



Feed and fodder production in different Agroclimatic zones and its utilization for livestock of Odisha

Low-cost silage preparation

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What is silage?

Silage is produced by controlled anaerobic fermentation of green fodder by retaining its moisture content. It is the green succulent roughage preserved in its original condition with minimum deterioration nutrient quality.

Across the world, forage crops are harvested at the stage only when maximum yield is ensured with higher nutritional value. In order to ensure continuous and consistent supply throughout the year forage crops are conserved either in the form of silage hay. The main purpose of fodder conservation is to retain the highest possible proportion of the original nutrients that are present in fresh forages. When green fodders are in plenty of excess production in any season, they can be conserved as silage to meet the demand during lean seasons.

Methods of silage preparation in silage drum

- Silage making is the process of preserving green fodder in its original form through anaerobic fermentation.
- Oxygen-free environment and low pH are essential to preserve the fodder.
- Fodder crops like maize, jowar and hybrid Napier Bajra are well suited for silage making.
- Well grown fodder with desired moisture content of about 70% is harvested and chaffed.
- The chaffed fodder is compacted with the help of a wooden pole after placing each layer in a plastic drum of 200-litre capacity. Farms in Odisha are very small and silage preparation in plastic drums is cost-effective.
- After filling fodder till the brim, the cap of the drum is securely closed using adhesive tape to prevent the entry of air.
- Suitable weight, like a medium size stone, is placed on top of the drum for a week to ensure proper compaction at the top.

- The silage will be ready in about 40 days.
- Mix silage with other materials like fresh forage or bran and feed to animals for the first 10 days or so till they get used to the characteristic odour of silage.



Characteristics of good quality silage

Once silage is prepared, it should be evaluated before offering to livestock. Its quality could be evaluated by an organoleptic test. Organoleptic tests include colour, frangibility and visible mould growth. Appearance of silage should be either greenish or yellowish in colour. Black silage is highly undesirable and only happens under the action of putrefactive bacteria. One should avoid feeding such silage to livestock. Similarly, silage should emit pleasant sour aroma which indicates it's being fermented only by desirable silage bacteria. If it emits a foul or ammoniacal smell, it's an indication that fermentation is taking place through proteolytic/putrefactive bacteria. Livestock farmers

should avoid feeding such silage. At the top layer of the silage, there is often white fungal growth observed and if it did not penetrate inside, the top layer could be thrown and the rest used for feeding animals.

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