
On Farm Silage Storage Guidelines

This document will outline some of the environmental benefits associated with proper silage storage and the design requirements that you must incorporate into your project in order to receive funding. In order to be eligible for assistance under the BMP 1201, Agricultural Product's Safe Storage and Handling, you must be addressing an environmental issue with your current silage storage system.

Areas of Concern

If silage is not handled or stored properly, liquid effluent may escape from the silage storage. Silage contains high concentrations of nutrients and acid that can increase the levels of ammonia, nitrate, and iron present in the water, which negatively affects water quality. Precautions must be taken to ensure liquid silage effluent is effectively contained and cannot impact surface or ground water resources.

Canada Saskatchewan Farm Stewardship Program requirements and design standards:

1. The proposed site should be located more than 30 meters (100 feet) from the nearest surface water and more than 100 meters (330 feet) from a drinking water source.
2. Run-off controls may be required. This will be determined by an evaluation of the proposed site which will look at the storage configuration in relation to local topography and the location of potential water resources. Run-off controls will not be required if the silage storage is designed as a completely self-contained unit such as an oxygen limiting silo.
3. Applicants must submit a desktop survey completed by a qualified professional such as a Regional Engineer from the Agricultural Operations Unit of the Livestock Branch, SK. Ministry of Agriculture to PCAB for all silage storage projects. Please contact your program representative to have them assist you with acquiring a desktop survey.
4. Silage storage and/or containment ponds should NOT be located on top of shallow aquifers. Local well records or test drilling may be used to determine the depth to the aquifer. Storage and/or containment ponds should be located on clay soils where possible.
5. If storage area lining is required, it must be properly lined either with reinforced-coated concrete, geosynthetic or compacted clay.
6. Storage area must be covered with tight leak-proof plastic or other suitable cover. Cover material is necessary to prevent air from entering the silage during storage which will enhance feed quality and reduce spoilage. Covering the material will also limit the amount of liquid effluent generated.
7. All up-slope runoff must be diverted away from the new silage storage.

Additional Considerations:

Below is a list of project siting and design considerations that you should take into account when planning your improved Silage Storage Project:

- An engineered plan that has been prepared by a professional engineer is recommended for any bunker silo that has either a roof; poured in place concrete walls; or walls constructed with wood. The project will not be approved prior to these plans being submitted. Plans are not required if the walls are constructed from pre-engineered prefabricated concrete panels.
- Silage should be shielded from either pressure treated or creosoted wood to eliminate the risk of chemical contamination.
- Silage storage should be located as far as possible from surface water bodies, even when slope is away from surface water or containment ponds are in place.
- Silage storage and/or containment ponds should be located away from natural runoff or drainage channels. Where this is not possible, natural runoff or drainage channels should be diverted away from storage or containment area. Additional permitting may be required.
- The type of and design of silage storage system should be appropriate given the type and size of your current and future operation. Consult your local Saskatchewan Ministry of Agriculture Forage Specialist or contact the Agriculture Knowledge Centre at 1-866-457-2377 for assistance.
- For more information you may also refer to the following Saskatchewan Ministry of Agriculture Fact Sheet: Silage Storage Techniques. Click on the following link:
<http://www.agriculture.gov.sk.ca/adx/aspx/adxGetMedia.aspx?DocID=2146,343,185,81,1,Documents&MediaID=6189&Filename=Silage+Storage+Techniques+-+Printer+Friendly.pdf>