

SEPARATING SOLIDS AND LIQUIDS

Separating manure into the solid and liquid portions offers many advantages, including reducing greenhouse gas emissions. Using gravity or mechanical systems, like composting or anaerobic digestion manure can be separated to increase efficiencies in time and energy use, like fuel for manure handling and transportation. Manure separation can also increase flexibility in managing manure nutrients. Solid-liquid separation can reduce greenhouse gas emissions and odours from liquid manure storage, especially when combined with anaerobic digestion.


Implementation Tips


- Access equipment to separate manure that is complementary to your manure management system (e.g., settling basins, inclined or vibrating screens, belt or screw presses).
- Consider the amount of water in the manure as this will determine the amount of separation already taking place (low moisture results in lower separation and high moisture results in higher separation).
- The timing of solid-liquid separation is dependent on the objectives of your manure handling and storage systems.



Benefits

 Reduced GHG emissions

 **Estimated return on investment**
Low

 **On-farm emission mitigation potential +**

Resources

- **Factsheet:** Solid-Liquid Separation of Manure and Effects on Greenhouse Gas and Ammonia Emissions, University of Wisconsin Extension (dfc-plc.info/SSL1)
- **Webpage:** Solid-Liquid Manure Separation, Livestock and Poultry Environmental Learning Community (dfc-plc.info/SSL2)
- **Research study:** Garcia, M.C., Szogi, A.A., Vanotti, M.B., Chastain, J.P., Millner, P.D. 2009. Enhanced solid-liquid separation of dairy manure with natural flocculants. *Bioresource Technology* 100:22, 5417-5423. (dfc-plc.info/SSL3)
- **Research study:** Aguirre-Villegas, H.A., Larson, R.A., Sharara, M.A. 2019. Anaerobic digestion, solid-liquid separation, and drying of dairy manure: Measuring constituents and modeling emission. *Science of The Total Environment* 696, 134059. (dfc-plc.info/SSL4)