

Making Quality Silage

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When cattle are housed it is the most expensive period in cattle rearing. The silage quality can determine the weight gain that can be expected from animals over the winter period, in some regions this can be 50% of your year. In order to reduce the requirement for concentrate feed and thus cost, now is the time to harvest quality grass silage for the winter time.

Silage quality guidelines for different types of stock are:

Silage quality (DMD %)	Stock type
75+	Freshly calved dairy cow (autumn calving)
74	Spring calving cows in milk, Finishing cattle
72	Dairy young stock, growing cattle
70	Dry dairy cow (low BCS), suckler cow in milk
68	Dry dairy cow (Adequate BCS)
66	Dry suckler cow

Time of harvest

On average, grass digestibility decreases by 2 to 3 % units per week from the second-half of May. This decline reflects the increasing proportion of stem in the grass plant as the crop matures, together with the continual rapid drop in the digestibility of stem.

Date of cutting	1/5	8/5	15/5	22/5	29/5	5/6	12/6	19/6	26/6	3/7
Grass Yield (t DM/ha)	2.92	3.99	4.98	5.96	6.79	7.82	8.48	8.93	9.50	9.83
DMD%	79.9	77.9	77.5	76.6	74.6	69.2	67.9	64.3	63.5	58.2

- A leafy sward with little or no stem should typically give a 75-80 DMD silage
- On the point of the seed head emerging i.e. some stem typically you should get 70-72 DMD
- If the seed head is emerging/emerged silage quality will typically be less than 68 DMD

Reducing silage effluent

- Mow late afternoon after dews have lifted and grass has dried
- If possible wilt grass for 24 to 48 hours depending on drying conditions
- Tedding can reduce wilting time where rain is forecast
- Wilting above 33 % DM has no animal production benefits
- Wilting beyond 48 hrs should be avoided due to reduction in silage quality
- Where wet crops are being ensiled, an absorbent such as citrus pulp/ soya hulls (50-100 kg/t of grass) could be used to reduce effluent produced.



Ensiling

- Ensure adequate sugars levels in grass before cutting- above 2.5%
- Ideally cut grass in afternoon and evening when sugars are highest
- Nitrates levels should be ideally below 600ppm but can preserve up to 800 ppm if adequate sugars are present
- Fill clamp evenly and quickly,
- Roll grass in clamp thoroughly to remove air, very important with wilted grass.
- Cover with at least 2 sheets of polythene plastic (0.125mm)
- Seal and cover with sandbags and tyres
- Monitor cover and retighten as necessary – covers should be tight to surface of pit, no ripples or flapping plastic
- Do not overfill silage clamps- increased risk of machine toppling over, danger of collapse when feeding out. Health and safety should always be number one priority

Risk factors for reduced silage quality

- Weather –silage quality is influenced by temperature. If weather is very warm and growth is fast, every week delayed will reduce silage quality due to a higher proportion of stem.
- Lodging can have the greatest reduction in silage quality.
- Check silage regularly to assess crop quantity and quality, ground conditions
- Keep in contact with contractor.

Causes of Changes in Digestibility in Silage Crops Cause of Drop in DMD	Size of Drop in DMD %
1 week delay in harvesting	2.5-3.0
Old pasture (No/little ryegrass)	5-6
Lodging	7-9
Not grazed (dead butt)	6-7
Bad preservation	2-3
Heating at feed out	2-3

Nitrogen

- Nitrogen application for first cut silage is between 100 and 125 kg N/ha (100 units N/ac).
- 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.
- So if conditions and crop are suitable for harvesting, get grass tested for sugar and nitrates.
- Sugar levels are generally lower when nitrates are high and high nitrates are also related to high buffering capacity which resists acidification. But if sugar levels are adequate, nitrate level in the grass have little or no effect on the efficacy of preservation.

Further information

Quality Grass Silage for Dairy and Beef Production Systems
- [view it here](#)

