

Importance of Keeping Sufficient Top Water on Lagoon During Pumping Process

There is a myth floating around the Dairy industry that you need to pump off all the top water before your custom manure pumper arrives. The rationale is that you do not want to pay for pumping water that you can easily pump off through your irrigation pivots.

While it is true, you can pump your top water very cost effectively through irrigation, however, removing too much water off before pumping will cost you more in the long run. Here are the reasons why:

- 1) **You need at least 3 feet of top water** to float the agitation boat. The agitation boat is the best advancement in the pumping industry as it allows the pumpers to agitate the solids throughout the lagoon without having to mess up your lagoon banks by moving around the lagoon with their traditional stick agitators. It also allows them to move the solids in the middle of the lagoon that were often unreachable before.
- 2) **Pumpers cannot cost effectively pump only manure solids** without water. It takes water to thin out or make the solids pumpable. Solids by themselves are often 20% to 50% solid content. While this sounds like you still have 50-80% water the result is only thick hard to pump mud like product. *As an example: Ketchup is 10% solids; and everyone knows how hard it is to get ketchup to flow out of the bottle.*

Manure solids at a high percent of solids does not allow the solids to flow or even be pumpable. The ideal pumping percentage is between 12% to 14%. If the solids are higher than that they stack up and do not effectively flow to the pump. The rule of thumb is it takes equal amounts of water to solids ratio to effectively pump them.

- 3) **Friction Loss:** In addition, the sludge at high solid levels create very high friction loss in the hoses and pumps and it takes more pumps with high horse power with tremendous amount of fuel to move heavy solids. The net result is you will pay more in your pumping bill. This is why manure slurry with high solids cost more.
- 4) **Progressively Pump Solid Levels Around:** If there is no water on top of the sludge then LPD will create a pocket in one spot and continually add water as they gradually agitate the solids around this pocket to keep the pumped slurry at or around the 12% levels. If a producer is not totally pumping the lagoon this will leave high solid levels outside the area that is being agitated and pumped.
- 5) **Overall Pump Solids Levels Down:** With this method LPD continually brings in additional water to allow 3' of water on top of the solid level. Then LPD will continually agitate the whole lagoon to keep the solid levels at an even height. The slurry is drawn off the bottom so the heaviest solids are pumped throughout the pumping process. If a producer is not pumping the whole lagoon this will leave the solid levels at an even level, significantly lower than when started. This is the most desirable method as long as there is lagoon capacity to hold 3' of top water.

- 6) **Lagoon Pumping & Dredging quotes:** LPD provides realistic quotes that will provide no financial surprises for you. When lagoons that are full of solids they will quote pumping at 12-14% prices provided they have sufficient water available to thin out the manure slurry to the 12% level. As long as water is available LPD can add water as needed to keep the manure slurry moving. LPD charges \$135 per hour to transfer water from one lagoon to another.
- 7) **You pay for only the solids that are pumped:** A producer does not have to worry about LPD pumping only water. You will only pay for the manure slurry at the solid level pumped. LPD takes samples every 40 acres and they will only charge you for the gallons at the solid level pumped.
- 8) **12% solids Guarantee:** If you have sufficient water available LPD will guarantee that they will not charge you for more than 12% solids pumped. At the end of the pumping job a spread sheet showing the gallons and solids levels delivered to each field will be produced. If LPD pumped less than 12% in a field you will get a credit for the price difference for that field. If LPD pumps more than 12% solids then the price you might have paid is shown. At the end of the job all the credits and amounts you might have paid are added up. If you have a credit coming then LPD will issue you a credit you can take off the bill. If LPD pumped more solids and there is a balance you should have paid above the 12% levels they will write that off and you don't have to pay anything over the 12% solid level price.
- 9) **The bottom line is:** Please leave the top water on the lagoon. If there is more top water than initially needed, LPD will transfer off the extra to another lagoon and bring it back as they need it. If you prematurely pump it off you will pay higher prices for your pumping. It is less expensive for you to let LPD manage the water levels than trying to over think the situation feeling you are saving money, in reality it will cost you more.
- 10) **The best way to manage your pumping budget:** The best way is to give LPD your maximum pumping budget and they will not exceed that amount. Lagoon Pumping & Dredging can: **A)** Pump to your budget, **B)** Pump to complete the fields desired, or **C)** Pump until the lagoon is empty. The option is your choice, just let us know.

It is better to pump a little manure slurry every year than to over spend in one year and cause financial hardships for your Dairy. It is easier to manage your dairy budget if you do a little every year vs. waiting until the manure solid levels are critical and have to bear the whole expense in one years budget.

Let us know your annual manure management budget and LPD can work out a plan that is workable for you. We can put you on a yearly or every other year pumping schedule to remove or pump so many gallons or dollars worth of manure.

You might also want to consider having your pumping done on fallow ground, dry land corners, after winter wheat harvest, or after chopping your wet corn silage. LPD offers off-season discounts for any pumping done from June 15th through September 1st.