

## Webinar series summary

### MANAGEMENT PRACTICES TO CONSIDER FOR SUSTAINABILITY

This past March 2024, Lactanet organized a series of [3 sustainability webinars](#) funded by the Dairy Farmers of Canada. Many management practices for sustainability were discussed, a few of which are summarized below. Keep reading to learn more about land management, feed production, and manure management, as well as an overview of the webinars' guest farmers!



#### LAND MANAGEMENT

There are a variety of land management practices that **increase carbon in soils (carbon sequestration)**, reducing net greenhouse gas (GHG) emissions. These practices can also increase biodiversity, improve soil health, and reduce erosion. The table below lists best management practices that farmers can consider adopting to improve carbon capture in soils:

Action	Increases soil carbon storage	Additional Benefits
Conserve wetlands	✓	Provide water control (source during draught, capture during flood).
Maintain grasslands	✓	Improve feed security on your farm.
Plant trees, hedgerows, and shelterbelts	✓	Increase water retention and reduce soil temperature in adjacent plots.
Maintain riparian buffer zones	✓	Reduce eutrophication and serve as a barrier to run off of nutrients and sediments to waterways.
Manage agricultural soil (nutrients, tillage)	✓	Reduce soil compaction, optimize nutrient inputs, and improve fuel economy.

Don't forget that soil and inputs analysis data is the key first step to provide insight to your own situation. Your agro-environmental advisors can help use this information to provide advice on field and land management that fits your needs.



#### FEED PRODUCTION

When formulating rations, proper selection and quality of feeds can **decrease methane (CH<sub>4</sub>) emissions**. For example, cereals such as corn have a greater starch content compared to forages and therefore shift fermentation of the rumen's microbes, resulting in decreased enteric methane production. To reduce methane emission, forage type and quality should also be considered. Legumes, compared to grasses, and high-quality forages alter the digestion and passage through the rumen and are therefore another way to decrease enteric methane emissions. Many feed additives can further alter rumen fermentation to decrease emissions, and this should be discussed with your nutrition advisor to ensure all necessary considerations are made.



#### MANURE MANAGEMENT

Selection of manure storage and management systems can **reduce ammonia (NH<sub>3</sub>) emissions** in addition to **CH<sub>4</sub> and nitrous oxide (N<sub>2</sub>O)**. Compared to liquid manure storage without any crust/cover, other systems and practices are possible to reduce GHG reductions. The use of **solid storage, composting, and anaerobic digestion** was shown to reduce GHG by 15-25%. **Liquid slurry** with either a natural crust cover or other cover is the most cost-effective option when the whole farm operation is considered, and it can reduce GHG by 5-10%, compared to no cover. When using this type of system, the acidification of liquid manure to reduce NH<sub>3</sub> emissions during storage and application is also possible. Finally, **emptying out the liquid manure tank** once (e.g., in spring) or twice a year, can reduce CH<sub>4</sub> by 5-40%, depending on the amount removed.

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GUEST FARMERS

## CARIBOU FARM TERREBONNE, QUEBEC



- 160 Holstein cows in lactation
- 280 kg of quota
- 20-stall rotary parlour, milked 2x/day
- Farm 405 hectares
- Hay silage, corn silage, grain corn, and soybean

*“Sustainability is really important to us, it is really important to us to have a whole farm that can stand the test of time. This is why we’ve implemented a lot of environmental and sustainable practices.”*

- Viviane Mathieu

## STELLETE FARMS MILVERTON, ONTARIO



- 66 Holstein cows in lactation
- 100 kg of quota
- Tie-stall, milked 2x/day
- Farm 57 hectares
- Hay, haylage, corn silage, and high moisture corn

*“I focus on developing routines and protocols that are efficient and flexible. I look for win-win scenarios grounded in economics to improve farm efficiency and sustainability.”*

- Stefan Mueller

## MIDDLEVIEW FARM CLARENCEVILLE, QUEBEC



- 100 Holstein cows in lactation
- 155 kg of quota
- 2 robotic milking systems
- Farm 200 hectares + rent 75
- Corn, corn silage, soybean, winter rye, and alfalfa

*“In general, we’ve really improved the soil’s health, which means we can use less fertilizer. It saves us a lot of money and improves the environmental impact enormously.”*

- Michael Breault