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Project Factsheet 1

DEMONSTRATION AND INVESTIGATION INTO LIVESTOCK SYSTEMS ADOPTION 01/04/2011 – 31/03/2015

Project summary

This project, as proposed by the Rural Development Institute (RDI) of Brandon University and Upper Assiniboine River Conservation District (UARCD), is an integrated approach with a focus on livestock systems (i.e. cattle) and secondary emphasis on cropping systems and agroforestry. The project aims to demonstrate environmentally responsible practices for reducing greenhouse gas emission while simultaneously reducing livestock production costs. It is not the intention of the project to invent new technologies but rather to demonstrate unfamiliar practices such as alley cropping systems which, combined with proven winter feeding strategies, will reduce agricultural emissions, increase carbon levels in the soil and enhance production efficiencies by increasing animal feed efficiencies and decreasing traditional production costs such as manure handling and synthetic annual crop fertilization.

Objectives of the project

The project fulfills two objectives. First, to develop with the participating producer a quarter section field scale alley cropping system to grow winter feed stock and double as a winter feeding site for cattle production. The field scale livestock systems will demonstrate combining multiple rows of planted tree with a winter livestock feeding system. The tree rows will protect growing crops and shelter animals while consuming feed stocks. These systems have been proven to reduce harmful emissions from the livestock production system via reduced animal stress, improved feed conversion and increased resident time of nutrients, carbon and water in the soil. Monitors will determine wind velocities, animal and crop performance as well as nutrient cycling in both the treatment and non treatment areas, including changes to soil characteristics.

Second, researchers will investigate the attitudes of beef producers toward, and the adaptation of, the livestock system through a social marketing framework over multiple years. Published research demonstrates the biological and economic benefits to tree, crop and animal interactions, but little adoption of these practices has been realized on the Canadian prairie landscape. Using multiple tools, we will discover the opportunities and barriers to adoption. By gaining insight into what promotes and prevents the adoption of these best management practices (BMPs), beef producers and other stakeholders will be in a better position to provide incentives and knowledge or other variables that will increase adoption of these practices.

Target audience

The primary targeted audience is beef producers, with secondary audiences including extension personnel, government policy and program people and the general public. Audiences will be reached through printed and digital/electronic communication (such as fact sheets and web pages), as well as site tours and events (e.g., Grazing School, Manitoba Ag Days, Manitoba Conservation Districts Association convention).

Project collaborators

This project is implemented by UARCD (project proponent) in collaboration with Manitoba Agriculture, Food and Rural Initiatives (MAFRI); Agri-Environment Services Branch (AESB) of Agriculture and Agri-Food Canada; the Manitoba Agro Woodlot Program (MAWP); the Manitoba Beef Producers Association (MBPA); the Manitoba Forage Council (MFC); and the Rural Development Institute of Brandon University (RDI). Each of these collaborators plays unique and interrelated roles in making the project accomplish its objectives.

For more information and/or clarifications about this project please contact either of us:

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Figure: Design of model shelterbelt forming the demonstration site (refer to objective one of the project)

