

Applying as soon as possible after harvest, before any regrowth occurs, is important

# Manure on forage

**A project looking at manure on forages on eight sites over four cuts found a yield boost of more than 12 per cent when manure was spread on alfalfa**

By Lilian Schaer

CHALLENGING FALL WEATHER CAN make it difficult for farmers to get manure onto fields before snow and cold weather hit. For some, this can cause storage capacity problems over the winter months.

A project called Timing Matters, led by Farm & Food Care Ontario on behalf of farm organizations and government partners, is encouraging farmers to think about ways manure can be applied at different times of the year.

For dairy producers, one solution is applying manure to forage crops, according to Christine Brown, Field Crop Sustainability Specialist at the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA), particularly on fields used for haylage.

Beyond just the convenience of spreading manure outside of the time pressures of fall harvest or spring planting season, Brown says manure nutrients also increase forage yield and quality.

An Ontario Soil and Crop Improvement Association project looking at manure on forages on eight sites over four cuts, for example, found a yield boost of more than 12 per cent when manure was spread on alfalfa. It also showed forage quality equal to or higher than from fields that did not receive manure treatments.

“We’ve been putting manure on after our forages for about four years,” says Wellington County dairy farmer Janet Harrop, who farms with her husband, son and daughter-in-law north of

Fergus. “We have a smaller land base, so we were trying to have more intensely managed ways to spread nutrients on the land that we have.”

The Harrops do three to four cuts of hay – an alfalfa-grass mix – per season and try to apply liquid manure from their three-lagoon settling system after every cut, while closely monitoring their soil and manure sampling. Not only do the applications add nutrients back into the land, but they serve as a source of water during the later, drier summer months.

“The boost we got from the combination of nutrients and water was really significant, and it gave us a place to apply nutrients outside of spring when there is already so much to do,” Harrop says. “We end up applying

about 20 pounds of nitrogen, 20 pounds of phosphorus and 90 pounds of potassium per acre – and we easily see a 20 per cent increase in yield.”

There are several key points and best practices for farmers to consider when deciding whether or not to use manure on their forage crops, according to Brown.

Applying as soon as possible after harvest, before any regrowth occurs, is important. Tire traffic over new growth reduces yields and if it's a particularly wet season, it may be better to delay application until the next cut to avoid compaction and damage to the field.

Even application matters, and although solid manure can be as beneficial as liquid, it has to be of a consistency that allows for uniform, thin application. Clumps, particularly large ones, increase the potential for smothering; Brown recommends moving solid bed-pack manure from the barn to a temporary field storage in the spring in order to improve its composition and make it more suitable for forage application.

For liquid dairy manure, ideal application rates are between 3,000 and 4,000 gallons per acre, which provide approximately 50-45-90 pounds per acre of available N-P2O5-K2O. For more accurate, farm-specific nutrient information, Brown recommends sending a manure sample for analysis; this is also important to ensure proper nutrient crediting.

To prevent burning new plant growth, liquid manure with more than 75 pounds per acre of ammonium-N should be avoided on hot, sunny days, but Brown encourages farmers to stick to no more than 50 pounds per acre if possible.

Ammonia loss can be as high as two-thirds of the ammonia portion of manure nitrogen, and is highest in the first 24 hours after application. Loss is reduced by rainfall after application.

Another important consideration is whether the forages are used for haylage or baleage. Manure shouldn't be applied to fields where hay will be baled and wrapped as high levels of butyric acid from manure contact with forage could cause pockets of improper fermentation. This is not a concern with haylage, however.

More information about manure

stewardship and long-term nutrient management options is available at <https://www.farmfoodcareon.org/timing-matters/>. **D**

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