



IGER Grassland Development Centre

Monitoring of Grass Quality for Ensiling



Reporting on samples collected on **4th June 2007**

Producing a high quality, well fermented, stable silage will only be possible if the grass at cutting time is of suitable quality.

Targets

High sugars (above 3%_{@20%DM}) to provide an energy source to drive fermentation

- *low nitrate N% (below 0.1)* to prevent the production of ammonia nitrogen that will increase buffering capacity and restrict fermentation
- *D value* – the digestibility of grass is directly related to its energy level – target above 67D for growing/fattening animals and dairy cows.

This weekly GDC update will allow you to gauge how swards are progressing across Wales - to help you make the best quality silage. The majority of samples are currently from lowland dairy farms – as the weeks progress the samples will increasingly come from beef/sheep farms and from higher altitudes

GDC GRASS TEST RESULTS (June 4th 2007)

Crop type/ Test	Red Clover Leys	Young PRG Leys	Average CHANGE *
Dry Matter	16.3	16.8	-1.6
D value	62	66.5	-0.8
Crude protein %	15.7	17.5	-1.4
Nitrate N %	0.01	0.01	-0.01
Soluble sugar %_{@20% DM}	2.2	3.45	0.6

- * this is the change from last week to this week of the average of all results received

Quality Issues

It's been a warm dry and mostly sunny week with light winds and temperatures around the 20°C mark. The weather has provided an ideal window for silage making and some of the farmers who provide grass samples for this report were cutting on Monday.

We have noticed a dip in D values and sugar levels in those swards that are red clover rich partly due to the maturity of the swards being selected for cutting.

Bale chopping, wilting and silage quality

Bale chopping benefits the silage fermentation in two ways

- It increases bale density- (IGER experiments have shown that chopped bales can be more than 10% heavier than unchopped bales) -more grass thus less air in each bale resulting in a more rapid fermentation
- Chopping releases sugars- more food for the bacteria resulting in a more rapid fermentation

A more rapid fermentation results in a better silage quality with higher levels of true protein and residual sugar (WSC)

Increasing the dry matter of grass by rapid wilting can improve the preservation of baled silage.

Less air penetrates higher DM wrapped bales resulting in

- Less surface mould
- More dry matter recovered
- A more efficient fermentation
- Higher predicted milk production / liveweight gain

There are risks in leaving grass to wilt too long. Undesirable bacteria and moulds can multiply on the forage during a long wilting period. We recommend that wilting should be as rapid as possible by using spreader mower and tedders.

Care should be taken when wilting to very high dry matters (above 60%). Silage fermentation is unpredictable above 60% and this could lead to high levels of spoilage.

Sulphur levels

There were no results for sulphur this week.

Sulphur levels of less than 0.25% OR a nitrogen : sulphur ratio greater than 13 indicates sulphur deficiency.

Atmospheric deposition has declined significantly in recent years – resulting in many areas of the country no longer receiving enough sulphur to adequately supply a multi-cut system. Last year all our samples came back indicating a sulphur deficiency – suggesting that an application of sulphur ahead of the 2nd cut would result in increased yields. This application may be from the bag or in the form of slurry; 50m³/ha of slurry will supply around 20kg/ha of available SO³ – which would supply enough sulphur for the following silage crop.

Additive use

It is recommended that where silages are high quality targeted for growing/fattening stock or milking cows that an additive should be used to maximise protein quality. Additives would be advisable on all silages where conditions may restrict rapid fermentation; low sugars, high nitrates, wet crops and poor harvesting conditions.

A good inoculant (one with a million + bugs/gram dry matter) will help to achieve a good fermentation in wet conditions – there should be no need to resort to an acid unless there are high nitrates or significant soil contamination.

Weather forecast

For the latest 5 day forecast follow this link

http://www.metoffice.gov.uk/weather/uk/wl/wl_forecast_wind.html

For more information contact:

IGER Grassland Development Centre on 01970 823058

<http://www.iger.bbsrc.ac.uk/Practice/GTT/Events.htm>

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The Grassland Development Centre, based in IGER is managed by the Welsh Assembly Government as part of Farming Connect.

