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Managing On Farm Nutrients To Rejuvenate Hayland

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*"I want to have my cows
at the right place,
at the right time,
for the right reasons."*
Ron Buchanan,
Fort St John, BC

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Introduction & Context

This forage fact is part of a 2 year project called "Innovative Management Practices for Resiliency". The project works with ranchers and farmers to identify and evaluate nutrient or cropping management practices that will be more resilient to climate change extremes.

Here we introduce the demonstration plots we have with Ron and Karen Buchanan of Glenburn Ranches north of Fort St. John, BC. Ron's initial question was "Can feeding, grazing and nutrient management be effective alternatives to tillage and seeding to rejuvenate a hayfield?" The trigger point is when hay yields decline to less than 1.5 T/ac.

The Buchanans are looking at their nutrient flows on and off fields on a whole farm basis. The collaborating researchers matched this innovative thinking with a whole farming systems method of setting up demo plots and monitoring methods.



Julie Robinson & Ron Buchanan in a field discussing his declining hay yields & the soils.

This factsheet is part I of multi-part series and will focus on the approach and methodologies used in the study. After another year, of collecting data, part 2 will present the compiled and integrated results.

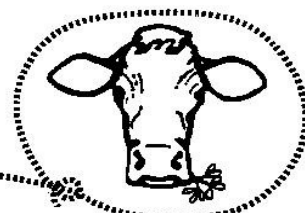
Ron's Strategies for Getting Nutrients Back Onto Land

1. Fall fertilizing a blend of 12-26-26-6 at 160 lb/ac.
2. Spring feeding bales onto field Apr 10 to May 26, with 197 cow/ calf pairs.
3. Early fall grazing with 230 cow/ calf pairs for 20 days in September.
4. Resting the hay field with no cutting & integrating nutrients from animals for a couple of years.



Spring feeding hay bales onto the field on April 20, 2015.

Peace River Forage Association
of British Columbia



Forage & Soil Response to Spring Feeding

The photos below show the forage growth on July 7, 2015 & soil improvement on Sept 23, 2015.



Forage growth, no feeding.

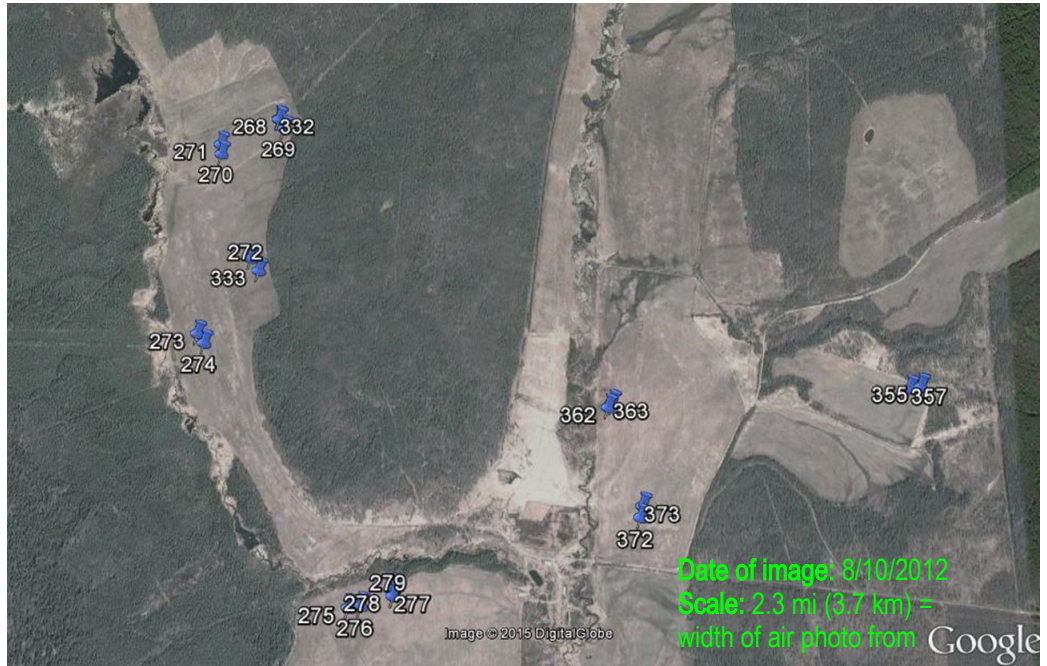


Forage growth 3 months after spring feeding with hay bales.



Note difference in topsoil & roots between control (left) & with spring feeding (right).

Holistic Approach & Monitoring Methods



Location of 9 pairs of benchmarks for monitoring effect of winter feeding and bale grazing.

Key components to cattle producers adopting a new practice include:

1. What are the economics of the alternative nutrient management strategies? The project team is working with **George Geldart** to complete a cost benefit analysis of each innovation in the context of Buchanans' ranching goals.
2. Are these innovative practices good for the soils and crops? We are working with **Bill McGill** of UNBC to evaluate soil quality with a field kit. (see *For. Fact* 95 & 96)

3. What is the extent and variability of the effects of the spring feeding and grazing on the hayfield? We are working with **Matthias Loeseke** of **Blackbird Environmental** to map the vegetative / forage response and extent of the practice.

A holistic approach is connecting ranchers and farmers with economists and researchers throughout the design, management and monitoring of this project. Information collected over the two years will be shared in 2017.

Compiled by: Sandra Burton & Ron Buchanan in February 2016.

With Contributions from: Darryl Kroeker & Julie Robinson.

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