

# Technical Update - Forage Planning for Drought Conditions - Dairy Industry

Information correct as at 14:00 on 29.05.2020

- Drought is affecting grass growth across much of the country
- Calculate available forage stocks and potential from growing crops
- Look after the forage that you have with good clamp and trough management
- Consider alternatives to extend forage supplies

Over the last 2 weeks grass growth rates have fallen and are now 45% lower than at this time last year (see table below). More worrying is the symmetry with the crash in 2018, but with the fall off starting a month earlier. According to some forecasts there is potential for rain in June and that could save the day, but as the cumulative dry matter production is already struggling it will be prudent to start planning for forage shortages.

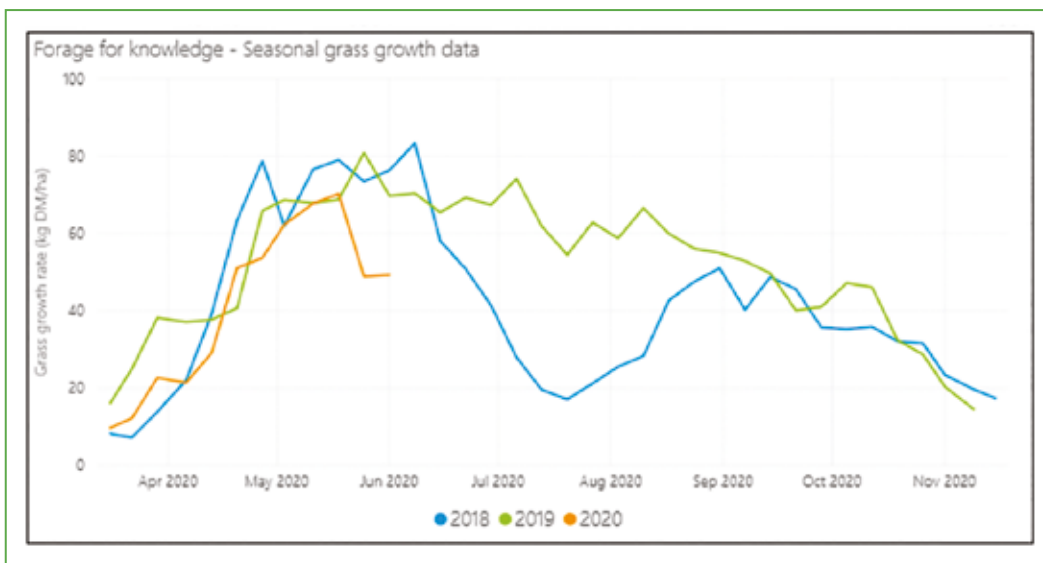


Table 1- AHDB Forage for Knowledge, 28 May 2020

## Action Points:

1. Calculate how much silage dry matter you have in the clamp.
2. Calculate the average feed use: kg of dry matter per head per day and consider what alternatives you have for youngstock and dry cow requirements.

Working on DM basis gives a more accurate figure and might reveal that you are not as short on quantity as you think you are. For example, you might take a small volume of second cut, but if the dry matter is 45% instead of the normal 30%, then the tonnes of dry matter in the clamp could be more than you expect.

## How to calculate forage stocks:

1. Calculate clamp size: Volume (m<sup>3</sup>) = height (m) × width (m) × length (m)
2. Calculate silage density: the figures in the table are kg/m<sup>3</sup>

Silage dry matter, %	Clamp height, m			
	2.0	2.5	3.0	4.0
20	780	840	890	950
25	690	730	775	830
30	620	660	690	740
35	570	600	625	670
40+	520	550	570	610

Table 2 - Grass silage density guide (ref:AHDB), kg/m<sup>3</sup>

3. (Volume of clamp) × (silage density) = total tonnes forage

Whole crop tends to have a lower density of between 550 – 650 kg/m<sup>3</sup>, while maize silage is heavier with a density of 750–800 kg/m<sup>3</sup>. If a compactor was used the density of the silage could be 10% greater than the figures quoted.

4. Convert freshweight into tonnes of dry matter using a recent silage analysis. Then add your estimated yield of dry matter from any crops such as maize/wholecrop in the field, and knowing your farm include an estimate from the contribution of any late cuts of grass silage.
5. Once you have an estimate of forage stocks, divide this by the number of animals on farm and for the number of days you need to cover. Remember to consider how much grass your cows can consume if they are grazing.

If you have calculated your forage stocks to be short over the summer months and next winter, consider and explore the following options.

## Prioritise which animals to feed

Focus on pre-calvers and high yielders as they are going to drive milk yields over the next 6 months. Low yielders are lower priority animals and any cows that are due to be culled shortly should be sent off early to save forage. Youngstock will do very well on straw or hay supplemented with a concentrate or home mix.

## Maintain the forage stocks you have:

Good clamp management is essential. Keep the clamp face neat and flush, with the plastic close to the face to limit oxygen penetration and heating. Any heating in the clamp will significantly reduce the energy content of the silage and potentially lead to issues with yeast, mould and mycotoxin growths. Trough management is also crucial in reducing waste, particularly if the weather is warm as rations will tend to heat more. If affected, consider using TMR stabilisers or Ultrasorb mycotoxin binder.



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## Replacing forage:

Although traditional to feed forage, it is not actually essential. The importance of feeding lies in the consistency that is achieved in the rumen in terms of dry matter, digestibility and availability of feed. In this situation, rather than high-energy materials, select cost effective ingredients which bring consistency to the diet and encourage high dry matter intakes. Wet succulents would be an option, but dried ingredients are often easier to source with lower on farm losses and generally lower haulage costs. Remember to convert feeds into a dry matter basis when comparing suitability of purchases and run a relative feed value calculation with your consultant.

The following is a list of some high fibre ingredients that could potentially replace silage:

	Analysis guide, on a DM basis				Comment	Feed rate, kg, up to:
	DM, %	ME, MJ/kg	Fibre, % (NDF)	Protein, %		
Wheat straw	85	6.5	81	4.3	Low energy, must be chopped to 10-12 mm	6 kg
Palm kernel	90	12.2	69	17	Can be gritty and soapy tasting	2 kg max
Soya hulls	86	12.2	68	11.5	Good source fibre and a good forage replacer	6 kg
Wheatfeed	88	11.9	36	18	Good all-rounder, needs water to soften	6 kg
NIS, Nutritionally Improved Straw	90	9.0	66	3	Enhances rumen health	6 kg
Brewers grains	24	11.7	57	24	Limited supply, hard on BF%, prone to heating	15kg
Malt culms	89	11.5	53	27	Limited supply	4 kg
Oat husks	84	6.5	50	7	Variable, can be a mycotoxin risk	3 kg
EU Sunflower	89	9.6	47	34	Cost-effective protein	2 kg
Imported beet pulp	88	12.4	37	9.7	Very hard nuts, need water to soften	6 kg
Pressed Pulp	27	12.7	55.7	11	Available once sugar beet factories open	15kg
Fodder Beet	18	11.9	12.7	6.3	Available throughout winter	15kg

## TOP TIPS:

1. Beware of diet sorting: Discuss compact feeding with your consultant to prevent acidosis and butterfat losses.
2. Keep your eye on dietary protein: Diets with low rumen-degradable proteins will benefit from adding feed grade urea.
3. Do not forget minerals- Grass silage provides some major minerals which are vital for production, calcium, magnesium and sodium. Talk to your nutritionist about topping up with limestone, mag-oxide and salt in addition to the mineral being fed if using forage extenders.

## Grazing

If grass growth comes back and more normal grazing can resume, then trials in Northern Ireland have suggested that high-yielding cows offered concentrate (8kg+/day) can graze tighter without having a detrimental effect on cow performance. As grazing intensity increased, overall grass utilisation and stocking rate increased with over 80% of grass offered being consumed by cows, verses 35% on extensive grazing systems.

	Grazing intensity		
	TIGHT	NORMAL	LAX
Post-grazing sward height (cm)	5.2	6.1	6.8
Grass utilisation efficiency (%)	81	69	62
Grass metabolisable energy content (MJ/kg DM)	11.9	11.7	11.7
Grass crude protein content (% DM)	23	22	21

Table 3 - AgriSearch, *Developing improved concentrate feeding and grazing strategies for dairy cows, 2014*

If you are grazing and buffer feeding, maize and wholecrop tend to have lower substitution rates on grazing intakes than grass silage.

*This factsheet has been prepared by Kite Consulting for Farming Connect.*