Managing Manure

By Julie Berry

Drag hose manure application

Conversion to drag hose manure application has increased people and fertilizer efficiency, as well as reducing soil compaction at Mulligan Farm.

The 1,200 cow dairy in Avon, NY made the switch six years ago. Sand bedding and a sand separator are used in the farm's freestalls.

There were many reasons to get away from spreaders, said the farm's owner Jeff Mulligan.

1. The spreader was worn out.
2. Time spent on the road, to and from fields.
3. Compaction and overall field damage.
4. Every one dreaded the drudgery of a month of hauling manure.
5. Timeliness and the ability to start earlier because the weight of the tractor and hose is less than the spreaders.
6. Sand flushing takes more water, so hauling takes longer. More manure can be applied per acre when injected as there is no runoff.

"Happy? No one would go back to spreaders," Mulligan said. "It is hard to move 15 to 18 million gallons with spreaders. One important factor is a large block of land or the ability to haul with trucks to a 'frac' tank where it can then be pumped through a hose. We are very satisfied with the system."

Increase efficiency and reduce compaction with a drag hose.

His nephew, Forrest Watson, who is head mechanic and co-manager of field operations, agrees.

"It's very useful. We can accomplish more per day. We can spread more per hour," he said. "We previously had two liquid tankers and approximately applied 24,000 gallons/hour with two tankers and two people. Now we spread around 50,000 gallons/hour and it takes 1.5 people; one to operate the tractor and one part-time to move the hose."

Even with neighbors to learn from, the switch did bring frustration, but the system now operates smoothly.

"If you have the right people it's not too bad. We had a solid week of frustration and we were trained by our neighbors who had this system before us. The biggest thing is knowing how to move the hose without damage," Watson said.

The system is a win for farm management and neighbor relations. Less mud and traffic are on the roads. When combined with incorporation into the soil, compaction and fertilizer use are "significantly" reduced. Smell is reduced and dissipates more quickly. Minimum zone tillage reduces turning of the soil. Spreading near tile lines is avoided to reduce runoff. Additionally, filter strips seeded with alfalfa are used near waterways. The farm also plans timing of spreading and does not spread before rainstorms to reduce potential for runoff.

The farm upgraded their tractor to pull the hose reel, which holds one mile of hose.

"We learned how to set up the hose in the field to be the most efficient so we don't have to move it as much," he said. "At the end of the day we have accomplished more with this system."

Watson's tips:

- Make sure your tractor is sized to pull the equipment and hose when full.
- With a rectangular field, lay the hose diagonally across the longest distance, and then drag the hose in a serpentine pattern.
- Pump manure from the lagoon at a slow rate. Use a constant flow of 1,000 gallons per minutes.
- Have an open-ended system so if there is a plug the hose doesn't rupture.
- Use a pulley to straighten the hose and use tight loops so the hose doesn't roll.
- Don't move the supply hose.
- Clean lines with an air compressor.
- Clean the hose every night if temperature is below 25 degrees. ❐

Drag hose equipment in operation at Mulligan Farm.

Julie Berry is editor of The Manager for PRO-DAIRY.