SILAGE TALK

The silage sampling checklist

Successful silage production encompasses several aspects that need to be considered, including the ever-important sampling of silage (the article "Guidelines for taking silage samples" in this edition of *Stockfarm* provides a more detailed report in this regard).

For a practical step-by-step approach, producers can tick off this ten-point checklist:

1 Sampling tools:
A silage corer is needed as silage cannot be sampled by hand. There are different types of corers available, from turn-type corers with or without extensions, to a more basic pipe version that samples while measuring compaction.

2 Contamination:
There are two main levels of contamination: above the sheet and below it. Remove all dirt and contaminants before cutting the sheet. Then, when entering the silage, remove a 20cm top layer (whether visibly spoiled or not). This applies to sampling from the bunker face and bales as well as silo bags.

3 Number of samples:
Generally, it is necessary to take between nine and 15 samples in a 'W' pattern. This applies to closed bunkers being sampled from the top, and to bunker faces. Silo bags are sampled in a line on the top or side, over extended areas and even across bags from the same batch. Five wrapped bales serve as samples, with three cores from each.

4 Accessories:
Silage is always sampled in a bucket. The bucket should be clean and have a lid, as the contents can become contaminated by, for example, wind blowing dust into it.

5 Mixing:
This is a critical step as you must ensure that the sample is not 'split'. For example, excessive shaking and mixing of maize silage can lead to many kernels separating from the sample, affecting the outcome of the analysis. Mix the sample in the bucket by gently turning it over from bottom to top a few times.

6 Sub-sampling:
Use a quartering method to divide the sample objectively. Never remove particles by hand. When taking a sample, it is critical that the grab sample is deposited into the bag intact, without any shaking or separation.

7 Sample bags:
Use new, clean ziplock bags (plastic shop bags will not suffice) that are big and wide enough for the entire grab sample to be deposited into the bag in one go. If it is too small, some particles may fall out while trying to fit the grab sample into the bag (this will 'split' the sample, which is a big no). Press all excess air out before sealing the bag and folding it over.

8 Closing up:
As silage is oxygen sensitive, a producer's efforts will go to waste if the sample holes are not closed properly, especially when still-closed bunkers, silo bags or bales have been cut. The secret to successfully sealing the area with 'silage tape' is that it must be thoroughly cleaned. A dirty, wet area means the tape will not last.

9 Cold storage:
Silage is a highly sensitive feedstuff once it has been exposed to air. Therefore, samples must only be transported in a cooler box with an ice pack; a portable electric fridge/freezer is even better. Aerobic instability that may lead to possible secondary fermentation starts easily and quickly in silage samples that are not kept cold. This affects the analysis.

10 Delivery time:
If the samples are taken to a laboratory on the same day, the cooler box is sufficient. If, however, it will take days for the sample to reach the laboratory, it should ideally be frozen overnight and kept cold until it is delivered.

There is no point in taking the time to sample silage and then spending the money to analyse it, if proper procedure is not going to be followed. Important decisions and ration changes are made based on such analyses and, if inaccurate, it can have a negative impact on animal production. SF

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