



How to produce high-quality grass-silage

Need/issue: Conserved forage production (hay, silage...).

Aim: To improve the quality of conserved forage and animal nutrition.

How to implement: The production steps are as follows:

- **Cutting:**

Harvest high-quality early maturity forage, which has a higher sugar content for good fermentation: from bud-stage to less than 50% of blossoms (early-bloom stage) in legumes, and from elongation phase to seedhead emergence in grasses. Mow forage in late morning or early afternoon, when dew has dried off, at a cutting height of 8/10 cm to reduce the foreign materials into the biomass.



Description:

- The uneven rainfall in the Mediterranean environment during late spring can make it difficult to harvest good quality dry hay.
- Bailed silage is forage that is packed at higher moisture than forage to be stored as dry hay – between 40% and 60%. It takes one-half to one-third of the drying time of hay, from 13 to 20 hours, which allows a quicker operation than traditional harvest dry hay, limiting the adverse effects of rapid change in weather conditions. The high moisture and lack of air within the sealed bale promote fermentation, which preserves forage quality.
- Wrapped grass silage bales, also known as baleage, may be produced from any forage, grass or crop that would be used for conventional silage, cultivate at both autumn and spring seeding time..



- **Wilting period:**

The mown crop should wilt in as little time as possible reaching biomass humidity of 40% DM (dry matter) in grasses, 40% - 50% DM in legumes.

- **Windrowing**

Mow forage into wide thin windrows for exposure to sunlight while wilting. Before baling, the moisture of the biomass must be monitored to be sure that the right DM content has been achieved

- **Baling**

Utilize a silage-type baler with variable-size bale chamber, which allows obtaining a hard-core baler. The density of the bales must be high to avoid the infiltration of air during storage. It is important to adjust the speed of the baler so that the collected hay is evenly distributed inside the chamber from the beginning of the bale formation. Most balers have cutting attachments that slice the forage as it is being baled. Slicing aids fermentation and improves bale compression. The bales should be dense, without air pockets and well-shaped.

- **Round-Bale Wrapping**

Bale-wrapping equipment machines are used directly in the field or at farm. Plastic film must have a 50 per cent stretch factor, be resistant to ultraviolet light, have good tear strength and be able to adhere well. Films are in light-colored plastic, more resistant than in darker colors. The darker plastic breaks down faster in the summer heat and sun, making it more permeable to oxygen. Silage bales should be wrapped within 3 hours after baling using six - eight wraps per bale.

- **Storage**

Gentle handling of bales before and after wrapping using suitable handling equipment is essential to maintain the shape of the bales and the integrity of the seal provided by the plastic film. Store bales in a clean, relatively level area with no sharp stones. Stack bales to reduce sunlight exposure to save plastic and reduce sweating

Country: Italy

Dairy and meat sheep:

Category of Animal: All

Topic:

- Health
- Nutrition
- Management

Level of solution:

- Knowledge
- Practical

Tips:

Use a lactobacillus bacteria inoculant to improve fermentation. The proper inoculation reduces dry matter loss with varying degrees of effectiveness.

It is preferable to use film of 75 cm width respect of 50 cm, to improve airtightness, reduce wrapping times and increase the protection of the most delicate flat faces of the bales.

Repair tears and holes to prevent spoilage and secondary fermentation using transparent silicone rather than using adhesive tape, which is not very effective in obstructing the entry of air.

