9-1950

CC110 Questions and Answers on Silage
Making Silage

Question. What is the proper stage of growth of corn for the best silage?

Answer. The best corn silage is made when about 50 percent of the kernels are dented. The yield of total digestible nutrients per acre is higher when corn is a little more mature but the Vitamin A content is a little less.

Question. What is the proper stage of growth of forage sorghums for the best silage?

Answer. Forage sorghums make the best silage when the seeds are in the milk or very early dough stage. This is after the plant blossoms and before the seeds are hard or firm.

Question. How many pounds of total digestible nutrients can I harvest per acre from corn without ears, at dough stage, and from corn at silage stage?

Answer. Approximately 1800 pounds of total digestible nutrients per acre from corn without ears at tassel stage; 3600 pounds total digestible nutrients at dough stage; and 6500 pounds total digestible nutrients at silage stage.

Question. What happens to corn when put in silo that causes it to keep?

Answer. When the green forage is chopped and placed into a silo, the plant cells begin to respire (breathe) and use up the available oxygen and give off carbonic acid gas. Acid-forming bacteria begin to multiply. These bacteria attack the sugars in the green forage and produce organic acids. When sufficient acid has been produced, the fermentation process ceases and very little chemical or bacterial action will take place until the silo is opened.
Question. What is the best method of harvesting corn for silage?

Answer. The least manual labor, and usually the smallest crew, is required where a field cutter is used to chop the silage before transportation to the silo.

Question. Is there any definite length recommended for the cutting of corn or sorghums for silage?

Answer. No definite length is recommended. Short cuts of one-half to three-fourths of an inch will permit better packing of the silage, and should generally give more and better silage. However, longer cuts permit faster handling of the crop through the cutter.

Question. What is the cost per acre of harvesting corn for silage?

Answer. Using a field cutter, assuming all equipment was owned and all labor was by exchange with neighbors, actual money outlay for fuel, lubricants, and repairs might be as low as $2.00 per acre. However, if allowance were made for taxes, interest on investment, depreciation, wages for all labor, and other miscellaneous items, the total cost would probably be $12.00 or more per acre.

Question. How many tons of corn or sorghum can be cut in an hour with a single-row cutter, with a two-row cutter?

Answer. The amount of silage cut will, of course, depend on equipment and crew available. With all necessary help, a one-row cutter may handle 10 tons per hour, a two-row cutter, 16 to 20 tons per hour.

Question. How much will it cost to have corn custom-cut for silage?
Answer. If a field cutter, with operator, were hired, and other equipment and labor were furnished by the farmer, a reasonable charge would appear to be around $6.00 per acre. If all equipment and labor were hired, the charge might be $12.00 to $15.00 per acre.

Question. Can silage be stored in temporary structures? If so, what type of structures can be used?

Answer. Silage can be successfully stored in any structure which will exclude air. The three most common temporary silos are: the trench, crib or snow-fence and paper, and the baled-straw silos.

Question. About how many cubic feet are required in a silo for a ton of silage?

Answer. If silage is well packed in a comparatively shallow temporary silo, one ton of silage will require 50 to 60 cubic feet of space. In deep pit or upright silos, one ton of silage may require only 40 to 50 cubic feet.

Question. What is the best material with which to cover a trench silo?

Answer. Past observations have shown that dirt placed directly over the silage, with no straw or other material used, will generally give best results.

Question. What can be done with corn frosted before the grain is matured (soft corn) and what is the feeding value of such corn?

Answer. Frosted corn which is immature contains too much moisture for ordinary storage, but if modern drying methods are available the ears may be dried to proper moisture content to prevent spoilage. The entire crop may be ensiled; it may be put in small shocks in the field until it
is fed; or silage may be made from snapped ear corn. If the entire crop is to be ensiled, the forage should be cut and put into the silo as soon as possible. Do not wait until the leaves dry and begin to shatter.

**Question.** What should be done when filling silo to secure minimum spoilage?

**Answer.** Proper packing, to exclude as much air as possible, is very essential. If trench silos are used, spoilage will occur at the bottom if the water table is near the base of the silo.

**Question.** Should water be added to corn silage after the stalks and leaves are frozen?

**Answer.** If the frozen corn forage cannot be ensiled immediately after frost it may be a good idea to add some water to insure proper packing.

**Question.** Should preservatives be used when ensiling corn?

**Answer.** No, a preservative is unnecessary. The important factor is the moisture content. If frozen corn forage is to be used and the moisture content is low, sufficient water should be added for proper packing.

**FEEDING SILAGE**

**Question.** From a feeding standpoint, how does corn silage compare to alfalfa hay?

**Answer.** The value of corn silage varies according to the type of livestock to which it is fed. For dairy cattle, corn silage is worth 30 to 40% as much per ton as good alfalfa hay. When fed to fattening beef cattle and fattening sheep, good corn silage is worth about 50% as much as good alfalfa hay.
Question. What is the nutritive value of corn silage prepared from immature corn (roasting ear stage)?

Answer. Corn silage made from well matured corn will be 25 to 35% higher in total digestible nutrients and dry matter per ton as compared to silage from immature corn. Silage from corn harvested at milk stage or earlier supplies about 13 lbs. of total digestible nutrients per 100 pounds forage while silage from well-matured corn will furnish about 18 pounds total digestible nutrients.

Question. Can silage be used as the only roughage for cattle or sheep?

Answer. Although it is not a customary procedure to feed silage as the only roughage, experiments with dairy cattle have shown that the animals did just as well as those that received both silage and hay. Feeding large amounts of silage will cause animals to scour since silage has a laxative effect. For wintering rations where high production is not desired, it is satisfactory to use only corn silage but it is preferable to give animals access to some dry feed. Do not overlook the low supply of calcium, phosphorous and protein.

Question. Since corn silage is high in moisture and low in protein, phosphorous, and calcium, how can these deficiencies be corrected?

Answer. If corn silage is used as the only roughage, a good grade steamed bone meal and ground limestone should be supplied for proper insurance against calcium or phosphorous deficiencies. For dairy cattle steamed bone meal is the most important mineral supplement needed. Be sure to add a protein supplement to meet the requirements of the animal. Alfalfa hay or a protein concentrate will supply protein.
Question. What are the amounts of silage commonly fed per head daily to range cows, steers, and dairy cows?

Answer. Range cows, 30 to 50 pounds; yearling fattening steers, 20 to 25 pounds at beginning and gradually decrease to about 10 pounds; and dairy cows, 30 to 50 pounds for those in milk, with somewhat less for dry cows.

Question. Do I need to take any precautions in feeding silage to pregnant ewes and cows?

Answer. Ewes and cows require a large amount of protein and calcium during pregnancy. Their rations should be checked for adequate supply of these two items. Good-quality alfalfa hay should supply both protein and calcium.

Question. Is there any danger of prussic acid poisoning from sorghum silage harvested after frost?

Answer. Prussic acid poisoning by sorghum generally occurs in new growths of plants after the old growth has been checked by frost, mowing, drouth, or wilting. Thorough curing as hay or dry fodder and ensiling will reduce the poisonous property. Therefore, there is no danger from prussic acid poisoning in sorghum silage.

Question. Is there any danger in feeding moldy or frozen silage.

Answer. Moldy silage should not be fed to animals. Frozen silage should be thawed before feeding. Digestive disorders will generally occur when spoiled silage is fed.

Question. Will the high acidity in silage be harmful when fed to livestock?
The organic acids in silage are quite similar to those normally produced in the digestive tract of ruminants. These acids are used by the animal for food in the same manner as are the sugars. Even when silage is fed continuously for a long time the animals are not injured by the presence of the acids in the silage.

To keep silage in good condition, how much should be used daily from trench or permanent upright, silo?

During the winter months the extent of spoilage is not very great. However, during the summer months to prevent spoilage, the silage should be taken regularly from the silo. If 2 or 3 inches are removed daily the spoilage should be prevented. Keep the exposed surface covered with canvas or something to reduce spoilage and drying.

How long will silage keep and still be good feed?

Silage which has been prepared properly will keep many years, providing the silo is not opened to allow exposure to the air.

How about using silage to supplement pasture in the summertime?

Feeding silage in summertime to supplement dried-up pastures is as important as feeding silage during winter months. Silage is generally cheaper than green soiling crops which are used in some localities.