Silage

Silage is fodder grass that has been chopped, pressed and preserved through fermentation. The preservation process expels oxygen and allows bacteria to grow, and prevents decomposition and deterioration of the fresh grass, keeping its quality.

Prepare the silage in a pit.

Small-scale production in a pit 8 x 4 x 3 ft deep is enough to produce about 1000 kg of silage. You will also need 20 litres of molasses mixed with 60 litres of water. If you do not have enough material, you can dig a smaller pit.

Differentiating between good and poor silage

- Good silage has a sweet smell and has a shiny yellowish-brown colour.
- Poor silage has a rotten smell and has a dark and mouldy colour. Your animals will not eat poor quality silage.

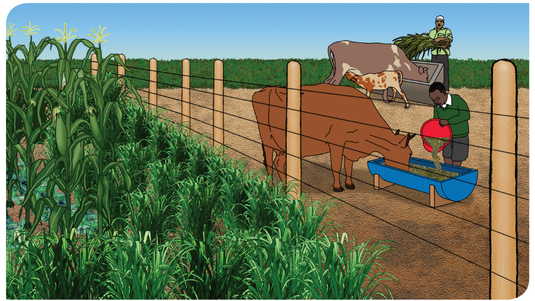
Note

To prevent spoilage, open one end of the silage storage and quickly remove enough feed for one day then immediately cover it up again. Put the silage in the feed trough 3 hours before or after milking. Feeding your cows 3 hours before or after milking will minimise silage odour in the milk.

An exotic cow may eat up to 40 kg and a crossbreed, about 20 kg, of silage per day. The silage given to livestock should not be more than 60% of the total daily feed.

Advantages of fodder production

- Extends the availability of feed for livestock in the dry season when natural pasture is unavailable.
- Maintains the good health of livestock, thereby making farming more profitable.
- Assists in maintaining soil fertility and can prevent soil erosion when introduced in crop farming systems.
- Serves as a source of income for households without livestock.
- Is easy to grow and uses fewer resources (such as fertilisers and crop protection products) than most field crops.



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Push–pull technology and fodder production

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Fodder

'Fodder' refers to crops grown or preserved for livestock feed. It can be fed to livestock either fresh or preserved, rather than have the animals forage.

Push–pull technology is a source of rich and balanced fodder that can be used to improve the productivity of livestock. Napier/Brachiaria-Mulatto grasses and desmodium can be used to feed livestock; they ensure a high-quality fodder mix that is fresh, and rich in carbohydrates and protein.

Why do we conserve fodder?

In a good rainy season, farmers may have surplus forage beyond what the animals can eat. The surplus Napier grass, Brachiaria-Mulatto grass, desmodium and crop residue from the push–pull plot can be conserved for dry season feeding.

Weight, dry matter content and quality; nutrients, not weight dictate what is good fodder. Whatever the form—green fodder, hay or as silage—consumers expect value for money.

Harvesting fodder

Note: *There are situations where farmers harvest and make or buy straw in the name of hay.*

Hay is forage dried by sun and wind, which one conserves as standing hay or cuts. Moisture content is reduced from 80% to less than 20% by wilting. Determine the hay quality by visual assessment: its leafiness, colour (green indicates proper curing and high levels of carotene), lack of odour, lack of foreign material, and weight.

How to correctly harvest desmodium for fodder

Desmodium can be ready for harvesting when maize is physiologically mature under push–pull. (Do not let it seed to maturity if you want quality and nutritive value of the fodder legume.) The best stage for harvesting desmodium is when it has covered the ground and is starting to flower. The trimmed desmodium can be fed to livestock and the surplus conserved in the form of hay for later use.

Cut half a row of fresh desmodium and transfer immediately to a shade. Spread to dry. Always leave a stem 2 to 4 inches (5 to 10 cm) high from the ground at harvesting. Use the rake to turn the cut desmodium once a day to allow for quick wilting. Avoid over-drying the hay. About 2 to 4 days of drying should be sufficient, depending on the moisture content of the plant. Well-dried hay should not break easily on handling.

Store the hay in an aerated, dry place away from rain and any form of moisture. If outside, use a tarpaulin or polythene sheet to cover it; if the hay is in small amounts, put in bundles or gunny bags and keep in a store.

How to store maize stover

Maize stover can be stored either loose or baled. Loose storage is easier for the small-scale farmer. Cut and assemble stover into bundles that are easy to carry. Stack it in a slanting position for storage against a tree or three poles tied together at the top. Put the stacks under a shade.

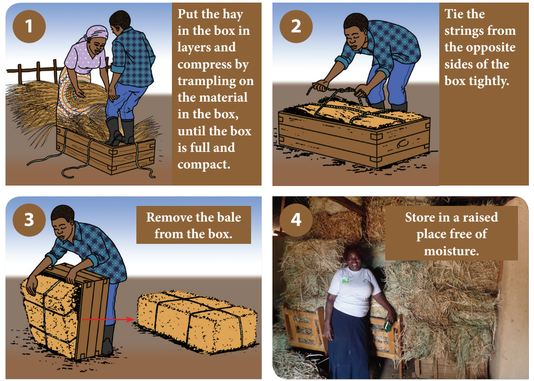
How to utilise

- Livestock should be fed Napier grass and desmodium in a ratio of 3:1.
- Minimise wastage; feed the livestock with chopped forage in a feed trough.
- During the dry season, mix chopped maize stover, Napier grass and desmodium.
- Always remember to give your livestock the recommended mineral supplements.

Note: *Make sure you have used up all the stover before the start of the next season, or the stemborers that are in the stover will infest your new crop.*

How to make hay bales

The hay box measures 85 cm (length) x 55 cm (width) x 45 cm (depth) and is open on both sides. When piled and well pressed, the box will make an average bale of 20 kg.



Allow plenty of air circulation in storage to prevent mould from forming. Use the desmodium hay to improve the nutritive value of Napier grass. Mix one part of desmodium hay to five parts of chopped fresh Napier grass (1: 5 ratio).