

Silage Making Uses to Reduce the Feeding Expenditure

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Introduction

Dairy farming is one of the oldest and well established subsidiary occupation and most widely adopted by all over farming community of Punjab state. Every farmer, if wish to start any entrepreneurship along with agriculture—First Think upon Dairy Farming. The latest training, new techniques and research work help in making this business work better. The present number of cattle in Punjab is about 81.2 lakh, which has 62.4 lakh big animals. There is a need for substantial increase in the current yield of green fodder to provide complete and good quality feed to the animals. One animal gets 30.65 kg of fodder per day, which is very low. If 40 kg of green fodder is found in a large livestock daily, then there is an annual requirement of 911 million tonnes of green fodder. It is clear that the shortage of green fodder has been visible in the growth of dairy. For the sake of this shortage, the area under green fodder should be increased or the cultivation of green fodder with maximum yield and the excess quantity of green fodder should be conserve as silage, which is used during the lean period of time.

Excess of production of green fodder will be stored as silage. To make silage, non-legume crops such as maize, sorghum (jawar), bajra, napier bajra and Guineagrass are suitable for *kharif* fodder, because of these crops have low amounts of carbohydrate and the amount of protein is low. There is an extra availability of green fodder from July to September in the year. There is a severe shortage of green fodder during the months of October to November. At this time, additional green fodder from July to September can be used by making silage. Animals can be reared by mixing the fodder crops such as berseem/Lucerne along with non-leguminous crops like maize or sorghum.

Benefits of making silage:

- Used as feed/fodder when there is scarcity of green fodder.
- Costly grains and feed will be saved.

- Fodder crops are harvested at maximum nutrients stage, which is very beneficial to dairy animals.
- Every day the cost of wages on cutting/chopping of green fodder and time will be saved.

Optimum time to cut fodder for making silage:

Harvest the fodder crop to make silage when the crop is at their full nutrient stage and the amount of dry matter is high. The amount of dry matter in the fodder should be 30-35%. For preparation of silage, the appropriate time of harvesting various crops is as follows:

The right time to cutting for making silage:

| Fodder crop | Cutting stage | Sowing to cutting time (days after sowing) |
|-------------------------------|----------------------------|--|
| Maize | Flowering to milking stage | 55-65 days |
| Sorghum | Booting to milking stage | 65-85 days |
| Bajra | Booting stage | 50-55 days |
| Oat | Booting to milking stage | 110-120 days |
| Napier bajra and Guinea grass | One metre tall | After 60 days |

The moisture content in fodder should be 65-70% for silage. If the moisture content is high, then dry the fodder for one day after cutting the fodder. Crop harvested at the above given stages usually have the desired dry matter content. However, napier bajra hybrid and guinea grass need one or two days for drying in the field before chaffing to reduce the moisture. We can see the quantity of moisture in the fodder by twisting the chops in the hands. If the hand does not feel lean, the fodder has enough amount of dry matter.

Appropriate place for silo-trench: To make silage, the silo-trench should be built in a high and sloping area near animal shed, where there is no rain or other water, otherwise the fear of spoiling the silage with water is maximum which spoil the silage as well as deteriorate the quality of silage.

Planning of the silo-trench to prepare for silage making: Depending on the size of the silo-trench, the number of animals, the amount of green fodder and period for which to be

conserved and the availability of green fodder. There are many types of silo-trenches, such as the trench-silo, tower silo, powerhouse-silo and silo pit. The silo-trench depends on the amount of additional green fodder. Generally, in one cubic metre space, 5-6 quintals of chaffed green fodder can be packed. In 10-metre-long, 3-metre-wide and 2-metre-deep silo-trench about 325 to 360 quintals chopped green fodder can be packed, which is enough to feed 10 dairy animals for four months at 20-30 kg per head per day during the lean period. The length of the silo-trench can be much or lower as per their requirement according to the number of animals and their need. The depth of the silo-trench should always be 1.5-2.0 metres. The trench should be made at a high point near the animal shed. It must be made the pucca and plastered with cement from inner side.

Method of silage making:

- Chop the harvested fodder crop to the length of 5 to 8 cm and fill it in the silo-trench.
- The silo-trench should be filled in the shortest time (maximum 2 days). Silage should always be made in dry days.
- With the help of a tractor or a bull, press the chaffed fodder in the silo-trench and regularly press of each half metre thick layer of chaffed fodder. Keep it one meter above the surface of the ground.
- Cover the fodder with 10-15 cm thick of straw/residues. Then put soil on it and finally mud-plaster. Silo-trench should be completely air-tight.
- Cover the silo-trench well with polythene seats. After finishing the above, put 2-3-inch layer of thick soil. The edges of the silo-trench can also be closed with dung soil.
- Keep an occasional watch and if there is any crack or hole, plug it immediately. Silage will be ready in 45 days.

Identification of accurate silage:

- The best silage color will be bright yellow. If any kind of negligence occurs, results in the change of color to brown. From the best silage comes the aroma of vinegar.
- A well prepared silage has pH (acidity) of 4.5 and is low in losses of nitrogen. A good quality silage retains the nutritional value of original crop and has a high lactic acid and a low butyric acid content.

Method of opening the silo-trench:

- When using silage, open the silo-trench from the width side that air seems to be the least.
- Take out the daily requirement of the feed and covered the remaining silage. This way the silage stays good till used.

Use of silage in animal feed:

- Animals do not like silage for the first few days. For this, first 5-6 days, add 5-10 kg of silage green fodder to the animals. Later silage can be fed to every animal at 20-30 kg per day mixing with other green fodders.
- Do not feed up the silage during milking, otherwise the fragrance will come in milk.
- Silage must be fed after or before 5-6 hours milking.

Diet management: Different types of animals should be given different amount of silage, which is as follows:

Amount of silage for animals

| Cattle | Amount of silage |
|-----------------------|-------------------------|
| Calves | 10-12 kg |
| Milch cows | 20-25 kg |
| Milch buffalos | 25-30 kg |
| Pregnant dairy animal | 15-20 kg |
| Bulls | 20-25 kg |

Summary

It is clear from the above facts that these aspects will help to meet the shortage of green fodder. Such tips are effective in reducing cost of milk production and increase the income from dairy unit. All these facts are helpful to the dairy industry to prepare cheap and balanced ration which is available in abundant and used during the lean period of fodder. The fodder is easily available in the farm field and not gives the good return, if sale as raw material in open markets. But if conserve as silage, results in very good feed to the dairy stock and improves the production and reproduction performance of dairy stock.