

Brassicas boost forage output and help to cut feed costs

# Kale – your flexible friend

Brassica forage crops, such as kale and forage rape hybrids and stubble turnips, offer producers some flexibility during the grazing season and throughout the winter. And they can also significantly reduce feed costs.

text **Rachael Porter**

Cutting production costs remains the name of the game. And with feed being one of the major costs for dairy businesses, growing and feeding brassica crops, such as kale, can offer a cost-saving advantage and a degree of flexibility. So says Limagrain's Martin Titley, adding that the flexibility offered by a crop like kale can also be



*Strip grazing: kale offers an alternative to grass when growth slows or it can be used to extend the grazing season well into the autumn and winter*



## Brassicas offer flexibility and extended grazing

Grass can burn up by August on David Watson's relatively dry unit, close to Biggar in Lanarkshire. So for the past three years he's grown five hectares of kale (Maris Kestrel and Pinfold) and forage rape hybrids (Redstart and Interval) to take the pressure off and extend the grazing season for this 100-cow herd.

"These brassicas are an insurance policy against a dry summer and, if they're not required in August or September, the cows will graze the crops later – sometimes as late as December. Dry cows have also grazed them in January. It's a very flexible crop and it's great 'back up'. Mr Watson sows kale in May and the hybrid a little later, in June. Staggered sowing also creates some additional flexibility. He says that the kale can be left and not grazed until November, but it's also ready come August. The hybrid grows a little faster – just 10 weeks and it's ready to graze. "But it doesn't stand around for too long before it starts to lose its nutritional value."

His brassica crops follow grass and he says they're relatively easy to grow. "I spray off the grass field and direct drill – trial and error has shown that this works best on our land. It's also easy to



David Watson: "Growing brassicas ensures that there's a 'green bite' in a dry year"

strip graze too. All you really need is a strong electric fence!"

Above all, the crops give him peace of mind. "They're a back up in a dry year – a 'green bite' when everything else has stopped growing due to low rainfall. It's vital to extend the grazing season and maximise the use of home-grown forages, in order to keep feed costs down," he says. "With these crops in the mix I know we can manage, even when

the grass wedge is a bit thin. The cows can strip graze the brassica crops for a short period to allow the grass wedge to build up a little."

Mr Watson sows a stubble turnips and grass mix on a small section of the kale field, to provide a 'loafing' area. These turnips are ready for grazing in just six weeks. "They have plenty of leaf, a decent D value, and also offer an early bite if forage stocks run a little low."

extremely useful during a challenging grazing season.

"Brassicas and other forage crops can be a life-line in a dry summer, offering an alternative to grass grazing if growth slows in August, as it does in some parts of the UK," he says.

He's a fan of kale, in particular, which he believes has been over looked and forgotten in favour of some forage rape hybrids.

"Kale will retain its D value for longer

Martin Titley: "The feed value is in kale's stem – not so much the leaf"



than many of the hybrids, as a standing crop. So, if you sow kale in May with a view to grazing in August but then, come August, you have plenty of grass, the kale will wait. It could be left until December, January or February before it's grazed and it will still be just as nutritionally valuable."

Mr Titley says that kale also offers higher yields – between 8t/ha and 9t/ha, compared to between 3.5t/ha and 4t/ha for forage rape hybrids.

"The feed value of kale is in the stem – not so much the leaf," says Mr Titley. "Producers should select 'marrow stem' varieties, such as Caledonian and Grampian, for grazing dairy cows. The latter offers a digestibility value of 73.7% and they all 'hold' their D value for several months."

### Untapped opportunity

Germinal's Paul Billings agrees that brassica fodder crops remain an untapped opportunity for many and yet they offer tangible savings.

He believes that modern hybrid brassicas can provide the basis for an out-wintering system for heifers or dry cows, significantly reducing pressure on housing and eliminating a lot of the associated costs. "Varieties such as Swift or Redstart can establish a grazing crop in as little as 10 weeks and then provide feed for a significant proportion of a winter. These hybrids combine the fast growing qualities of rape with the winter tolerance of kale, and provide a highly palatable and nutritious forage source," he says.

### Out-wintering system

"Strip grazing does need to be supplemented with straw or big-bale silage, but we estimate the cost of keeping dairy heifers on an out-wintering system to be about half the cost of keeping them housed. There are also additional benefits, as cattle managed correctly on an out-wintering system are generally healthier than those kept inside."





*Out-wintering: dairy heifers grazing a crop of Swift, a hardy hybrid brassica*

Mr Billings' points were illustrated during one of the wettest seasons on record at SRUC's Crichton Royal Farm, Dumfries, when pedigree Holstein heifers were reared outside, relieving housing for cows and calves. Research farm manager Hugh McClymont undertook the project in winter 2013/2014 as a pilot for more extensive studies.

The two winter-hardy varieties of hybrid brassica, Swift and Redstart, were drilled on August 1 at 6.2kg/ha, each on half of a 2.5-hectare former grass field.

Mr McClymont had also selected the field because boundary walls and trees provided shelter. Drilling costs were £50/ha with seed costs £46.50/ha plus slug pellets at 7kg/ha (£9.20/ha), which were applied with the drill.

### Soil conditioner

Big bales of good quality haylage were positioned in the field at 20-metre intervals. The crop established quickly and by the time the group of 23 spring-calving, 24-month-old heifers was put into the field at the beginning of December it was almost a metre tall.

One of the positives is the low cost of the crop, both for growing and feeding it. There is also no capital investment in buildings for young stock, which Mr McClymont knows can be a constraint for today's expanding dairy herds.

"As well as being a home-grown feed, it is also a soil conditioner and the cattle are fertilising the ground with their manure," he says. "It also provides a good break crop to be succeeded by a spring crop such as maize.

"I also think it is healthier for the stock – and the herd manager, who has to move the electric fence daily! I think the system would best suit those with a forage feeding mindset and it all comes back to costs," he adds.

### Break-crop benefits

Grazing was controlled across the field by two 250m wide electric fences to prevent the cattle getting into the crop should one fence break. The majority of the time Hugh moved the fence himself aiming to get the amount of crop available to the heifers correct to prevent wastage.

The heifers are weighed monthly and for the month they grazed the crop, daily liveweight gain averaged 0.8kg, the target for housed in-calf heifers.

Research into the system is on-going at Crichton Royal Farm, with comparisons being made between a group of spring calving heifers on brassicas and big bale silage, another on deferred grazing and big bale silage and the third fed a winter ration and housed.

Brassicas are also good for soil

conditioning – these crops are an ideal break crop prior to reseeding grass leys. "In addition to their value in reducing bought-in feed costs, they offer a cost effective break-crop option, producing high yields of high quality forage dry matter at costs of between 3p and 5p per kilogramme of dry matter," says Mr Billings.

"Whether for spring or autumn reseeding, the basic principle is to use the out-going ley for as long as possible into its final productive season before then exploiting the versatility of the brassica in the most appropriate way to plug what can otherwise be a forage gap.

"Earlier drilled crops can bridge summer grazing gaps and offer the additional opportunity for repeat grazing if managed appropriately, while those drilled later ahead of a planned spring reseed can be used for over-wintering.

"It's a win:win situation, with additional forage hectares and the best possible start for the following ley."

Martin Titley agrees. "The flexibility of these crops means that they're great to grow as an 'insurance' against a poor grass-growing summer.

"And, if you don't need to 'cash it in', it'll still provide a nutritious grazing crop later in the autumn and well into the winter." |