



SUSTAINABILITY ENSURING A DAIRY FUTURE



Sustainability on the modern Western dairy farm: How one Alberta farm team is crunching the numbers to make milk production more efficient

Alberta dairy farmers Cassidy and Robert milk 130 cows on the farm where Robert grew up. This husband-and-wife team are in their seventh year of running the operation themselves, and in this time have become a prime example of modern Canadian dairy farmers looking towards the future: they've added fully automated feed, milking, manure scraping, and calf feeding. Accompanying all these changes is a new tool designed to measure their environmental footprint.

"We looked at it as part of the next step going forward, with net zero by 2050," Cassidy said. "It's not just our industry making this commitment either. It's going to be a thing, so we just wanted to see where we're at, and then we can adjust over the course of the next 20 years."

The farm is participating in Dairy Farmers of Canada's Greenhouse Gas (GHG) Calculator Pilot Project, currently in its second round. In Round One, the farm was one of 40 across Canada testing a specific calculator called the Cool Farm Tool, an internationally recognized GHG calculator developed in Europe.

Using a GHG calculator provides the couple's farm with benchmark measurements of several environmental factors, including carbon emissions, manure use, and fuel use; they can then compare results against these benchmarks to identify opportunities to reduce their impact.

The first year of the pilot project came as the farm was in the middle of a massive technological shift.

"We had transitioned from a lot of things - from an old barn to our new one, from pull-type silaging to self-propelled, changes like that," Cassidy explained. "We went from running multiple tractors a day, every day, to some days not even starting an engine. Most of the changes show up in our financials. Less diesel, fewer man-hours, and we have a bit of solar, so you can see the difference in the power bill."

In returning for Round Two, which tests the tool's own next phase, called the Cool Farm Platform, they found the added advantage of being able to compare their results from Round One. "We wanted to see in the second year the differences these changes were going to make," said Cassidy. "We're curious to see how using innovation and technology will affect our overall bottom line."

Helping Cassidy and Robert make sense of these differences is Jen, their on-farm advisor. In the GHG Calculator Pilot Project, an advisor helps participants collect data and calculate emissions based on factors such as herd size, feed ratio, manure management, crops, fuel use, transportation, and soil type. Help from project members like Jen is key to making sense of what's involved in a GHG calculator for busy farmers or those new to the project.


"A few of the fuel calculations were a little bit difficult, because we weren't used to logging our time," Cassidy explained. "Jen really helped us with that, and we tried to log it a little bit

better for 2025. Overall, it's not too hard to pull all that information; it's just about being used to it and getting started."

The farm's participation in the GHG Calculator Pilot Project has helped assess and determine what makes the most sense for an individual farm. This Alberta farm will have unique factors not found on a farm in Ontario, and these factors will differ from those of a dairy farm in Newfoundland & Labrador. For farmers to both shore up sustainability and feed Canadians, tools that account for the country's varied landscape will be essential.

"The guidelines and best management

practices are actually tools for you to use to make your farm more efficient," said Cassidy. "A lot of that has improved our overall efficiency of the farm. I mean, people looking at our farm now don't know what the farm was 10 or 15 years ago and how far we've brought it just in seven years."

As a team, Robert and Cassidy continue to carefully examine their operation, looking at how they can make it more efficient and use the best management practices suited to their environmental goals. Adding the GHG calculator to these plans shows that sustainability isn't just a buzzword: it can be a better way to work. 

Alberta producers, Robert and Cassidy, know 'net zero' will affect more than dairy producers. It's a matter of getting started and adjusting course over the coming years with innovations and technology to drive efficiency and reduce GHGs.



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