OPTIMIZING ANIMAL DIETS

Dairy cattle diets can be formulated to modify rumen fermentation to reduce methane emissions. For example, higher quality forages can improve the palatability for cattle and additional processing can lead to production efficiencies. These practices can also reduce feed waste and production costs. Additionally, feeding supplemental dietary fat – including those with unsaturated fatty acids in some ingredients and by-products – has the potential to decrease methane production in the rumen.

Benefits

Reduced GHG emissions

Increased production efficiency

Estimated return on investment
High

On-farm emission mitigation potential +++

Implementation Tips

- Consult a dairy nutrition advisor to adapt your herd's diet. This may include adding fats, using feed grain, improving feed digestibility, reducing protein, etc.
- Work with a forage specialist to test the nutritional value and overall quality of forages.
- Improve quality of forage through harvest timing and storage improvements.
- Process forage to ensure optimal particle length (e.g., chopping, grinding, pelleting).
- Consider incorporating legumes and pulses into the diet.

Resources

- **Factsheet:** Livestock Management Practices to Mitigate Greenhouse Gases, proAction Environment Resources, Dairy Farmers of Canada (dfc-plc.info/OPAD1)
- **Wepage:** Optimizing Forage Production and Use, Lactanet (dfc-plc.info/OPAD2)
- **Booklet:** Understanding Forage Quality, American Farm Bureau Federation (dfc-plc.info/OPAD3)
- **Research study:** Veltman, K., Rotz, C.A., Chase, L., Cooper, J., Ingraham, P., Izaurralde, R.C., Jones, C.D., Gaillard, R., Larson, R.A., Ruark, M., Salas, W., Thoma, G., Jolliet, O., 2018. A quantitative assessment of Beneficial Management Practices to reduce carbon and reactive nitrogen footprints and phosphorus losses on dairy farms in the US Great Lakes region. Agricultural Systems 166, 10–25. (dfc-plc.info/OPAD4)