

A Practical Guide:

Applying digestate in the spring ahead of planting corn

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What is digestate?

Digestate is a sustainable and valuable resource that can reduce input costs and improve soil health. Digestate is produced when organic material – such as manure or food waste – is processed through anaerobic digestion. It is nutrient rich and contains nearly all the nutrients that were found in the original organic material that went into the digester.

How is digestate used?

Digestate products can be used as organic fertilizers or as soil amendments supplying readily available nutrients, micronutrients and organic matter to sustain or improve soil quality.

Digestate producers and managers employ best management practices when handling and applying digestate to farmland. Best management practices that incorporate the [4Rs of nutrient management](#) will achieve the most economically and environmentally beneficial use of digestate products.

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What does applying digestate on your farm look like exactly? In this example, a farm has no access to manure but a liquid digestate product from a nearby industrial biogas plant is available to local farms. The farmer's prior experience with the digestate product is that when used as an organic fertilizer, it produces good results and is an economical source of crop nutrients. Let's dive in.



This guide is ideal for farmers who...

- Have no access to animal manure
- Have liquid digestate available
- Have corn in their growing rotation

On-farm example: Field stats



Soil type: Maplewood silt loam



Rotation: corn, soybeans (yield goal 200, 55 bu/acre respectively)



Application: Scheduled for mid-April ahead of planting corn crop



Soil test: 22 P; 125 K; pH 6.7



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Seasonal Activities

Fall	Spring	Fall
<ul style="list-style-type: none"> • Harvest soybeans 	<ul style="list-style-type: none"> • Apply digestate • Plant corn 	<ul style="list-style-type: none"> • Harvest corn

Digestate is applied as an organic fertilizer to supply available N, P and K to a growing corn crop. Digestate is broadcast applied by a custom applicator.

Benefits

- ✓ Digestate is high in readily available nitrogen and is best applied into growing crops or as close to planting crops as possible to maximize nitrogen use efficiency. Even with available N from digestate, some nitrogen should come from inorganic sources to ensure early crop needs are met, and to prevent over application of phosphorus or potassium.
- ✓ This timing for digestate is also favourable for organic systems where the crop relies on readily available nitrogen, and where N sources from solid manure often are not available when crop needs are highest.

Watchouts

- ⚠ Prolonged wet conditions could result in application into wet soils and increasing compaction damage, and lead to a delay in planting corn during ideal dates.
- ⚠ Digestate has a high proportion of ammonium N and in most scenarios, it has high pH. Warm and wet spring weather conditions at the time of, and from application to incorporation, could result in higher nitrogen losses (denitrification, nitrous oxide).

For more detailed information on nutrient application and calculations refer to pages 89-92 of the [Canadian Digestate Management Guide](#).

Ready to get started?

Connect with digestate producers near you!

There's no one place to find digestate. To source a supplier near you, CBA recommends contacting a biogas plant in your region and asking them directly. You can find a list of projects at biogasassociation.ca and check out their member list for potential suppliers.

TIP! Ask your custom applicator and your agronomist to see if they have a lead on local digestate.

The biogas & RNG industry is growing rapidly. Keep your ear to the ground as more digestate sources will become available through the growing network of producers.

Discover biogas for your farm!

If you're exploring biogas for the first time, or if you're ready to plan a facility for your farm, farmingbiogas.ca is the go-to source for agricultural biogas information and connections in Canada.



The Canadian Biogas Association is a member-driven industry organization that supports the diverse needs of the biogas and renewable natural gas (RNG) sector with the goal of building a strong, robust biogas & RNG industry in Canada. We represent companies that span the interests of biogas & RNG production. By working with the agricultural sector we can strengthen both industries by maximizing the utilization of organics, such as manure and food waste to produce renewable energy and fertilizer.

Check out these resources to get started!



Is biogas & RNG a fit for your farm?

Take the [online self-assessment tool](#) to start exploring if it's a fit for you.



Meet the farmers fueling Canada's clean energy

Learn how three Canadian farmers use anaerobic digesters on their farms.



Want to learn more?
farmingbiogas.ca

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