ADMC Agricultural Drainage Management Coalition

FACT SHEET

Bioreactor

ABOUT

Bioreactors divert a portion of tile flow to an underground bed of wood chips. The wood chips provide a carbon source that spurs denitrification. The wood chips last 10 - 15 years before needing to be replaced. Bioreactors are suitable for tiles with consistent flow and known high nitrate concentration.

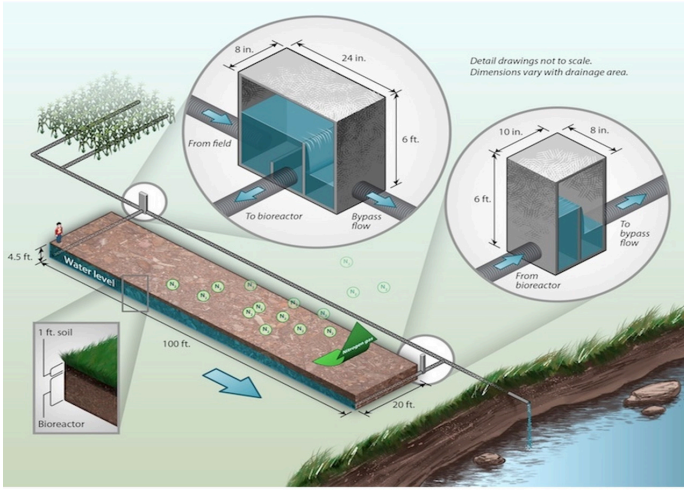


Image courtesy of ISU Extension, John Peterson

Bioreactor Schematic

BASICS

Site requirements

Generally operate on drainage systems with 6-12 inch mains, but can work with larger systems than saturated buffers.

- Can be inline or near an outlet
- Perform best in sites without a high water table
- Wood chip bed depth matches the mainline depth

Footprint

Approximate size is 100 feet long by 20 feet wide, with 1 or 2 control structures above the ground.

Performance

- 24% average nitrate reduction

Maintenance

Stop log depth may need to be adjusted during the season depending on the site. It is best to remove all stop logs from the outlet control structure when tile flow stops. The wood chips may need replacement in 10-15 years.

[NRCS CPS 605 Denitrifying Bioreactor]

24% Average nitrate-N load reduction

Installation cost range from $15,000-$20,000

- Water quality
- Fits many locations

INTERACT WITH ADMC

515-291-2350
kkult@admcoalition.com

For more information visit us at www.admcoalition.com