

Making better conserved forage campaign — planning for cutting

Quality must not be compromised by quantity as first-cut silages get underway. Preliminary data from AHDB's grass clamp silage project has shown the average metabolisable energy content and digestibility (D value) in silage samples from 2016 were below the target D value figure of 72. This may be due to producers ensiling bulky, stemmy swards. Leafy swards comprising of at least 70% ryegrass varieties are key to an efficient silage system.

Where swards are allowed to mature before harvest, the digestibility of the silage will be compromised. Like most other plants, grass goes through a vegetative stage and then a reproductive stage, at which point lignin content increases. To ensure reproduction is successful, the grass begins to incorporate lignin into its tissue which helps keep the seed head upright. This lignin is indigestible to ruminants and can reduce D value of grass silage significantly. Research has also shown that crude protein (CP) - 160 vs 109g/kg DM, water soluble carbohydrates (WSC) - 133 vs 107g/kg DM and metabolisable energy (ME) - 11.9 vs 10.5MJ/kg DM content decline as the grass matures. This may prove very costly as nutritional losses will need to be buffered with additional feeds.



Regular monitoring of silage swards is just as important as monitoring a grazing sward. The D value of silage is largely influenced by the growth stage at which the grass is cut and ensiled. Cutting height will also influence sward regrowth. By raising the cutting height, grass plants are not forced to utilise energy reserves in order to produce a new leaf, this also reduces the interval between silage cuts. Avoiding clamp contamination from the outset is crucial. Pastures that have been rutted should be rolled in order to minimise the introduction of soil to the clamp. Excessive soil within the clamp encourages clostridial development and increases the risk of a poor silage fermentation.

Tedding out as soon as possible after mowing is recommended as it increases moisture loss. This process also minimises the proliferation of undesirable bacteria and moulds within the swath. It is crucial for lactic acid producing bacteria (LAB) to dominate within the clamp in order for a good fermentation to take place. These bacteria utilise the natural soluble sugars in grasses and excrete lactic acid, reducing the pH of the clamp to four. Cutting in the middle of the day when sugar levels peak is advisable. Inoculants may also be used to increase the amount of LAB within the clamp.

Grassland will utilise 2.5kg N/ha/day under ideal growing conditions. Nitrogen acts as a buffer within the clamp and can have a negative impact during the fermentation process, so nitrogen supply is particularly critical. Too much will affect fermentation, too little and yields and crude protein content could be poor.

Correct management is key to ensuring a quality silage. It is important that producers focus on the quality of the end product and not just on getting value for money from the contractor by producing a bulky, stemmy crop.

For more information see the BRP manual [Making Grass Silage for Better Returns](#).