



## Operation & Maintenance Plan Wastewater Treatment (Code 629)

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Landowner/Operator:

Date:

NRCS Service Center:

Conservation District:

Practice Location:

Tract/Field ID:

(Lat/Long or UTM Coord, or Sec/TS/R)

### Expected Lifespan

The minimum expected lifespan of this practice is at least 10 years.

A properly operated and maintained **Silage Leachate Containment System** practice is an asset to your property. This practice was designed and installed to properly manage the leachate and runoff that flows from your bunk or tower silo. Other practices installed to collect, treat and/or store silage leachate shall also be properly operated and maintained to minimize water quality degradation. The life can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. The following are some requirements to help you develop a good operation and maintenance program.

### **Operation and Maintenance**

- To minimize the volume of leachate that is produced from the silo:
  - Haylage and silage should be harvested at the proper moisture content. Moisture content of 65 to 70% is recommended.
  - When possible cut haylage/silage in dry weather.
  - Keep cutting blades sharp.
  - The silage should be thoroughly and properly compacted as it is loaded into the silo. This will also minimize spoilage.
  - Eliminate ground and surface water sources that can infiltrate the haylage/silage pile.
  - Cover haylage/silage before rain events.
  - Maintain a vertical face to keep precipitation exposure with the haylage/silage to a minimum.
  - Keep the loading area and unused floor of the bunk silo clean of spilled and/or spoiled haylage/silage.
  - Place absorbent material such as dry hay in strategic locations to minimize ponding of water and the flow of leachate from leaving the silo.
- Bunk silos must be covered with plastic or other impervious membrane to prevent rainfall from soaking into the haylage/silage and producing a continual flow of leachate. This will also minimize spoilage. Plastic shall be properly weighted down to prevent it from being torn and blown away. Exposure of silage in the silo to the weather should be minimized. Only remove as much plastic as needed to gain access to silage needed for feed. If some or all of the plastic is torn or blown off the top of the silo, it should be replaced as soon as possible.
- Spoiled silage shall not be store in the bunk silo for more than one week. Spoiled silage must be hauled to a waste storage facility, properly field stacked, or land applied in accordance to the nutrient management plan. Spoiled silage can be used for compost at a proper location.
- The screen to the silage leachate collection system shall be cleaned after each rainfall runoff event. The settling basin shall be cleaned out after each rainfall runoff event.
- Grassed buffer or waterway shall be carefully maintained. Grass shall not be allowed to grow more than six inches tall. Bare spots shall be reseeded and mulched as soon as possible. Obstructions and the accumulation of sediment and debris shall be removed as soon as possible.

- If pumps are installed, inspect them on a monthly basis to insure they are working properly. A warning light should be installed at the pump station to let people know that the pump is not working properly. Leachate shall be pumped to an approved waste storage system or reception pit.
- Concentrated silage leachate mixed with manure slurry can accelerate the release of hydrogen sulfate gas. Therefore, only add silage leachate to waste storage facilities that are open to the air or well ventilated.
- Concentrated silage leachate may be directly land applied at the rates specified in the nutrient management plan. Land application near sinkholes, exposed or shallow bedrock and extremely gravelly or sandy soils should be avoided. Application on frozen, severely compacted, saturated, or steep soils shall also be avoided.
- Feeding silage leachate to livestock not recommended.

### **Inspection and Maintenance**

- All paved areas, including curbs and floor slab, shall be inspected at least twice a year for cracks, spalls or separations. Make repairs as necessary.
- Inspect pre-cast concrete collection tanks for damage and deterioration at least twice a year. Make repairs as necessary.
- Inspect pumps, pipes and other transfer components at least twice per year for leaks, obstructions, faulty performance, etc. Make repairs as necessary.
- Inspect plastic for tears and other problems that could affect the quality of the silage and produce additional leachate. Make repairs as necessary.
- Inspect and clean out the screens and collection basin after every rainfall runoff event. If screen is damaged, repair or replace it as soon as practical. Consider having an extra screen available. Adjust the discharge pipe so the leachate is flowing into the proper transfer pipe.
- Inspected diversions and waterways installed to divert surface water away from the silo at least twice a year. Do not allow grass to grow taller than six inches. Remove obstructions and sediment build up. Reseed and mulch bare areas as soon as possible.
- Inspect tile drains installed to divert ground water away from the silo at least twice a year. Insure that water is flowing from the tile drain. Inspect headwall and rodent guard at the outlet. Replace and repair as necessary.

## **Specific Site Requirements**