

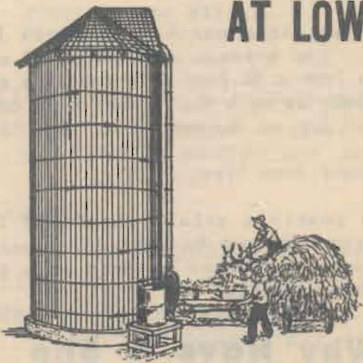
WMSU
 WITHDRAWN
SILAGE

North Dakota College of Agriculture and Forestry
 AUG 17 1942
 LIBRARY

HIGH QUALITY FEED

FOR ANY SEASON

AT LOW COST



**NORTH DAKOTA AGRICULTURAL COLLEGE
 EXTENSION SERVICE
 E. J. HASLERUD, Director
 Fargo, North Dakota**

WHY SILAGE

Silage is one of the most important feeds on livestock farms because:

1. Furnishes high quality succulent feed for any season of the year at low cost.
2. It is the nearest substitute for grass during the winter season, and during the hot, dry months of summer.
3. Less loss in harvesting and storage, compared with cured roughages.
4. Less waste in feeding.
5. Crops may be ensiled when the weather does not permit curing into fodder or hay.
6. Weedy or stemmy crops make poor hay but may make fair silage.
7. More nutrients can be stored in less space. (An average cubic foot of corn silage from a 30-foot silo contains over 2.5 times as much dry matter as a cubic foot of hay in the mow.)
8. No danger from fire.
9. Makes possible establishment of feed reserves that can be kept for a period of a year or longer without much loss in feeding value.

Why Have A Silo

An abundance of feed is a necessity.

Silage may be stored in silos 5 to 15 years with less than 10 to 15 percent spoilage.

Any kind of surplus roughage is suitable for silage.

SILAGE

High Quality Succulent Feed -- Any Season At Low Cost

Crops For Silage

Corn, and sweet and grain sorghums, are perhaps the most common crops ensiled. However, small grains, legumes such as alfalfa and sweet clover, and grasses have been found very satisfactory. If crops other than corn and sorghums are used, it is necessary to employ special methods to insure good silage.

For the greatest feeding value and best silage from the various crops, the following recommendations are listed:

A. Corn should be cut when the kernels are nearly glazed. (At least 75%)

1. If frost appears, cut immediately.
2. Allow bundles to wilt in the field if the corn is green and sappy. Be sure to have enough moisture left to allow thorough packing.
3. Cut the forage into 1/2 to 1 inch lengths for best keeping quality and easier packing.
4. Add water when making silage if moisture cannot be squeezed from the silage with the hand.
5. Spread and pack the silage well to prevent air pockets, which cause spoilage and mold.
6. Bundles may be packed in trench silos with fair success. However, it is very important that the fodder be cut and ensiled without excess wilting and that bundles be packed thoroughly to prevent mold and spoilage. This method should be used only in an emergency.

B. Cane, Sudan grass and sunflowers are satisfactory silage crops and should be

cut when the seed is in the dough and before frost. Cutting and preparing the silage is nearly the same as for corn.

C. Legumes and grasses should be cut at the same stage as when cut for hay.

1. Permit wilting to reduce the moisture to 65 to 68 percent. On a good drying day, 2 hours in the swath should be long enough. In case the crop becomes drier than 65 percent, it can still be ensiled successfully but will require more packing to exclude the air.
2. To insure the keeping quality of the silage, when the weather does not permit wilting in the field, materials like chopped hay or corn and cob meal may be added to absorb the excess moisture. The addition of 100 to 300 pounds of dry hay or 200 to 250 pounds of corn and cob meal per ton of the green crop is recommended. Other grains that might be added as a preservative are ground shelled corn, oats, wheat or barley at the rate of 100 to 150 pounds per ton of green crop. Thirty to 50 pounds of blackstrap molasses per ton of material ensiled are also recommended.
3. Cut the material in 1/4 to 1/2 inch lengths.
4. All silage should be covered with chaff or dense roughage material and be wet down several times the first week after filling. Silage is ready for feeding immediately after the silo is filled, but it takes about two weeks of fermentation to preserve the silage and give it a desirable flavor.
5. Legume silage is about one-fifth heavier than corn silage. Bands should be added to the lower half of silos of light construction to prevent the silo bursting.

ESSENTIALS IN PREPARING GOOD SILAGE

1. Air tight silo.
2. Sharp cutter knives and proper adjustment of knives to shear plate important so that the crop to be ensiled can be cut into short lengths.
3. Proper distribution and packing of material into silo.

Feeding Silage

Silage can be fed to all classes of livestock but is especially desirable for dairy cattle, beef cattle and sheep. The amounts of silage recommended in addition to good hay for the various classes of livestock are as follows:

DAIRY CATTLE

COWS — 25 to 40 pounds depending on:

1. Size — 3 pounds silage for every 100 pounds live weight up to the maximum limit of 40 pounds silage.
2. Production — A cow of low production should be fed more roughage and thus more silage. A high producing cow should be fed more grain and less roughage and silage.
3. Feed silage so it will last until pasture season.

YEARLINGS — 15 to 25 pounds per day.

CALVES — 6 months and over —
8 to 15 pounds per day.

BEEF CATTLE

COWS — 25 to 35 pounds or more per day.

YEARLINGS — 15 to 25 pounds per day.

CALVES — 6 months and over —
8 to 15 pounds per day.

SHEEP

Sheep utilize good bright silage free from mold and freezing, but troubles may occur if the silage is not of high quality.

EWES — 2 to 4 pounds per day.

LAMBS — 4 months and over —
1 to 2 pounds per day.

HORSES

Horses utilize good bright silage free from mold and freezing in limited amounts, but moldy silage is rather poisonous to horses — 8 to 12 pounds of silage for mature horses with roughage are satisfactory.

Types Of Silos

UPRIGHT SILOS

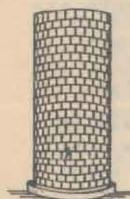
Cement block, tile and wood stave silos are good permanent equipment.

TRENCH SILOS

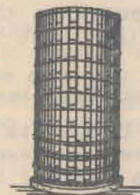
A satisfactory means of storing feed. A well-drained silo in a sandy clay sub-soil gives satisfactory storage. Covers on the trench silo give added convenience. Cementing the walls and floor make a more permanent piece of equipment.

PIT SILOS

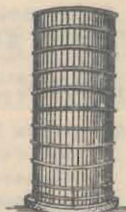
A very satisfactory construction for feed storage. Economical if the walls are plastered. Easy to fill with no freezing encountered. They are not entirely permanent, and the silage is difficult to remove and they require a considerable amount of hand labor to build.



TILE OR BRICK



CONCRETE
STAVE



WOODEN-HOOP



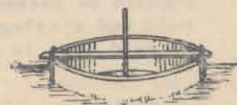
TRENCH



BOX



SISALCRAFT
OR
FENCE TYPE



PIT