

Grass Silage Analysis Report for Dairy Cattle

Adviser's name & address

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Farmer's name & address

FAX:-
Mob:-
Tel:-

Sample & analysis details

Sample no.	14-02-1631
Date received	27/2/14
Date reported	3/3/14
HFIS no.	85,840
Farmer acc.	15/110
Farmer silo id.	DR60

Sample type
Additive
Cut date
Cut no.
Cut system
Comments

Grass Silage	Dairy cows	Yes
Unknown	Suckler cows	
	Breeding ewes	
First	Growing lambs	
Unknown	Growing cattle	Yes

Feeding reports requested

Practical Feeding Information

Comments

First cut av.
2012

Range

Dry matter (%) ^{1 2}	24.9	Good	27.1	15	to	55
pH ^{1 2}	4.4	Satisfactory	4.2	3.5	to	5.0
Ammonia (% total N)	9.0	Good	8.7	7	to	15
Protein (% DM) ^{1 2}	9.4	Poor	10.8	7	to	16
ME (MJ/kg DM) ^{1 2}	10.7	Average	10.6	9	to	12
DMD (% DM) ²	68	Average	68	55	to	82
FIM intake (g/kgW0.75) ^{1 2}	93	Average	88	70	to	115

The comments above are for general guidance on silage quality only and are not covered by any accreditation system

Additional Feeding Information

Lactic acid (% DM) ^{1 2}	2.9
Lactic acid (% total acids) ¹	51
Volatile fatty acids (% DM) ^{1 2}	2.7
PAL (meq/kg DM) ¹	734
Neutral detergent fibre (% DM) ^{1 2}	58
Soluble sugars (% DM) ²	2.6
FME (MJ/kg DM)	7.9
FME/ME ratio	0.74
Oil (% DM) ²	3.2

Degradability coefficients & constants

	Solubility ¹	a ¹	b ¹	c ¹
Dry matter	26	26	46	0.04
Protein	54	63	24	0.08



Approved by:-

Kyla Whiteside

Kyla Whiteside - HFIS Services Manager

1.8

¹ Values validated by FAA Group

² Values covered by UKAS Accreditation

14-02-1631



<i>Dairy cow feeding report</i>			
Concentrate feed level (kg/day)	4	8	12
Predicted silage intake (kg DM/day)	11.5	10.3	8.8
Milk yield sustained (litres/day)	18	24	29

This information is based on mathematical feeding models developed at AFBI Hillsborough and it is not part of any accreditation scheme.

(The table above is for general guidance only. The performance stated with this silage assumes the following: - a cow of average genetic merit weighing 585 kg and in week 12 of her 2nd lactation. We assume a condition score of 2.5 and zero energy balance i.e. neither gaining or losing weight. Your actual herd performance may differ, for example a cow weighing 650 kg and losing ½ kg of liveweight/day could produce up to an extra 5 litres/day milk. Your adviser will be able to help you interpret these data.)

Explanation of practical feeding information terms

FIM intake indicates the potential intake of the silage and is a measure of it's palatability for dairy cows. It is closely related to silage dry matter concentration with a general rule of increasing dry matter concentration leading to increasing intake. Units are grammes of dry matter for each kilogramme of metabolic liveweight.

The dry matter concentration is the quantity of material remaining after all water has been removed from the silage. The value, expressed as a percentage, allows for components which are lost in oven drying e.g. volatile fatty acids. The trend in recent years has been towards higher dry matter silages through wilting and this can have a positive effect on the amount that animals will eat, however when silages are too dry they are more difficult to consolidate causing openness at the silage face resulting in mould growth and heating.

pH is a measure of the acidity of the silage; it gives an indication of the fermentation quality and hence the ability of the silage to store. If the pH is too low there may be problems with reduced intake and the silage may need a buffer, however this is unusual in well preserved silages with dry matter greater than 20%. A high pH value indicates a poor fermentation in low dry matter silages but it is quite common to have a high pH in well preserved silages with higher dry matter concentrations.

Ammonia is expressed as a percentage of the total nitrogen and is a measure of the protein and amino acid breakdown in the silage. It is closely allied with pH and dry matter and again can give a useful indication on the quality of the fermentation. Values greater than 15% can lead to reduced intakes and poor animal performance

Crude protein concentration directly reflects the quality of the grass at harvest with young, leafy grass giving high protein silage while older stemmy grass producing low protein silage. Protein levels in grass can drop dramatically from around 20% in early May to less than 7% in early July.

Metabolisable energy (ME) is a measure of the usable energy in the silage. Young leafy grass can have a ME concentration greater 12 MJ/kg DM and this can drop to below 9 MJ/kg DM at the hay stage.

Lactic acid is the primary fermentation product produced at ensiling. It reduces the pH of the silage quickly over a few days post ensiling and acts as a preservative helping prevent undesirable secondary fermentations. In general, the lower the dry matter, the greater the concentration of lactic acid. Drier silages do not need as high a lactic acid concentration to maintain a stable silage.

D-value expresses in percentage terms, the digestible organic matter in the silage and is a measure, like ME, of the usable energy in the silage. In the Republic of Ireland, advisers use DMD or digestible dry matter for similar purposes.

Contact the Hillsborough Feeding Information System at +44 (0)28 92681589 - Kyla Whiteside