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Did Lazinchuks Get More Rain in 2003?

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*“ Every time
I have fertilized,
it has paid off.
In the dry years, it just*

barely pays.

*But in wetter years,
it pays for the fertilizer
and more.”*

*Gordon Lazinchuk
Bessborough*

Soil Landscape Types:

Alcan soil:
moderately well drained,
loamy soil on weakly
calcareous & saline,
morainal till with very
gentle slopes.

Snipe soil:
Poorly drained, loamy soil
on morainal till in lower
areas.

Field History

Field A was underseeded to a Certified Carlton brome-grass mixture in 2000. Two years later, it was fertilized in 2002 with 200 lb/ac of a N-P-K-S blend (24-19-0-14). Field B was seeded to oats and underseeded to the same brome-grass mixture in 2001. Two years later it was fertilized with the same blend and rate in 2003.

At first glance the field histories seem similar, but there were 2 important differences:

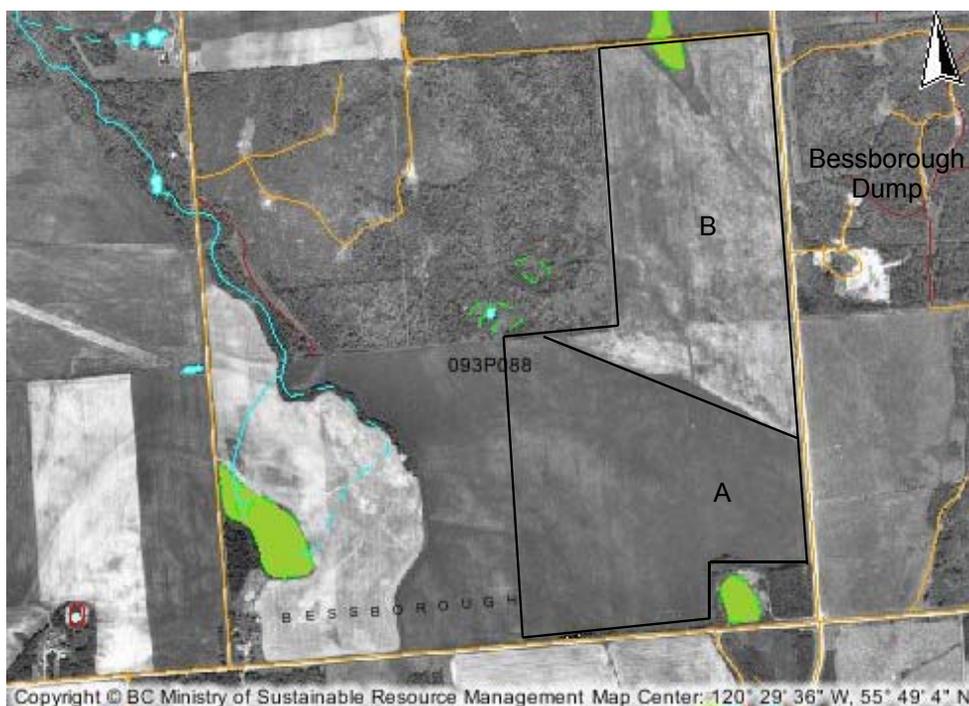
1. # of cuts before hay cut in 2003.
2. treatment of oat straw.

The Treatments

There was a two way comparison in 2003 between:

- A. the field to the south of the draw or small creek received no fertilizer. The oat straw in establishment year was baled off.
- B. the field to the north and west of the dump received 200 lb/ac of N-P-K-S blend (24-19-0-14). The oat straw in establishment year was chopped and spread onto the field.

The two fields are shown in the air photo below.

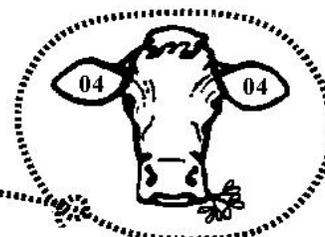


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Average Bale Weights:

Field A: 1500 lb

Field B: 1700 lb

20 bales weighed per field.
Bales were hard core round
made with NH 660 baler.

Gordon's Economics:

Fertilizer cost: \$40/ ac
Hay value 2003: \$53/T

Therefore with fertilizing:
1.4 more tons/ac is an
additional \$74/ac
worth of hay.

*"Each year I choose a
field to fertilize and
calculate how many
additional bales
I need to get
to pay for the fertilizer."
Gordon Lazinchuk
Bessborough*

**Greenhouse Gas Mitigation
Program for Canadian
Agriculture:**

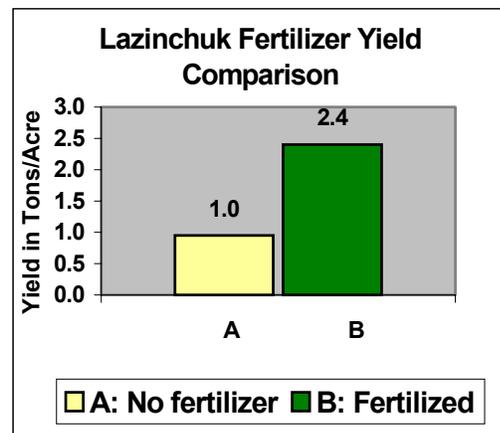
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Hay Yields & Quality

There was definitely a yield response at the fertilized field. Average bale weights were 200 lb heavier from field B than from field A (see summary to left). Field B yielded 1.4 tons/ac more than field A where there was no fertilizer applied in 2003 (see graph to right).

Hay quality was variable and not significantly higher in fertilized field. Drought stressed crops often show higher forage quality when cut.

The response at Field B was probably a reflection of the combined management factors of fertility, age of stand and soil moisture conservation by the chopped oat straw.



Comparison of hay yields between field with no fertilizer (A) and fertilized field (B) at Lazinchuks in 2003.



Unfertilized hay field south of creek (left photograph) compared with fertilized hay field north of creek (right photograph) at Lazinchuks in mid July, 2003.

Did Lazinchuks get more rain?

People driving by the fertilized hay field immediately west of the Bessborough Dump were convinced that there had been more rainfall in that area. But no, Lazinchuks did not get more rain; this area suffered from below average rainfall. This illustrates that there can be a response to fertilizing, even in dry years, especially when combined with moisture conserving practices so that moisture is not the limiting factor to plant growth.

Compiled by: Sandra Burton & Julie Robinson in April, 2004.

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