

Farm Management and Forage Resources for Organic Grass-Fed Livestock Production

January 2020 Project Update

Crop-livestock integration methods such as grazing green manures or cover crops can increase the diversity of our farms and allow for more efficient use of nutrients in our cropping systems. Grazing these annual crops can provide valuable livestock feed. Annual crop type and seeding dates can be selected to provide forages for grazing during critical times when livestock demands exceed perennial pasture availability.

Grass-fed beef and dairy producers have limited livestock feed options because grain and grain by-products may not be fed to the cattle. As such, the use of annual pastures may be of particular interest to grass-fed producers as well as those seeking opportunities for crop-livestock integration. Based on this, the project has two main objectives:

1. Document the management systems being used on four grass-fed beef and dairy farms. A case study profiling each farm was prepared by visiting each farm and interviewing the farmers. The case studies provide valuable insights to the management systems used on grass-fed farms in Canada.
1. Evaluate the yield and quality of six annual forages. Oat, corn, millet, sorghum-sudangrass, winter triticale, and annual ryegrass were grown using organic management in a randomized complete block design with four replicates. Forage samples were analyzed for acid detergent fiber, neutral detergent fiber, crude protein, and total digestible nutrients.

The case studies have shown that grass-fed farmers use a variety of management systems. Similarities include rotational grazing with rotations occurring on a daily basis and a strong focus on pasture health. Grazing during the mid-summer is a common challenge and there is potential to improve farm productivity through the use of annual forages.

Dry conditions throughout 2018 and 2019 may have contributed to the low dry matter yields of some annual crops evaluated. Weed competitiveness varied between crops with sorghum-sudangrass, millet, and corn being the most competitive and annual ryegrass being the least. On a dry matter basis, the samples consisted of a large portion of weeds. The weeds however, may still be a valuable feed, particularly during drought conditions. The use of annual crops could be a valuable tool for addressing feed gaps in grass-fed livestock production.

Thank you for your support on this project,

Myra Van Die
M.Sc. Student, Department of Plant Science
Faculty of Agricultural and Food Sciences
University of Manitoba