CLIMATE CHANGE
ADAPTATION PROGRAM

A Guide to On-Farm Demonstration Research

Case Study 1

Funding for this project has been provided by the Governments of Canada and British Columbia through Growing Forward 2, a federal-provincial-territorial initiative. The program is delivered by the Investment Agriculture Foundation of BC.

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CASE STUDY 1 *from:*

A Guide to On-Farm Demonstration Research

How to Plan, Prepare, and Conduct Your Own On-Farm Trials

Disclaimer:

The Governments of Canada and British Columbia are committed to working with industry partners. Opinions expressed in this document are those of the authors and not necessarily those of Agriculture and Agri-Food Canada, the BC Ministry of Agriculture or the Investment Agriculture Foundation.

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B.C. FORAGE COUNCIL

nkdf Nechako-Kitamaat Development Fund Society

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Investment Agriculture Foundation of British Columbia

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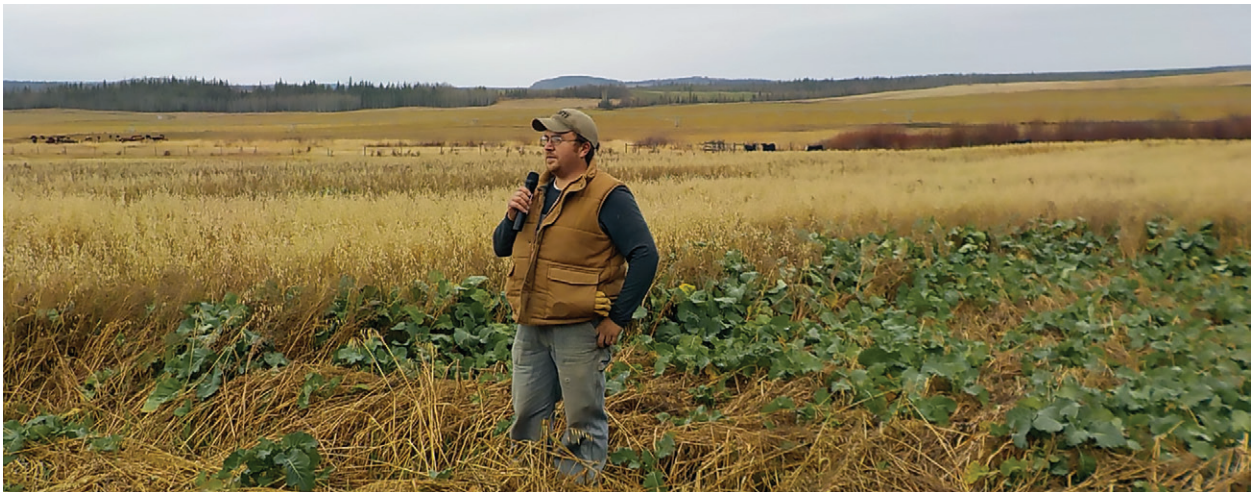
CASE STUDY

Testing an Idea Before Betting the Farm On It

Vanderhoof, BC cattle producer Butch Ruiter has always had a short-term goal to grow his feedlot operations but knew that he'd need to increase days on pasture in the fall. Keeping his cattle on pasture later would allow him to have more empty pens in his feedlot that could be filled. In order to increase pasture days, Butch first needed to research alternative, high quality, feed options.



"If I can extend my grazing season and improve the quality of the feed, that's worth looking into."

– Butch Ruiter

While at a forage conference a few years ago, Butch heard a speaker talk about the benefits of adding late-maturing kale to a forage field to improve feed quality. Having swath-grazed cattle on forage oats for a handful of years, he was intrigued.

Since he had no experience growing kale, he decided to try a small-scale on-farm study so he'd have real data to shape his future seeding decisions.

"Change brings new challenges but it might also bring new opportunities."

In mid-June of 2015, Ruiter fenced off a small section of his field and seeded 2 lbs/ac of the kale variety 'Winfred' with 70 lbs/ac of forage oats. Following the first frost that fall, he randomly selected and sent four to six kale plants to a lab for feed quality analysis every two weeks.

He was surprised by the results: not only did the kale stay dark, vibrant green despite the cold weather, it also maintained its protein levels, total digestible nutrients and relative feed value right through mid-December.

"Overall, I was really impressed. It's an expensive seed but it seems to grow well here. Right up until the deer found the plot and ate it all up in late December, those protein levels barely changed at all. Now, I want to expand the project to a bigger size, add a second kale variety, and swath it so I can see if the kale will hold its protein value in the swath."

CASE STUDY, *continued*
TESTING AN IDEA BEFORE BETTING THE FARM ON IT

This project was Ruiter's first try at on-farm research.

"We've tried different things here and there but never to the level of analyzing feed value."

"It was definitely worth the effort," he says.

"It's really up to producers now to do a lot of the work of figuring out what works on their farms. Try things out, even things that might have already been tried in the past. Winters used to be a lot colder here. So things that were tried and didn't work thirty or forty years ago might work now."

Harvest Date	Protein (%)	Total Digestible Nutrients	Relative Feed Value[1]
November 5	19.8	78.4	489
November 12	19.2	76.1	382
November 19	18.3	78.3	472
November 24	19.9	79.4	551
December 14	19.5	76.0	381
December 17	19.0	76.9	425

The MEASUREMENTS made to answer his research questions were:

- Forage analysis of samples collected every 2 weeks from November 1 – December 15

The RESOURCES needed to answer his research questions included:

- Money to purchase forage kale seed and laboratory services for forage quality analysis
- Seed drill suitable for small seed
- Time for seeding
- 2 hours, twice a month throughout the fall and winter to collect and ship samples
- Shipping materials and cost of shipping samples

Complete **Worksheets #3 and 4** from the full length guide to develop objectives, research questions, and measurements needed; as well as a detailed list of the resources you'll need.

[1] RFV continues to be used as an index to assess forage quality. However, differences in the digestibility of the fiber fraction can result in a difference in animal performance when forages with a similar RFV index are fed.