Fermented wholecrop will help ensure sufficient forage

With first cut disrupted or delayed in many parts of the country, Biotal technical support manager Roy Eastlake believes fermented wholecrop can help ensure farms enter the winter with sufficient stocks of good quality forage.

"The foundation of a robust dairying system is maximising production from forage," comments Mr Eastlake. "Ensuring adequate forage stocks has to be an annual priority on all dairy farms as it underpins the diet and margins over the winter period.

"Yet year in year out, many farmers fail to produce as much as they truly need, or they have to compromise on quality to reach the required quantity level. Rather than being able to consider how best to use, say 12kg DM/day of an average 11MJ feed, they have to find ways to eke out supplies or complement quality, both of which reduce milk from forage and increase costs.

"The majority of forage systems in the UK are based on a combination of grass and maize silage, meaning you are relying on both crops performing if target yields are to be achieved. The reality is we have not had a year when both crops have been better than average for over five years and this year is shaping up to be no different."

He says while farmers in some parts of the country were able to take first cut in late April, elsewhere farmers were still cutting in late May. This means that there will be a consider-able range in both quality and quantity of first cut. Prospects for second cut will influenced by when first cut was taken, the weather and grass growth rates.

The season has also had an impact on maize drillings, he notes. The cold, wet spring has delayed drillings in many parts of the country which could have repercussions for maize qual-ity and quantity.

"Late drilling will impact on available heat units which determine how all crops will ma-ture. Later maturing varieties in particular may struggle to ripen adequately."

Mr Eastlake says he is advising all dairy farmers to take time to estimate likely silage production this year as a priority and to compare likely production with requirements.

"Measure up the clamps to assess first cut quantities and make estimates of second and subsequent grass cuts. Also make a realistic assessment of anticipated maize yields.

"How many tonnes of dry matter will you have? How does this compare with the tonnes of dry matter you need? For example a cow eating 12.5kg DM/day for a 200 day winter will require 2,500kg DM for the winter. Will you have enough?

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"If there is a possibility you are going to be short of forage there is still time to do something about it. If grass growth rates remain high you could stock cows tighter and take more second, third or fourth cut. You could make opportun-istic cuts of big bale silage for heifers and other stock. Or you could consider taking some fer-mented wholecrop."

Mr Eastlake says wholecrop can provide a valuable forage and is more flex-ible than many people imagine. By allowing a range of harvest dates, it can be cut strategically to react to the season as it unfolds. This flex-ibility can make it easier to more consistently achieve the yields of quality feed required to maximise yield from forage and reduce the demand for purchased feeds.

"A major trial in 2015 carried out by Biotal and NIAB at Harper Adams University showed that by varying the cutting date it is pos-sible to significantly influence the yield, dry matter and nutritional value of a crop. Wholecrop is not a one stop feed like maize and grass. It is a truly flexible feed.

Importantly, analysis of the forages produced confirms that cutting date can be varied without signifi-cantly impacting overall D value.

"As expected, crops get pro-gressively drier as they mature but there are also significant changes in composition, affecting feed value. All crops followed a similar pattern of development meaning they can all be used in different ways as the season progresses."

The table above shows the physical yields and feed val-ue of winter wheat fermented wholecrop at different cutting dates.Earlier harvested mate-rial is wetter with lower starch and higher digestible fibre, while later harvested crops are drier withmore starch but less digestible fibre. This means they will feed differently and can serve different purposes in a diet. Importantly, analysis of the forages produced confirms that cutting date can be varied without significantly impacting overall D value.

For all the crops grown the digestibility stayed remark-ably constant with time. As the crop matured the digestibility of the grain increased as the digest-ibility of the plant declined but the overall forage digestibility remains consistent.Mr Eastlake says the trial shows that spring and winter crops are equally suited to wholecrop and that both barley and wheat produce an excellent feed.

"As wholecrop is a starchy and drier forage, using an inoculant will help reduce the risk of nutri-ent loss due to aerobic spoilage, especially in drier crops. In an earlier harvested, lower dry matter crop it will also help accelerate the rate of initial fermentation.

Only use an inoculant for-mulated for use on wholecrop to ensure the most effective fermen-tation and select the one most suited to the target dry matter at harvest. For crops below 45% DM at harvest we advise using Biotal Wholecrop Gold, while for drier crops the recommended inoculant is Wholecrop Goldmill.

"Where there is likely to be a forage shortfall, a decision made now to take some wholecrop could represent a sound business decision, helping avoid the need to feed less forage per day or look-ing at ways to reduce the winter feeding period to make stocks last. Fermented wholecrop winter wheat typically yields at 12t DM/ha when harvested early, rising to 18 to 20t DM when harvested later. Harvesting 10 hectares of wholecrop would give between 120 to 200t DM, enough for three to five kg additional forage dry matter per day for 200 cows for a 200 day winter.

"By assessing stocks by mid-June it will be possible to decide how much wholecrop is required and at what quality, helping you take control with forage," Mr East-lake stresses.

Effect of harvest date of yield and quality of wholecrop wheat

	7 July	14 July	21 July	28 July	4 Aug
DM yield (tDM/ha)	11.16	12.87	14.46	16.55	20.51
DM (%)	22.5	29.7	30.3	35.3	55.3
D value	61	64.6	66.5	66.1	66.5
Starch (%)	0.0	10.0	17.8	22.0	25.2
NDF (%)	60.9	43.3	42.1	42.6	43.4
ME (MJ/kgDM)	9.5	10.1	10.4	10.3	10.4