

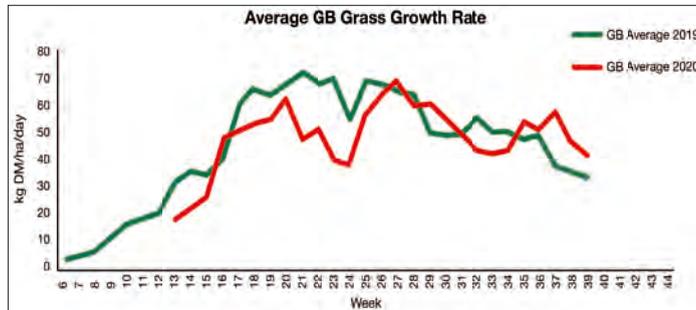
Plan this summer's buffer feeding approach now

Careful planning will help ensure effective buffer feeding to maintain cost-effective summer milk production and increased grass silage stocks for the winter.

In the face of rising purchased feed prices, making full and effective use of grass for both grazing and conservation will be vital to help maintain margins. According to Georgina Chapman, technical support manager at molasses blends supplier ED&F Man, early planning of buffer feeding will be a crucial tool in this.

She says that farmers are going to have to balance two objectives. On the one hand will be the desire to get the most from grazing to reduce purchased feed inputs in the short term. On the other is the need to ensure sufficient silage stocks for the coming winter.

"The challenge is that no one can predict how the season will



GB grass growth in 2019 and 2020.

unfold and the pattern and levels of grass growth that will be seen. And these will have implications for the supply of grazed grass and the level of buffer feeding that is required. This in turn will have a knock-on effect on winter forage

stocks if grass silage is a principal component of the buffer feed.

The graph above compares the grass growth rates for the last two years and highlights the differences that can be seen year on year. The cold wet spring in 2020 was

followed by an exceptionally hot and dry spell—leading to reduced growth. The growth throughout the summer was lower, which created a greater demand for buffer feeding.

"The more time that farmers invest this season in measuring grazing quality and quantity, the better they will be able to assess potential production from grazing and determine any needs for buffer feeds," comments Ms Chapman.

She says farmers need to accept that at some stage during the grazing season that buffer feeding will be required. Therefore, she

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Date of preparation: Dec 2020. ARK029.

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Georgina Chapman.

urges farmers to get plans in place so that they are ready as and when grass growth dips. This planning might include ensuring easy access to carried-over silage stocks to prevent having to use first cuts.

While maize and grass silage usually make up a significant proportion of a buffer feed, she advises considering alternative buffers. "It may be more cost-efficient to preserve silage stocks and feed an alternative—especially if the location of first cuts in the clamp mean that they have to be used ahead of any carryover from the 2020 harvest," she says.

Buffer feeding research

"New research carried out at the Agri-EPI South West Dairy Development Centre, funded by ED&F Man, shows that including a proportion of straw and a molasses-based liquid feed in the buffer feed can be an effective solution—allowing production to be maintained while preserving valuable silage stocks."

The trial made use of the

centre's GEA Mullerup automated feeding system, which allows precisely mixed rations to be produced automatically and consistently for multiple groups of cows or even individual animals. The digitally-controlled system has the precision required in feeding trials. Although initially supplied with the capability to mix forages and dry feeds, as part of the trial two fully-automated molasses tanks were installed by ED&F Man.

Agri-EPI's operational partner, Kingshay Dairy Consultants, was involved in both project delivery and data analysis, working closely with Agri-EPI to ensure that protocols were followed in line with the project's programme to deliver robust results.

Ms Chapman explains: "In the trial the aim was to evaluate the impact of replacing a proportion of grass silage in the buffer feed with a mix of wheat straw and Regumix—a palatable high energy and protein molasses based liquid feed (see table).

"In both diets the grazing intakes were the same and the total



Duncan Forbes at the Agri-EPI South West Dairy Development Centre where the buffer feeding trials were conducted.

dry matter intake was unchanged. Performance was then compared between cows on the original buffer feed and the molasses/straw buffer.

"Over a six-week period there was no difference in yield between cows fed the initial buffer and those where straw and Regumix was included. The cows were

mainly later lactation and the animals on the molasses buffer showed similar lactation persistency but slightly better compositional quality. Importantly for cows in later lactation, there was no difference in body condition changes between the two groups," she says.

Agri-EPP Centre buffer feeding trial results

	Base diet	Trial diet
Buffer feed (kg/day)		
Grass silage	25.5	18.0
Grazed grass	35.0	35.0
Blend	4.0	4.0
Regumix	0.3	1.5
Wheat straw	0.0	1.5
Trial results		
Starting milk yield (litres/day)	21.4	22.3
Ending milk yield (litres/day)	18.6	19.2
Starting average condition score	2.75	2.75
Ending average condition score	2.5	2.5

Silage saving quantified

"However, there was a saving of 7.5kg of silage per cow per day. Assuming 200 cows were fed the new buffer, the total silage saved over the six weeks would have been over 60 tonnes—giving more for winter feeding.

"But looking at the grass growth graph, in a commercial herd the buffer feed would probably have been needed for 18 weeks—giving a potential saving of nearer 200 tonnes of silage. This could then be available to increase the silage fed per cow per day over the winter feeding period,

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NUTRITION AT GRASS

or ensure that stocks are sufficient for a longer housed period," she suggests.

"Another advantage of molasses and straw is that they are ingredients that are easily stored on farm, are not subject to waste unlike some moist ingredients and, if not used as a buffer, can be used

as part of the winter diet.

"Planning now to include a proportion of molasses and straw in the buffer feed could be one way to maximise silage production and availability, maintain production from grazing and help reduce the impact of higher feed costs," Ms Chapman advises.

Technology increases buffer feeding precision

New technologies will allow farmers to more accurately manage the requirements for buffer feeding and help drive utilisation of grazing, believes Duncan Forbes, head of dairy at the Agri-EPI South West Dairy Development Centre.

"The objective when grazing is to optimise the intake of grazed grass and to accurately complement grazing availability with a suitably formulated buffer," he suggests. "Feed too little buffer and cows will under perform and possibly lose condition. Feed too much buffer and cows will eat buffer in place of grass, reducing grazing intakes and pushing up costs."

The issue is one of management and measurement. More farmers are using rising plate meters to assess growth and determine potential intakes and a growing number are also sending grazing samples for analysis. But the degree of measurement is still less than ideal in most cases, maintains Mr Forbes.

"We know growth rates can change very quickly while the key drivers of quality such as dry matter and ME content can vary almost daily. With the best will in the world, no dairy farmer can keep on top of grazing output using manual techniques. At the same time, adjusting buffer feeds on a more frequent basis would be a challenge. But collecting and utilising better management information could help take a significant step in improving grazing use—and new technologies hold the key to this."

Mr Forbes says that trials are already underway using hyperspectral imaging and satellite data to monitor and predict grass growth to optimise precision grazing and fine-tuning of buffer feed. By gathering real time information of grass availability and quality it is possible to more accurately estimate the contribution from forage and so ensure buffer feed complements grazing effectively.

"My ambition, and challenge to the tech developers, would be that in future these data are fed directly into the feed kitchen control system, meaning the buffer fed to cows is automatically adjusted to precisely match requirements.

"Integrated use of data and technology in this way can help improve the contribution from grazing, reduce feed costs, improve grazing utilisation and help meet carbon reduction targets for more sustainable systems," he predicts.



The feed kitchen at the Agri-EPI centre.



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