

# IN-VESSEL MANURE COMPOSTING

Applying composted manure to your fields can improve soil health, increase yields and support carbon sequestration. You can add to these benefits by using an in-vessel system to speed up the composting process and reduce emissions from manure storage. These mechanical systems are designed to minimize odour and process time by controlling environmental conditions such as airflow, temperature and oxygen concentration. Composted manure is lighter, easier to handle and free of weed seeds and germs, which can reduce labour costs.

## Implementation Tips

- Install equipment to separate manure (see previous BMP).
- Compost solid manure using an in-vessel composting system.

## Resources

- **Factsheet:** In vessel composting ([dfc-plc.info/IVMC1](https://dfc-plc.info/IVMC1))
- **Research study:** Guest, G., Smith, W., Grant, B., VanderZaag, A., Desjardins, R., McConkey, B., 2017. A comparative life cycle assessment highlighting the trade-offs of a liquid manure separator-composter in a Canadian dairy farm system. *Journal of Cleaner Production* 143, 824-835. ([dfc-plc.info/IVMC2](https://dfc-plc.info/IVMC2))
- **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/IVMC3](https://dfc-plc.info/IVMC3))

## Benefits



Reduced GHG emissions



**Estimated return on investment**

Low



**On-farm emission mitigation potential +++**

Researchers at [Agriculture and Agri-Food Canada](#) conducted a comparative life cycle assessment based on a dairy farm located in Ontario that recently adopted an active composting system that incorporated a screw-press solids/liquids separator prior to in-vessel composting.

Results indicated that the active composter system on this farm

**REDUCED THE CARBON FOOTPRINT OF MILK PRODUCTION BY**

**36%**



Photo credit: Progressive Dairy