Notes

Teagasc Notes for week ending Friday 21ˢᵗ May 2021

Optimising Yield and Quality of Silage – Cutting and Ensiling

As we approach the start of the main silage harvesting season, there are a number of areas that farmers should focus on to ensure that they not only maximise the yield of their first cut silage crop but also the quality. Maximising silage quality now, will lead to huge savings on concentrates later in the year and over the winter months.

- If high DMD silage is being targeted, the grass should be cut as the seed heads are beginning to emerge. If lower DMD silage is required, mow approximately 6 days after the heading date. The quality of the silage is linked to the proportion of leaf and stem in the sward. The higher the proportion of stem, the lower the quality.

- Target a sugar content of 3% to ensure good fermentation. The sugar content of the grass can be maximised by mowing on bright sunny days in early afternoon as this is the time where the sugar content of the grass is at its highest.

- This should be followed by a short sharp wilt so that the silage wilted to a target of 28-32% DM which will also aid in increasing the concentration of sugars and assisting fermentation. Anything above this will have no benefit on animal performance and will increase the risk of aerobic spoilage.

- Farmers should aim to wilt the grass as quickly as possible so as to limit the sugar losses post cutting. Approximately 6% of sugars present in the grass can be lost during a 24-36 hour wilting period. It is therefore more beneficial to wilt in a period below 24 hours if possible. This can be helped by tedding out the grass soon after cutting.

- Once the grass is harvested, it is vital that it is stored in an anaerobic environment so as to allow the lactic acid bacteria, which are present on the grass, to convert the sugars in the grass to lactic acid. This causes the pH to drop which will preserve the silage. Adequate compacting of the pit to exclude air is critical and is often an area that doesn't get enough attention in recent years.

- In the case of baled silage, at least four layers of plastic should be applied and great care should be taken not to damage bales during transportation. For pit silage, the silo should be filled as quickly as possible, while ensuring that the crop is spread evenly and each layer is rolled. The pit should then be sealed with multiple layers of plastic, ensuring that the corners and sides of the pit are sealed correctly. In both cases, precautions may need to be taken to prevent birds from making holes in the plastic. Netting can often be the best option to prevent this.

- Silage additive is not always required for good preservation. Risk factors for poor ensilability are high leaf content in the sward, short N application interval and a lack of sunshine. Additive is often

necessary if the sugars present in the grass are below 2% or if sugars are between 2 and 3% and wilting isn't an option due to poor weather.

- High nitrate levels in silage will have a negative impact on the fermentation process. Under good growing conditions, a silage crop will use 2 units of N per day. It is therefore essential that N fertiliser should be spread an appropriate number of days before the planned cutting date to ensure that all N has been used up by the plant. If there is any doubt, grass can be tested for sugar and nitrate levels in local Teagasc offices.

How do wilting duration and swath treatment affect DM?

	Wilting Hours		
DM% of crop	0	24	48
6 metres per row	17	19	23
3 metres per row	17	23	31
Tedded Out	17	30	50

The change to grass dry matter content due to wilting is affected by duration of wilt and mechanical treatment of the swath. Dry matter of grass cut into large rows will change little in a 48 hour period. Tedded swaths wilted for >24 hours may become excessively dry. Pit silage DM over 33% will not improve animal performance and may have poor aerobic stability at feed -out

Author: Richard McEvoy is a Walsh Scholarship Postgraduate student working in the Teagasc Office Mullinavat.