercropped with corn for late fall/early winter

grazing.

2. Develop seeding strategies to optimize corn intercropping with other high protein forages for late fall/early winter grazing.
3. Evaluate three corn intercropping strategies for late fall/early winter grazing across a range of Prairie ecoregions.
4. Evaluate animal performance, feed intake, rumen microbial efficiency, and grazing behavior of backgrounded cattle or replacement heifers grazed on corn-intercropped pastures in late fall/early winter.
5. Perform an economic analysis of intercropping corn for beef cattle extended grazing.

Implications of the Research: Finding innovative strategies to extend fall grazing and overwintering cattle on the landscape rather than in drylots may result in economic, social, and environmental benefits on certain operations. Due to the growing interest in intercropping, crop-livestock integration, and regenerative agriculture, recommendations on how best to implement corn intercropping will help producers determine how to best adapt this practice to their own individual situation as desired.

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