

# Emergency Milk Disposal

## Situation:

- There may be instances such as limited markets, limited processing capacity, milk quality violations or other factors that may force some dairy operations to dispose of milk.
- The items listed below are suggested solutions, the options chosen for a given operation will vary based on the farm's situation, state regulations and other requirements.

## Options:

### **Disposing in on-site waste storage systems:**

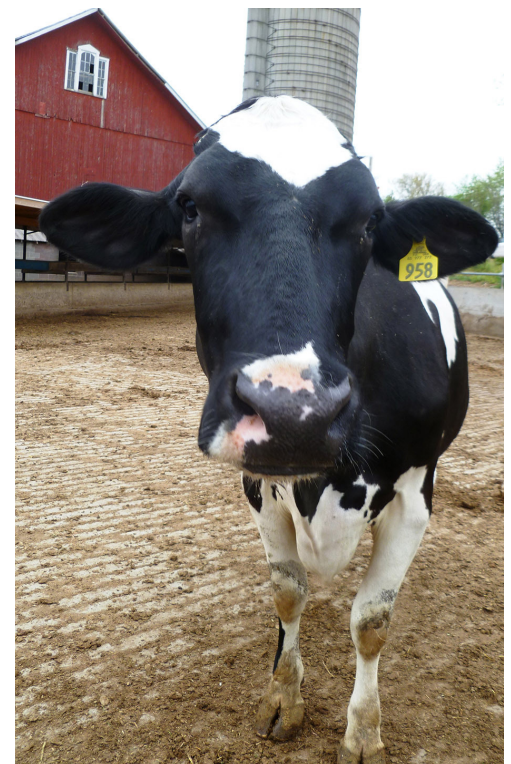
- If available, milk should be disposed in an existing waste storage facility. This will allow for proper planning and provide additional time to land apply.

### ***Exceptions:***

- Dairy operations that recycle sand bedding should not add milk to any part of the of the closed-loop or recycling wastewater system. Milk solids can adversely affect separation and curing time. Producers should only add to storages not associated with the recycling process. However, if no other options exist the producer should be aware of the potential negative affects to the sand separation process.
- Milk should not be added to under building manure storage facilities. Milk waste has the potential to generate deadly gases. These gases, combined with odors, is detrimental to animal and human health.
- Milk can be mixed with manure storage effluent reducing the BOD levels and potentially some odors associated with the milk.
- Placing dumped milk in a waste storage facility will reduce waste storage capacity. Land application times may need to be adjusted to account for reduced storage. Producers should not exceed the design capacity of waste storage facilities.
- Producers should document the amount of milk waste added to storage.

### **Disposing in an anaerobic digester (AD):** Milk can potentially be added to an anaerobic digester (AD).

- Prior to adding milk, contact the digester manufacturer for recommended rates to reduce the impact on the microbial community and digester performance.
- The milk sugar content may increase biogas production.
- Digestion can reduce the odor potential of the milk.
- The high fat content of milk may result in the solidification of fats.
- Adding milk slowly over time may allow microbial populations to adapt.
- There is minimal to no nutrient reduction as a result of anaerobic digestion (i.e. nutrients in equal nutrient out).
- Digested material must still be land applied, treated or stored.



### **Applying it on land:**

- Producers should follow the nutrient management plan (590) to determine the best places to apply the milk.
- If available, producers should contact their nutrient management specialist or crop advisor associated with the farming operation for guidance on land applying wasted milk.
- Milk contains a higher nutrient content than manure.
- The typical nutrient value for milk is: 45 lbs. N, 18 lbs. P<sub>2</sub>O<sub>5</sub>, and 15 lbs. K<sub>2</sub>O per 1,000 gallons. For example, applying 4,500 gallons of raw milk per acre will provide about 200 pounds of N, 81 pounds of P<sub>2</sub>O<sub>5</sub> and 67 pounds of K<sub>2</sub>O.
- If possible, it is preferable to mix milk with manure prior to land application.
- The producers should apply based on crop needs and at least 100 feet from streams, wetlands, and/or sinkholes.
- Producers should not over apply, causing leaching or runoff.
- Due to the potential odor from land applied milk, the producer should locate application fields as far from neighbors and businesses as possible.
- Date, volume and location milk was land applied should be recorded.
- All nitrogen and phosphorus are considered plant available.
- Milk should be applied uniformly across a field to ensure even distribution of nutrients.
- When possible, inject or incorporate milk to reduce odor and runoff potential.
- Solids in the milk may buildup in hoses, valves and pipes on land application equipment. Rinse/flush equipment to reduce plugging.
- Milk should not be applied to Vegetated treatment areas (VTA) or added to a septic system. The milk solids and BOD are detrimental to the performance of these systems. Odors can also be an issue.
- Land application should not occur prior to rainfall events to reduce runoff and leaching potential.

### **Incorporating milk into feed:** Milk can be utilized as an animal feed.

- A permit is needed from the PA Department of Agriculture to distribute milk as animal feed (sale and labeling). Use may be limited to on-farm only.
- Animal performance may be due to dietary change from feeding milk. Sudden changes in diet may result in changes in manure consistency and impact the manure management system.
- Biosecurity and sanitation protocols should be maintained with regard to handling of milk as feed.