

Teagasc Notes for week ending Friday 22nd May 2020

Silage Season 2020

Silage season is upon us once again and there are a number of factors to take into consideration over the next few weeks with regards to producing the best quality silage for your stock. The quality of the silage you harvest this summer will determine the weight gain and milk production for your stock over the winter months.

Dry Matter Digestibility

Dry matter digestibility (DMD) is the factor which determines the energy concentration of silage, and DMD also impacts on the intake of the silage by animals. The higher the DMD, the higher the energy concentration, and the higher the intake by the animal, all of which results in improved performance. The Silage quality guidelines for different types of stock are outlined in Table 1 below:

Time of harvest

One of the biggest factors which influences grass digestibility is the date the crop is harvested. On average, grass digestibility decreases by 2 to 3 % units per week during the second-half of May and into June. This decline reflects the increasing proportion of grass that is composed of stem as the crop matures, together with the continual rapid drop in the digestibility of stem. In order to achieve a balance of good silage yield with excellent DMD, it is necessary to harvest the silage by the 1st week in June. After this, the DMD rapidly decreases as outlined in Table 2 below:

It is possible to make a visual observation of the quality of the sward – a leafy sward with little or no stem should typically be 72-75% DMD. When seed head is emerging, the DMD would typically be 70-72% DMD. Once the seed head is emerged, the silage quality will typically be less than 68% DMD, which would not be adequate for many class of stock as outlined in Table 1.

Reducing silage effluent

Silage effluent is a highly polluting liquid and can cause fish kills in watercourses/rivers and contaminate wells if not collected, stored and land spread properly. Silage pits – slabs and walls, need to be structurally sound to ensure ensiling is completed in a safe environment. Silage effluent collection channels and tank storage must be capable of managing the volume of effluent generated.

If possible wilt grass for 24 hours depending on drying conditions. A good wilt will reduce the amount of effluent produced. Tedding can help reduce wilting time if there is rain in the forecast. It is also worth noting that wilting above 33 % DM has no animal production benefits and wilting beyond 48 hours should be avoided due to reduction in silage quality

Generally, round bales have higher dry matter content than pit silage and generate less effluent. However, the effluent from round bales is treated the same as from silage pits and must be collected and stored in same way. It is recommended not to store bales greater than 2 bales high as this will lead to more effluent being generated and also for farm safety reasons. If storing bales in a field situation it is a requirement under Nitrates regulations that they should not be within 20m of a watercourse or a drain.

Ensiling

Sugars are converted to acid during the anaerobic fermentation process. This acid preserves feed value of the crop in the sealed pit. The target sugar content to ensure good fermentation is 3% or higher. This can be tested using a refractometer. Ideally grass should be cut in the afternoon and evening when sugars are highest.

Nitrates levels are another factor to consider when mowing silage. Ideally the nitrogen level in the grass should be below 600ppm when cut. This can impact on the fermentation process however it is less critical than getting the sugar levels right. Grass will ensile correctly even at 800ppm of nitrogen as long as the grass sugar levels are adequate. The chemical nitrogen fertiliser recommendation for

Grass

first cut silage is 100 units per acre. The old rule of thumb was to allow 2 units /day for nitrogen uptake. This means that 50 days or 7 weeks is required for all nitrogen to be utilised by the crop. In good growth conditions with very responsive swards nitrogen uptake may be greater than 2 units. Nitrogen levels in a standing crop of grass can be tested using a nitrate meter. Nitrate level is not an issue if the sugars are right. Sugar content is the biggest determinant of the preservation of a crop of grass as silage.

Filling the Pit

To reduce loss of quality when filling the silage pit, fill the clamp evenly and quickly. Roll grass in the clamp thoroughly to remove air, very important with wilted grass. Cover with at least 2 sheets of polythene plastic (0.125mm) and seal and cover with sandbags and tyres.

Do not overfill silage clamps- leading to increased risk of machine toppling over and danger of collapse when feeding out. Health and safety should always be number one priority. Given the current Covid-19 restrictions there will be more people around yards, including children who would normally be in school during this time. Precautions need to be taken to ensure the safety of all at these busy times.

Teagasc Grass testing

Teagasc are offering a service for testing grass nitrogen and sugar levels to Teagasc clients, to help in making the decision on when to mow. This service is free to Teagasc clients. Due to Covid-19 restrictions, it will be slightly different to other years. A maximum of two samples will be tested per client. Samples must be frozen before being submitted. Samples must be booked in by 5pm the day before testing, and the clearly labelled samples dropped by 10am at the latest in the designated box outside the office. Samples will be tested and the results phoned back to you later that day. Please contact your local office for further details.

Beef Sustainability Demo Farm Update – Brian Blackmore

Brian made some early baled silage last week, harvesting the paddocks that received either 40 units of CAN or 40 units of protected urea at the beginning of April. The crops were light but of excellent quality, with DMD likely to be in the mid 70's. In the absence of a measurement of yield, Brian recorded harvesting 26 bales from the 5acres that received the CAN and 30 bales from the 5.2acres that received the protected urea or a ½ bale per acre of an advantage with the protected urea. This isn't scientific but its safe to say that the performance was the similar from the two fertilisers, at a lower cost for the protected urea and better for the environment.

Brian will be cutting more grass this week and will be using the trailing shoe method to spread the remaining slurry. Trailing shoe is one method of low emissions slurry spreading and offers significant benefits in terms of:

1. Increasing the nitrogen (N) availability of cattle slurry
2. Increased flexibility of slurry applications on grazed pasture
3. Accurate application of slurry nutrients with LESS and replace expensive chemical fertilisers
4. Improved environmental and economic performance of slurry management

To protect the waterways on the farm, Brian will be spreading slurry at least 5m from surface waterways and chemical fertiliser at least 2m from waterways.