

Lagoons: Operation and Maintenance

Part One of a Three Part Series

Approximately 80% of Nebraska's wastewater is handled using lagoon systems. It would only make sense that the majority of the questions I am asked have something to do with lagoon management. I have categorized the most frequently asked questions into three specific areas: Operation and Maintenance, Flow Measurement Types and Sampling. I will be taking this and my next two articles to address each category separately.

The largest number of questions I am asked has to do with the Operation and Maintenance of lagoon management. The following check list should help to get you focused in the right direction when looking at overall operation and maintenance of your lagoons:

- 1) Have you taken care of your lagoons? What do they look like from a visitor/government official's point of view?
First impression is a lasting impression, keep the grass/weeds mowed down and have a clean looking outer appearance.
- 2) How often should I check my lagoons?
I would suggest everyday but that is sometimes nearly impossible. At a minimum I would say at least once a week.
- 3) What should I be looking for?
Ask yourself the following questions when investigating lagoon operations:
 - a) Is sewage flowing into your lagoons?
If it is not, check for the following things:
 1. see if you are getting flow into lagoons (piping may be plugged)
 2. look for residential system back ups
 3. look for flooded manholes
 - b) Is your freeboard a safe distance to prevent erosion?
If lagoon level is too high, release to secondary lagoon (if available). If you do not have a secondary, lagoon consider discharging by either irrigation or by permit.
 - c) Are there "Critter" holes in the lagoon dike?
Burrowing animals could cause serious leakage tunnels, which are not easily seen. You should trap the animals and then fill the holes with bentonite.
 - d) Is there vegetation on lagoons ie: cattails, duckweed and tree seedlings?
Vegetation will also cause damage to your clay seal of the bottom of your lagoon. If duckweed becomes prevalent, it will choke off the sunlight and cause your lagoons to not work properly.

4) How do I take care of the inside berm of the lagoon when mowing it is impossible?

Spraying would be the alternative, I would suggest using your county extension agent or county weed authority office to select the proper product. Make sure the product soluble in water. "Round-up" is usually a good stand-by.

5) Lift Station?

Lift Station(s) should be checked daily. Pump meter reading should be read daily, this will help diagnose problems: such as pump malfunctions, inflow and infiltration problems and hopefully prevent sewer backups.

I hope this helps you on the Operation and Maintenance of your lagoon system. In my next article, I will explore flow measurement types for lagoons. Until then, if you have any questions as always, give me a call at (402) 443-5216.