



TechTalk Newsflash

TechTalk is a web based question/answer help-desk for agricultural, environmental, rural development and food security projects.

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Our experts are hand-picked for their practical experience and include members of the Tropical Agriculture Association (UK) and internationally respected advisors from CGIAR Institutes, Universities and Professional Associations world-wide.



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See the example of a TeckTalk exchange that began with a question from an NGO project received 4 days before Christmas. The answer was provided within 24 hours.

The feedback we received from the questioner: "This was really good. I received it in my email with no problems and the answer was exactly what I was looking for. The references will be useful for further investigation and we will use the information provided to help guide an intervention we are planning around use of small bag silage on farm to provide a higher plane of nutrition with the resources available. Many thanks."

The Question: "Georgian farmers generally take a late crop of hay in July to maximize bulk (this is mostly small-bale or loose-stacked).

Is there any advantage to making small-bag or small-bale silage with the same late-crop of alpine meadow grasses and mixed forbes?

What is the nutritional difference in quality of hay versus silage taken from the same late-cut?"

The Answer: The system practised by the Georgian farmers will have evolved and been tried and tested over many years – the system is presumably sustainable. Therefore advocating change needs to be done with caution and for good reason.

Compared to making hay, the advantage of making silage is being able to do the operation in a matter of 2-3 days, as opposed to 5 or more days for hay. This gives silage a big advantage over hay when spells of dry weather long enough to make hay are scarce, as increasingly seems to be the case in UK at least.

Also, in deep valleys, e.g. in the Alps, drying conditions for hay may be difficult, especially in late season. Bag silage making has become very popular on smaller farms in the UK in the last 10 years. In the area of mid-Wales where I live, with relatively small farms (ca. 100 acres), big bale, bag silage-making has almost completely replaced hay. Farmers generally use contractors who own the balers and bale wrapping (with plastic) equipment. The grass is normally cut one day and then baled (without chopping, as in conventional forage harvesting in pit-silage making) and wrapped the next day. Baling and wrapping equipment is expensive, as is plastic. The bales are either round or rectangular and weigh 250+ kg. There is considerable wastage during feeding out in the winter, especially if bales are not put into feeders to avoid trampling etc. Bird damage to plastic, allowing ingress of air, has also been a problem as is the disposal of plastic wrapping. There is also lack of data concerning the quality of such silage. However, as mentioned earlier, big bale bag silage is now very popular.

Another system which is becoming popular for feeding horses is the production of haylage, i.e. high dry-matter silage (with a DM content of ca. 50%). In this system the grass is cut and left to 'dry' for about 2 days and then baled and wrapped.

The questioner mentions 'small-bag or small-bale' silage. How small is small and what equipment will be used? R & D in Zimbabwe and Kenya has made successful silage in very small bags (supermarket plastic bags) and plastic fertilizer bags (25kg). Four years ago I myself made grass silage from lawn cuttings in plastic bin-liners. However, making such silage is very labour demanding and there is risk of producing a clostridial fermentation due to the difficulty of compacting and sealing to achieve anaerobic conditions. I ended up losing a pregnant ewe due to listeriosis which was considered to be due to feeding high pH silage. I no longer make such silage.

Now to the second question – nutritional differences in quality of hay versus silage from same late-cut.

Late-cut grass will have much less sugar content compared to early-cut grass. Such material is therefore more prone to produce clostridial-type fermentation, although compared with early-cut grass, the DM content at cutting will be higher and therefore less acid will be required to reduce the pH to <4 for effective keeping.

Assuming the fermentation is effective, silage will have a higher nutritive value than hay due to its higher nitrogen content (because of reduced leaf loss) and its metabolisable energy content is also likely to be higher than hay (again because of reduced leaf loss).

A further point to consider is the practical aspect of feeding silage compared to hay. Compared to silage, hay is much easier to handle on a small, non-mechanised farm. Changing to silage would almost certainly require mechanisation for handling bales (which are heavy) and changes in feeding troughs.



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