



More from Every Acre, Animal & Gallon of Manure

Mlsna East Town Dairy Cashton, WI

Friendshuh Farms consists of 900 dairy cows with a flush water system that constantly flows through the barns to collect manure, which is later pumped out to their lagoon. The storage system on this farm consists of a concrete-lined outdoor lagoon with a capacity of approximately seven million gallons. This lagoon is completely emptied twice per year, which means that manure is only in the lagoon for a total of six months at any given time.

Manure treatment started May 12, 2017, for several reasons: better odor control, solids reduction, better consistency during pump-out and better agronomic value (i.e. better nutrient retention and reduced salt content). Since odor control was one of the main objectives during this treatment period, it was decided that treatment would occur on a weekly basis by treating the flush water to reduce some of the odors present in the barn.

After the first couple months of treatment the owner called to inform me that a crust was beginning to form. He was concerned since he has never had a crust form before and wanted to make sure it was normal. I assured him it was one of the typical processes when manure pits contain a fair amount of solids on the bottom.

Upon arrival at the farm, it was evident that the odors had already been reduced after only two months of treatment. Once we got to the lagoon, it was clear that the top crust was a definite result of the bacteria working on the solids in the bottom of the lagoon. The entire lagoon looked like a hot tub with the bubbling jets! The owner said that every morning he was able to see the bubbles overtake the lagoon. This was a very good sign that the lagoon was becoming biologically active and things were headed in the right direction. This was exactly what we had expected, and the crust was a normal part of the process.

As the summer progressed, the owner and I communicated about the condition in the lagoon and each time he said odor control was better as was the biological activity in the lagoon itself. In October, and after the corn silage was harvested, it was time for pump-out. The owner hired a custom operator to agitate and pump the manure through draglines to inject the manure in

the fields. After a few days of pumping the manure, it was obvious to both the owner and the custom manure operator that this manure was different from last year.

Both individuals noted that the agitation boat was not removing any solids from the bottom like it had a year ago. I explained to them that the crust that had formed earlier was likely from all of the solids that were on the bottom and had floated to the top to form that crust. This was evident by looking at the sidewalls of the lagoon – there was nothing on them. The concrete was free from any solids remaining on them, which would otherwise have to be scraped off after pumping.

Both the owner and operator also noted that the consistency of the manure seemed to be very uniform compared to past years. The first couple days were similar to the last few days, meaning that they weren't getting mostly water at the beginning of pump-out and mainly solids at the end. In addition to this, the pump operator noted that this was one of the least odorous lagoons that they have pumped out during the 2017 season.

Overall, the farm owner was very happy with how the manure treatment worked this year, especially since it only had six months to work. He plans to track any yield difference of the crops grown on the acres that were covered with the treated manure next year.

