# E3A: Anaerobic Digester Applications for the Farm or Ranch

## Steps in the Anaerobic Digester Series



## Maintaining your anaerobic digester

*Photo credit: Northern Rocky Mountain RC&D.*

Operation of an anaerobic digester requires more maintenance than other manure management practices. Installation of an anaerobic digester may require one or two additional employees for routine maintenance, depending on the size of the operation. Be prepared to meet additional maintenance requirements if you are considering an anaerobic digester system. You can expect to perform these common maintenance activities at the intervals in parentheses:

- Sludge removal (every one to two years) — An anaerobic digester system must be cleaned of excess sludge. In well-designed systems, this is performed automatically with little downtime. Other designs require manual removal of waste.
- Pump clearing (every three to six months) — When pumping waste with high solids content, ensure that pumps are regularly cleared of debris. Items such as cow tails, sand, work tools and other inorganic substances can clog pumps, hindering operation of the digester.
- Iron packing replacement (every six to 12 months) — Remove the corrosive hydrogen sulfide compounds to avoid having to replace your engine if biogas collected from the digesters is being refined and used for electricity generation. This can be done by passing the biogas through iron packing material, which should be replaced, at most, every 12 months.
- General engine inspection (weekly) — As with your car, the generator producing electricity from the anaerobic digester must be inspected for proper fluid levels.
- Preventative engine maintenance (monthly) — Electrical, fuel and air intake systems must also be inspected for each of the generator sets.
- Valve leak checks (every six to 12 months) — To avoid safety hazards, the digester's valves should be checked for leaks once or twice a year. Malfunctioning valves should be replaced as soon as possible.
- Pipe leak checks (every six to 12 months) — Pipes must be checked for leaks at least once a year. Ensure that no open flames are anywhere near inflow or outflow pipelines.
- Fittings leak checks (every six to 12 months) — Any nonmetal fitting, such as ducted vents, plastic valves and rubber fittings, on the gas or waste pipeline must be inspected. Startup processes should be detailed along with any problems, design and fine-tuning that will be needed.

There may be additional maintenance activities required that are specific to the system in place. Discuss maintenance requirements with your technology provider to ensure that your maintenance plan is adequate. Proper maintenance of your anaerobic digester and related components will extend the life of the system and save money in the long term. The success of an anaerobic digester operation depends on routine maintenance activities.

## Notes

Original work created by Montana State University Extension and the University of Wyoming.
Adapted with permission by University of Missouri Extension.

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New 12/14/POD