

BETTERfarm Beef Programme

BUSINESS, ENVIRONMENT, TECHNOLOGY through TRAINING EXTENSION RESEARCH

Managing dry cows on the BETTER farms



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With the autumn breeding season drawing to an end, the workload on the programme farms will start to increase

early in January as the calving season for spring calving herds gets underway. As a method of increasing herd output, the focus on the farms has been to tighten the calving patterns. While a tight calving pattern will place pressure on both labour and housing facilities for a brief period, the benefits will outweigh any problems experienced. Having a more even group of calves from a tight calving

spread eases herd health management as routine vaccinations can be given on the same day to all calves. In addition, there is less of a disease build-up in the calving pens compared with calving over a prolonged period. Having cows scanned in advance of housing and condition scoring cows has enabled the programme farms to group dry spring calving cows together based on feeding requirements. Some

farms are housing cows on outfarms before bringing them home for calving. **Tighter calving** Working in a tighter calving period makes better use of farm labour and resources as cows can be moved to and from outfarms in larger groups, according to calving date, over a short time period. In a spread out calving pattern, cows will be constantly moving to and from outfarms. Often, just one or two animals will be moved which is not an efficient use of time or resources. Dry cows in body condition scores of 2.5 and higher are being fed restricted silage where quality is 70 DMD or better. Cows in body condition score greater than 2.5 have had silage restricted by 5kg to 10kg per day, depending on quality. Where feed space is limited, silage is being fed to appetite on some of the farms for two days, then replaced with a straw only diet on the third day. At silage quality of 64 to 68 DMD, cows are being fed to appetite along with straw and dry cow minerals. Few cows on the farms are below BCS 2.5, but any cow lacking condition has been fed ad-lib silage and 0.25kg/day of barley.

ON THE GROUND SILAGE ANALYSIS

Silage samples have been taken on the programme farms and the programme advisers are formulating winter diets for cattle based on the results. Different types of cattle will have different feed requirements and depending on the feed quality of the forage, supplementation rates will differ as a result. In general, silage will form the bulk of cattle diets between now and March/April. It is important to know what quality of fodder is being offered every day. Silage should be analysed so that a balanced diet can be fed, giving the best value when spending money on supplementary concentrates. If silage quality is high then less concentrates are required and vice versa. Silage is a feed that can vary greatly in quality, as you move across the face and further back into the pit. Grass from different fields or cutting dates means that fodder diets are not as consistent in feed quality as you might imagine. The quality will also depend on the age of the sward, grass varieties, cutting stage and weather conditions. Table 4 outlines the national average silage quality for samples analysed by AFBI Hillsborough in 2013 and 2012. Table 1 outlines the typical targets for first cut silage. The BETTER Farms aver-

aged 71 DMD compared with the national average of 66.2 DMD, this highlights that following best practice in grassland management can help improve silage quality. Making high quality silage is not an easy task as it is heavily dependent on the weather. Realistically, there is a one week window to get silage cut at the ideal growth stage, which is by 50% seed head emergence. Delaying cutting by one week will reduce DMD by approximately three units per week. As the DMD falls, the rate of concentrate feeding will need to increase to maintain performance. Silage can be an expensive feed to produce. As there is no one-off cheque written to pay for it, few farmers actually take the time to calculate out the cost of producing grass silage. This often becomes evident when buying or selling silage, especially with baled silage, which is often sold below the cost of production.

Silage analysis

Across the farms, the aver-

age date that first cut silage was harvested was 17 June. First cut silage analysis was, on average, 29.5% dry matter (DM), crude protein (CP) was 12.3%, energy was 11.0 ME and 71 DMD. Yields from first cut varied from eight to 12 tonnes per acre. On these pages, the silage analysis is outlined for the farms in each advisory area. Making silage in 2013 was difficult due to the poor spring conditions delaying growth. However, regardless of delayed growth, grass will still produce a seed head at a similar time every year. Therefore, if silage is normally cut around 1 June, a delayed harvesting date will have affected quality. Across the farms, some analyses are lower than expected. Factors such as a delayed cutting date, in order to get increased bulk when harvesting, resulted in lower feed value. Likewise, once the grass plant starts to produce a seed head it is no longer vegetative and instead possesses a high proportion of stem to leaf ratio. As a result, silage

Table 1: Ideal values for grass silage

	Feed Value
Dry Matter (%)	22% - 30%
pH	4.0 - 4.5
Ammonia (% total N)	5% - 10%
Protein (% DM)	12%-14%
Energy (MJ/kg DM)	11.5-12.5
DMD/ D-Value (% DM)	70-76



First cut silage had an average feed value of 71 DMD on the programme farms, compared with 68.5DMD last year. The higher feed value can potentially replace 1kg to 2kg/day of concentrates in a weanling diet over winter and maintain target liveweight gain at 0.6kg/day.

quality will be affected. Fertilizer type and rate of application will also have had an effect on quality. Compared with 2012, silage was made in relatively good conditions this year and this is reflected in the improved silage quality. The increased DMD in 2013 is a potential saving of 1kg to 2kg/day in store and finishing cattle, which is a potential saving of €78 per head over a 150-day winter with concentrates costing €260/tonne. Having a higher protein value in 2013 silage is a benefit to store cattle as the

overall diet will be higher in protein, therefore keeping growth rates on target to gain 0.6kg/day to 0.7kg/day during the winter. **Dry Matter** With a much improved DM of 29.5% in 2013 compared with 22.7% in 2012, cattle intakes will be higher and, most importantly, the animals' DM intake of energy. Dry matter is the quantity of material remaining after all water has been removed from the feed. Therefore, the higher the DM, the less water is in the feed. This is particularly im-

portant to remember when you are purchasing silage to get value for money. Buying wet, low dry matter silage means you are getting less fodder quantity for your money and vice versa. The main problem with low dry matter silage, like that of the farms in the north west (22.7% DM), is that cattle have to eat more to get the same level of energy from the feed. In general, beef cattle will consume 2% of their body weight in dry matter. Therefore, a 650kg suckler cow with a suckling calf will consume 13kg DM daily. At silage DM of 22.7%, the cow



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WEEK IN REVIEW

Autumn breeding coming to an end on most farms

- ➔ Autumn breeding for the majority of August/September herds is coming to an end.
- ➔ Spring calving periods will be getting underway from January onwards.
- ➔ Dry cows have been housed according to feed requirements, based on scanning information and body condition.
- ➔ Cows in BCS 2.5 are having silage restricted if quality is 70 DMD or higher.
- ➔ Cows in BCS 2.5 are being fed to appetite with silage at 64 to 68 DMD.

Feeding 100g of minerals/cow/day from six weeks pre-calving will be of benefit.

If some cows are shy feeders, mix with 0.25kg/cow of barley. Make sure all cows can feed at the same time to prevent dominant cows from overfeeding.

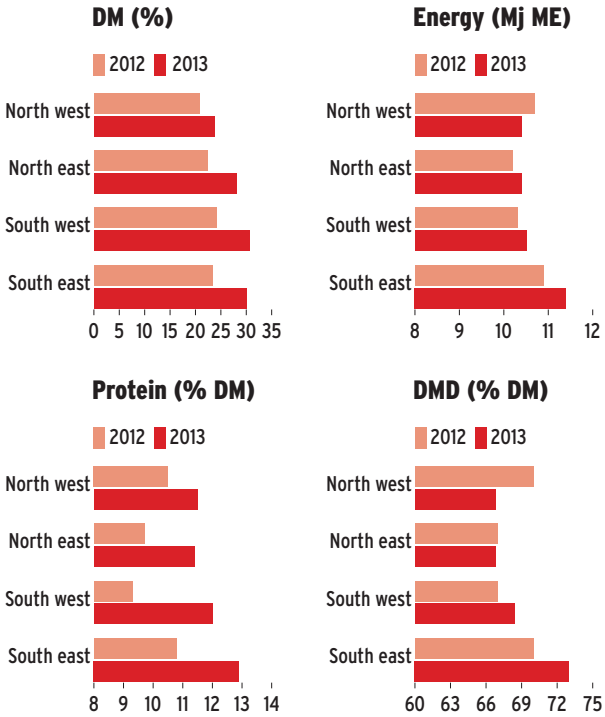
TOP TIP

Factors analysed

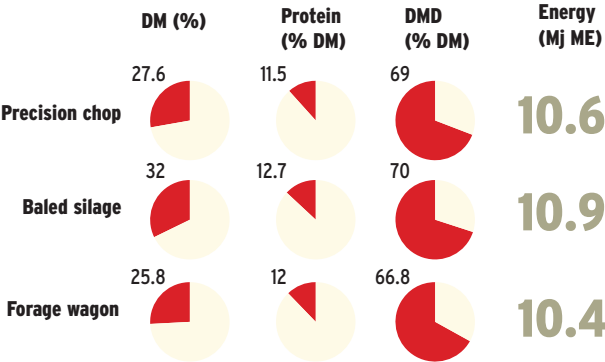
- ➔ **Dry Matter** - this relates to how much water is present in the feed. The higher the value, the drier the silage. Ideally, silage should be around 25% to 30% DM for pit silage, and 25% to 35% for baled silage.
- ➔ **Protein** - young, leafy grass should have protein levels of 12% to 14%, while headed out grass it will have protein levels of 9% to 10%. With higher protein levels, animal performance will be improved and concentrate use can be reduced.
- ➔ **Energy** - similar to protein, young grass will have an energy value of around 12, while headed out grass will have energy levels of 9.0 to 10 MJ ME.
- ➔ **DMD** - this is an overall evaluation of the forage. Swards cut at the ideal stage will have a high DMD and require less concentrates in the diet.

Silage analysis

Different regions



Different harvesting methods



Factors such as a delayed cutting date, in order to get increased bulk when harvesting, resulted in lower feed value

Table 3: Concentrate supplementation guideline for different silage quality

	72% DMD	68% DMD	64% DMD
Dry suckler cow (BCS 2.5-3)*	No meal and restrict silage to 85% intake	Feed ad-lib	0.25kg/day
Lactating suckler cow (BCS 3)**	1kg/day	3kg/day	4.5kg
300kg to 450kg store (0.6kg/day)	No meal	2kg/day	3kg/day
Finishing animal***	4kg	6kg	Move to ad-lib

*For cows below BCS 2.5, increase meal by 0.25kg/day. Increase BCS over a six to eight week period.
**Thin cows & first calvers require 1kg/day extra concentrates. Ration @ 16% protein.
*** Finishing cattle will give a higher growth response if moved to ad-lib feeding. Ration @ 14% protein.

Table 4: Average silage analysis 2013 v 2012

BETTER Farm	Dry matter (%)	Energy (Mj ME)	Protein (% DM)	DMD (% DM)
2013 average	29.5	11.0	12.3	71
2012 average	22.7	10.5	10.1	68.5
National average				
2013 average	29.7	10.6	12.1	66.2
2012 average	25.7	10.2	10.4	63.8

Table 5: Second cut silage analysis for 2013

	Dry matter (%)	Energy (Mj ME)	Protein (% DM)	DMD (% DM)
Precision cut	33	10.1	12.4	65
Baled silage	33	10.4	12.1	66



needs to consume 55kg of forage to meet demand. If the silage has a high proportion of stemmy grass (fibre), most suckler cows will be unable to consume this quantity of silage.

Therefore, concentrates

are required as a substitute for forage to meet energy requirement. Feeding 2kg of concentrates will reduce forage requirement for a 650kg cow to 47kg daily. At €30/tonne for silage and €260/tonne of concentrates, the daily feed cost would increase from €1.65 to €1.93.

However, at a higher DM, like the farms in the south west and south east, silage at 30% DM means the cow only requires 43kg of silage in a forage only diet.

With a daily reduction of 12kg silage from the higher DM forage, there is the potential to save 18 tonnes of silage per month in a 50-cow herd. At €30/tonne, this is a monthly saving of €540 in forage costs alone.

Cost of silage

Silage cost between €23 and €30 per tonne to produce this year, with the lower production costs coming from a combination of fertilizer costs, contractor costs and forage higher silage yields. Contractor costs varied from €80 to €120, depending on whether the crop was mowed, raked, lifted and covered in the pit. The farms that used their own machinery had a standard contractor cost applied, allowing for a fair comparison in the cost of production.

Although the energy of silage is presented in terms of ME, the first cut silage had an average UFL of 0.77 and UFV of 0.72. At a UFL of 0.77,

and taking 1kg of air dried barley with a UFL of 1.0, barley has 23% more energy for every 1kg of dry matter fed to cattle.

This means that in silage with a dry matter of 25%, one tonne of silage is worth 23% less than the value of one tonne of barley.

Silage system

Three different methods of silage harvesting were used on the programme farms with a precision chop harvester, baled silage and a forage wagon also used. Baled silage had the highest feed analysis of the three methods used.

The average date of silage cutting with the precision chop system was 13 June, which was the same average date as baled silage was made.

The average date of the silage made using a forage wagon was 20 June and the extra week had a definite effect on quality. It must be noted that the date of harvesting silage is the influencing factor for silage quality, not the system used.

Wilting for 24 hours had a positive effect on the quality of silage made with an average of 70.5 DMD and 33.6%, compared with 28% DM and 68.6 DMD silage from a 12-hour wilt.

Wilting for 48 hours had no additional benefit in terms of feed quality, as both DMD and DM were lower than silage wilted for 24 hours.

Table 2: Wilt effect on silage quality

Length of wilt	Dry matter (%)	Energy (Mj ME)	Protein (% DM)	DMD (% DM)	Cut date
None	19.4	10.5	9	68	14/06/2013
12 hours	28	10.6	11.9	68	16/06/2013
24 hours	33.6	11.0	12.8	70.5	25/06/2013
48 hours	32.9	10.0	10.5	64.5	10/06/2013