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# Hay Crop Silage

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Ten thousand Minnesota farmers made hay crop silage last year. They capitalized on the advantages of ensiling the hay crop. So can you. Here are some of the advantages:

- 1 You can avoid the weather hazard and shorten the job of hay making.
- 2 You can lower your feed costs.
- 3 You can cut and store the hay crop when it has the most feeding value.
- 4 You will lose less dry matter and protein as silage than as hay. The USDA Experiment Station at Beltsville, Maryland, reports that cows fed alfalfa as wilted silage gave 12 per cent more milk per acre than cows on field-cured hay when there was no rain damage and 40 per cent more milk when there was rain damage.
- 5 You can have a good palatable feed to supplement short pastures.



## **What Kind of Silo Do I Need?**

Any silo suitable for corn can be used. Hay crop silage may be heavier than corn. It is best to reinforce the bottom half of old silos—9/16-inch hoops 15 inches apart will do the job. Put in at least 10 feet of silage to prevent excessive spoilage.

**Temporary upright silos** may be used. Be sure they are on level ground and that the silage is evenly distributed.

A satisfactory method of building an upright stack is to use just one section of snow fence or similar container pulled up when not quite half full as the stack is built. Keep the chopped material level with extra packing next to the container. Such a stack can be built to a height equal to its diameter. There is work for two men in such a stack.

**Trench silos** work best in places protected from drifting snow and having good drainage, and when a large amount of silage is fed each day. Be sure to have the feeding end considerably lower than the bottom rear of the trench to aid the run-out of water. Prevent surface water from draining into the trench. Packing is important. The trench should be twice the width of the packing tractor.

**Piling or stacking on the ground** has worked well. Silage can be put near the place of feeding. Pack the material well and make piles at least 10 to 12 feet high. Piles built by driving over are gaining in popularity. Piles are most practical for a large tonnage.

Piles work particularly well for unchopped green material. When packed well from the beginning, trucks or tractors do not dig themselves in as they do on chopped material.

## **What Machinery Do I Need?**

The easiest and most popular way of making hay crop silage is with field choppers and mechanical unloading racks.

If rocks are a problem, a windrower attached to the cutter bar will leave fewer rocks in the windrow than a side-delivery rake. Rolling the hay field early in the spring will help to anchor the rocks.

A heavy-duty push loader will handle small windrows well. Unpacked loads can be pitched fairly easily into a stationary silage cutter or unchopped into a trench or pile.

The buck rake can be used to handle long green hay from either the swath or windrow.

## **When Do I Cut?**

Cut hay for silage at the same time as for ordinary hay. This means: alfalfa 1/10 to 1/4 bloom; medium red, alsike, and mammoth clover at 1/2 to 3/4 bloom; sweet clover when plants start to shoot blossom branches; and grasses when fully headed but before blossoming.

## *When Do I Put the Hay Crop in the Silo?*

In a normal year, chopped alfalfa and clover will make a better-quality silage with no preservative if wilted slightly before ensiling. Legumes put up in a pile need not be wilted. Straight grasses chopped need no wilting. Thus, mixtures will need less wilting than straight legumes. The moisture content of chopped material put in a pile or temporary silo should be a little higher than when put into a permanent silo. In extremely dry weather no wilting may be required.

The moisture content of short chopped material should be between 60 and 70 per cent for the best-quality silage.

If moisture content is too high, silage will have a strong odor. If it is too dry it will mold and heat, resulting in loss in feeding value. You have much more leeway on moisture in silage making than in hay making. It is better to have the moisture too high than too low.

**Here's how you can tell.** Take a handful of the chopped material, shut your hand hard, hold for one-half minute, open your hand slowly. If the material falls apart stem by stem, it is too dry. If it remains in a ball, it is too wet. The material should spring up slowly and fall apart in large chunks and should leave your hand slightly moist. Also, when the blower pipe starts to plug, the material may be getting too dry.

## *Do I Need Preservatives?*

Not when normal moisture content is between 60 and 70 per cent. However, when high-moisture material (wet from rain or heavy dew) or high-moisture standing legumes must be chopped and put in the silo, preservatives are likely to give a more palatable silage. Molasses at 40 to 70 pounds per ton, ground grain or corn and cob meal at about 200 pounds per ton of green material, or sulfur dioxide may be used.

Sulfur dioxide has been effective at the Pennsylvania Experiment Station when the standing hay is chopped directly or when high-moisture hay is not wilted. Material, however, must be fresh to make good sulfur dioxide silage. Five pounds of sulfur dioxide are used per ton of green material applied at four-foot levels.

You can figure the weight of the green material by multiplying the cubic feet in the load by 25 if the load is well settled or by 20 if loose.

## *How Fine Should Hay Be Chopped?*

When the moisture is 60 to 70 per cent, chop as short as possible. There will be less spoilage, more feed can be stored in a given space, and the silage can be handled more easily.

## *Is a Man Needed in the Silo?*

Many permanent upright silos are filled with no one working inside. There are advantages, however, of having help in the top half, especially when the silo is filled slowly. More feed can be put in at one filling; material can be kept level and will settle more uniformly with less chance of moldy spots; silage can be removed more easily if kept level during filling; and spoilage is reduced if the top is level or slightly higher next to the wall.

In a temporary silo one man (sometimes two) is needed to keep the material level and well packed. A high-anchored blower pipe with distributor pipes cuts down labor needs. An elevator, although slower, works well for filling a temporary upright silo or stack.

Extra care is needed to pack the silage in a trench silo. A horse or a tractor will do the best job after hand leveling.

## *After Filling, What?*

Hay crop silage settles more slowly than corn silage and pulls away more from the silo wall. To reduce spoilage, tramp daily for a week—with special care around the outside—and sprinkle the silage surface.

Old fertilizer bags overlapped or tough paper placed over the silage and covered with 4 to 6 inches of very wet material well packed will save feed.

## *What About Feeding?*

Legume silage has about the same relation to legume hay as corn silage has to corn fodder. It has about the same total nutrient value as corn silage but is three to four times higher in protein. Roughly, 3 pounds of alfalfa silage equal 1 pound of hay cut at the same time. The value of silage as feed, of course, depends on such things as the crop put in and time of cutting.

Hay crop silage can be fed to cattle in any quantity available to replace pasture, corn silage, or most of the hay. It is especially valuable as a midsummer pasture supplement since it has much the same feed value as good pasture.

It has a great advantage over corn silage for summer feeding because it doesn't spoil as quickly and much less must be removed daily to avoid spoilage.

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