MAKING EVERY BLADE COUNT

Cattle producers have it tough these days. High feed costs are among the most daunting challenges. Producers have long relied on grain as feed because it was inexpensive and high in energy which helped beef up these critters. Now less grain is available in the world, and feed grain is expensive, so alternatives are necessary.

To address this reality, Agriculture and Agri-Food Canada (AAFC) is working with the Manitoba Cattle Producers Association (MCPA) and the Province of Manitoba to explore cost-effective feed alternatives. AAFC scientists Dr. Shannon Scott and Dr. Hushton Block at the Brandon Research Centre in Manitoba are examining forage-based solutions.

"This centre has been working to develop a feed management package based on alfalfa forage and barley to help producers make the most of their resources and ultimately minimize their costs," said Dr. Block.

"In a nutshell, the goal is to make the animal heavy and healthy in the least amount of time, at the lowest cost," explains Martin Unrau, president of the Manitoba MCPA. "But it's harder and harder to make a living producing a premium product for our valued customers."

- A famed forage flower
  Alfalfa is famous for its desirable forage characteristics: it's perennial so it re-grows every year. And if properly managed, it can pull nutrients from the air into the soil (something called nitrogen fixing). There are expensive downsides, however. It may need to be replanted if it's not well-managed, and it causes cows to bloat, and possibly die, if they gorge themselves on it.

Nevertheless, the pros of alfalfa outweigh the cons, which is why it is widely-used as forage. The Centre's early research suggests that if alfalfa is properly mixed with other pasture vegetation, the need to fertilize may be reduced or avoided. And if the alfalfa is properly grazed, it may not need replanting.

"Current results suggest that knowing when to graze, and what to plant can save you fertilizer or seed costs," Dr. Block explains.

Perennial forage plants like alfalfa are amazing. When they sense winter coming, they stop sending nutrients up to their leaves and start sending them down to their roots. This stores their energy in a safe place so the plants can sprout quickly in the springtime. If plants are grazed while they're busy storing this energy, they're less likely to survive the winter.

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Once all the plant's energy is safely stored, and the ground is completely frozen, the plant can then be grazed again. But during the in-between time cattle need to stay away from these pasture forages and given something else to eat (known as 'deferred grazing.')

- **Not just for beer**
  To feed cattle while alfalfa pastures prepare for winter, AAFC researcher Dr. Mario Therrien is creating a 'waxy' barley variety with characteristics that would preserve it through the fall. It would be cut into piles (swaths) and used to feed hungry cattle during that important fall period when pastures need a break.

This is also handy because pasture forage is scarce in winter and stored forage is expensive, so this barley could reduce feed storage costs and off-farm feed purchases.

"We did some early tests on this barley's spoilage resistance, but before the tests were complete, the local deer were already helping themselves," explains Dr. Block. "If the deer prefers this waxy barley, we hope cattle will too."

Dr. Block believes that these management methods could help producers increase pasture productivity by as much as 50 to 100 per cent without major costs increases.

"Grazing may also be extended into the cold months through a method called 'winter bale feeding' where numerous hay bales are placed throughout a pasture," said Dr. Block. "A movable fencing system is used to control when cattle can access each bale. This allows forage to be a primary feed source during the snowy season, while saving on winter feeding expenses."

- **What it means for consumers**
  Consumers expect tender, well-marbled beef, and that's what the Brandon Research Centre aims to produce for consumers. To ensure their forage research produces the best results in cattle and the final meat products, the scientists team up with specialists in meat quality and food science.

  "We work with other research teams in Western Canada to see how our research affects the carcass of animals," said Dr. Block. "If we help producers earn a better living producing quality, healthy beef for Canadians, we've done our job."

To learn more about research conducted by AAFC scientists, please visit www.agr.gc.ca/scienceandinnovation.com.

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