

Reduce risk and boost milk production from home-grown feed

Flexible 'forage' friend

Growing and feeding wholecrop offers so much more than just an alternative to maize silage. Not only can it take the sting out of a bad growing season – be it for grass or maize – but it can also help to increase milk produced from home-grown forage.

text **Phil Eades**

Fermented wholecrop is commonly regarded as a poor man's maize – an alternative starchy forage to be grown where maize will not thrive. But all this could be about to change as trials suggest it can be the key to reducing risk and unleashing greater production from forage.

So says Biotol's Roy Eastlake, who is

convinced that wholecrop offers a unique degree of flexibility that could help to ensure better yields of higher quality forage are produced more consistently, year on year.

"The foundation to a robust dairying system is maximising the proportion of milk produced from forage," he says. "Yet, year in and year out, many

producers struggle to produce as much as they truly need, or quality fails to meet expectations due to the season.

"Rather than being able to consider how best to use, say, 12kg DM per day of an average 11MJ per kilogramme feed, they have to find ways to eke out supplies or complement quality. Both options reduce milk production from forage and increase costs."

Risk management

Mr Eastlake says that the main reason for this is the risks inherent in forage production and the lack of risk management practices on farm. "The majority of forage systems in the UK are based on a combination of grass and maize silage, meaning that producers are relying on both crops performing

Essential ingredient: wholecrop is one of three forages in the Hartpury College herd's TMR





Roy Eastlake: "One way to reduce risk is to grow a third 'flexible' crop"

at optimum levels if target yields are to be achieved.

"In a good year for both, this can deliver high yields of quality forage, providing the foundation of cost-effective diets. But what about in a bad year?"

"The reality is that we have not had a year when both crops have been better than average for more than five years. And, despite what some will tell you, there is no such thing as 'being due a



Peter Lord: "Wholecrop is now an integral part of our system"

good year'," he says. In 2014 many producers saw poor grass silage and reasonable maize. In 2015 grass was better, but maize was disappointing in some areas. "In both these years, producers had to work around forage shortfalls in quantity and quality and find ways to feed cows cost effectively," adds Mr Eastlake.

He says that one way to reduce risk is to grow a third 'flexible' crop, where production can be tailored in response to the season, and a recent trial has shown that fermented wholecrop offers huge potential.

Cut strategically

"Rather than being considered as just an alternative source of starch to maize, it should be seen as a way to spread risk," Mr Eastlake says. "By allowing a range of harvest dates, it can be cut strategically to react to the season as it unfolds. This flexibility 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.

"Fermented wholecrop is the only crop grown in the UK that has the potential to offer this. To exploit this potential, producers need to better understand exactly what the crop offers. In short, is wholecrop more than a just starch substitute for maize?"

Biotol carried out a major trial in 2015, in conjunction with NIAB. The objectives were to compare 11 winter and spring options; to understand how crop development affects nutritional value; and to devise practical strategies based on harvesting criteria. It asked: can wholecrop management be tailored to produce a specific type of forage to suit different circumstances? The trial results showed that by varying the cutting date it is possible to 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 and, importantly, analysis of the forages produced confirmed that cutting date can be varied without significantly impacting on overall D value. For all the crops grown, the digestibility stayed constant with time," says Mr Eastlake.

Typically seen as a way of preserving winter wheat, the trial showed that a wide range of crops are suitable. Producers can choose a crop to suit their unit, their herd and their rotation – whether they are looking for a winter or spring option. This choice means wholecrop can be grown on the overwhelming majority of dairy units.

"By growing wholecrop to spread risk and increase forage production, strategies can be developed to help deliver more robust systems with lower and more predictable costs of production," he adds.

Several benefits

One producer who has been successfully using wholecrop since 2008 is Peter Lord, farm manager at Hartpury College in Gloucestershire, who incorporates wholecrop into this 300-cow herd's ration. "We first grew wholecrop because we were going to be short of maize, but it is now an integral part of the system and I wouldn't want to be without it. It offers several benefits.

"It fits our system perfectly. Spreading the summer workload and being harvested in July helps reduce the pressure to establish grass behind it. We usually grow around 30 hectares of winter wheat. It has consistently yielded about 35 tonnes fresh weight per hectare, at between 33% and 36% dry matter."

The wholecrop is fed as part of a TMR with both grass and maize silage. Typically forage dry matter intakes will be between 12.7kg DM/cow and 13kg DM/cow, with around 1kg DM of wholecrop.

"It is not a huge proportion of the diet, but we have the option to feed more if one of the other forages fails to perform. But wholecrop brings more to the diet than its nutrient content. It helps to 'open up' the diet, improving presentation and intakes, which make it a really valuable part of the system."

Mr Eastlake suggests that as producers are unlikely to see milk prices increase to previously high levels again, developing robust and lower cost systems will be essential for the future prosperity of many businesses. "So thinking differently about how to produce forage to reduce risk will be a good place to start." |

