

HOW TO MAKE GOOD QUALITY SILAGE



General advice

- Silage could be made out of non-wilted or wilted grass, whole crop cereal mixture, maize, beet tops, etc. Silage making is much more advanced forage production method than haymaking.
- Advantages of silage making:
 - Forage could be made from younger grass when its nutritive value is bigger;
 - The grass is wilted outside for short time; therefore, all process less dependant on weather conditions;
 - Easier to plan works – it is especially important when renting machinery;
 - Regrowth of aftermath and grazing cattle are not disturbed;
 - Investments in complicated storage facilities are not needed.

Silage making

- To plan works well and be prepared in advance. To mow so much that it would be ensiled the same day. The silage could be made in trenches, clamps, bales, etc. Silage must be stored in anaerobic conditions (air should not get into the silage) from production to feeding.

Grass silage

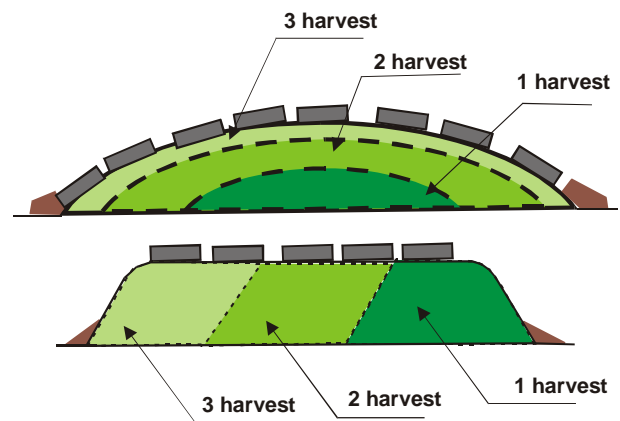
- Grassland should have a good botanical composition: a high proportion of ryegrass, timothy and meadow fescue with red and white clover. The grass-plot should be harrowed and rolled by heavy rollers. Harrowing removes molehills and rakes up old rotten plants.
- The grass has to be wilted at least to 27-28% of dry matter (i.e. about 24 hours). The optimal amount of dry matter is 30-40%. The grass has to be cut by a rotary-mower while the height of the grass is to 30 cm. Mowing height is 5-7 cm. Wilting period can be shortened when mowing by a mower-conditioner and often tedding.
- Wilted grass can be picked up by a forage wagon, precision chop harvester or baler. It is not recommended to pick up wilted grass by flail type chopper. Chop length has to be 1-2.5 cm. Well chopped grass is easier distributed and compacted.

Maize silage

- Harvest maize at optimal (dough) stage when plants have 30-35% of dry material. During cutting, maize has to be fine chopped (chop length 0.4-0.8 cm).

Silage storage

- The size of clamp or trench is chosen according to the size of herd. One milking cow needs about 1m³ of silage for 10 days. It is better to have few clamps instead of one. The clamp should be of such size that the amount, which is fed in a week, would occupy two longitudinal meters of trench or clamp.
- Clamp and trench could be filled horizontally or vertically (fig. 1). Good compaction is very important, especially at the edges of the trench. Avoid contamination off the grass with soil.

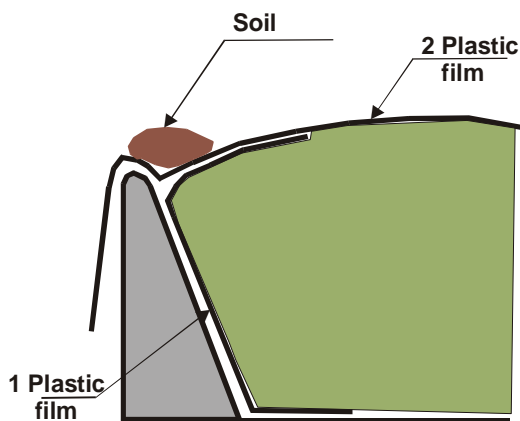


1 fig. Horizontal and vertical refilling of the clamp



- It is ideal to fill the clamp or the trench in one day. The longer it takes, the less chance that the silage will be good.
- If the bottom of the clamp is soft, it is good to lay a film so that silage would not mix with soil. To dig up a ditch around the clamp, to cover by a plastic film and put a layer of 10-15 cm soil on top.

- Compact grass so that air would not get into it. The best is to do this by heavy tractor with double wheels. The silage sinks in some days. Plastic film tension has to be adjusted by tensing up the edges from all sides.
- Before filling a trench, cover its walls by a plastic film. When the trench is filled up, cover silage by the plastic film. Then cover the top of the trench by another layer of film and pour some soil where the film is contiguous to the wall (2 fig.)



2 fig. Covering of trench walls and top by plastic films



Silage quality is worth to know

- Before start feeding silage, balance ration well. To make a right ration is possible only when real nutritive value of the silage is known; therefore, it is needed to analyse the silage in the laboratory before start feeding.
- Samples have to be taken from various places of silage clamp or trench. Separate samples have to be taken from silage that was made of grass of different maturity or species.

- Specialists of the Lithuanian Agricultural Advisory Service will help you to take silage samples in the right way.
- Analytic laboratory of the Lithuanian Institute of Agriculture (Instituto aleja 1, Akademija, Dotnuvos sen., LT-5051 Kedainiu r., tel. 257-37 271, 37 175) analyses silage nutritive value - metabolizable energy, crude protein and fibre, digestibility, determines the quality of silage fermentation.

Environmental requirements for silage making

- When silage is made in trenches or clamps, the reservoirs for collection of silage effluent have to be arranged. The capacity of the reservoir has to be 200 l of effluent for 1 m³ of silage (20 m³ reservoir for 100 m³ silage).
- The bottom of the pit has to be impermeable to fluids, covered by concrete or asphalt. By walls of the trench there have to be canals that would be used by silage effluent to flow to the reservoir.
- Silage trenches can not be built on protection zone of the water bodies.
- The bottom of the silage trench has to have slope to sides and front. In the front of the trench there has to be a canal directed to the reservoir. If silage is stored in a clamp, the canal has to be dug out around the whole clamp.
- The reservoirs for silage effluent have to be made out of a material that is resistant to corrosion and single, i.e. without joints (seams).
- Silage effluent can be collected in slurry reservoir if the latter is made out of material resistant to corrosion and is well ventilated. It is not possible to mix silage effluent with slurry in closed underground reservoirs and inside buildings, because the formed poisonous gasses may be very dangerous.
- If silage is made in bales, the bales have to be kept at least 10 m apart from water bodies, wells and draining facilities.
- Silage effluent can be used as fertiliser and watered on the fields, but it has to be diluted with water 1:1 and used at a rate not higher than 50 m³/ha.

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