

Fodder for thought

Brassica breeding expands forage options for extended grazing season

What are the alternatives to grass grazing if you want to keep your herd out for longer – and possibly even all year round? We spoke to some UK experts, including a producer, to find out. Forage brassicas offer plenty of advantages – both economic and otherwise.

Out-wintering dairy replacements or dry cows on kale supplemented with straw can offer cost savings in the region of £100 per animal during a six-month period when compared with a conventional housed system based on silage and concentrates.

This was one of the headline messages at recent forage brassica meetings staged at venues across the UK by British Seed Houses. But as the company's Iain Eadie points out, both the opportunities and the benefits extend far wider.

"Significant cost savings are a major incentive for anyone to consider using forage brassicas as the basis for out-wintering, but these crops are not only about winter fodder and there are many other advantages to be gained beyond pure economics," he says.

"Brassicas the capacity to overcome seasonal shortages. This may be filling summer grazing gaps caused by drought, for example, or supplementing autumn grass when quality and/or production is lower.

Fodder beet varieties offer greater yields

In a trial involving nine varieties of fodder beet, Blaze and Robbos (formerly known as Maestro) produced the top dry matter yields of 20.3t/ha, 800kg/ha more than control variety Kyros.

Run by Limagrain UK, the trial was drilled on a Lincolnshire-based site in early April 2008 and harvested mid-October. New rhizomania-resistant variety Ribondo showed the best disease resistance to rust of all varieties, followed by Robbos.

"Over and above the cost benefits of reduced reliance on conserved or bought in feeds, brassicas can be a useful prerequisite to pasture renewal, breaking the pest and disease cycle and helping reduce weed burdens. And they can help to maximise forage acres and reduce pressure on buildings, and all advocates of brassica-based systems will agree that stock are healthier and fitter than when housed."

Forage gap

Mr Eadie stresses that the starting point is to match the crop to your particular forage gap.

"First identify when the crop is required and what land is available," he says. "This will then allow you to choose the crop that is best suited to your requirements. "Crops like stubble turnips and forage rape tend to be more suitable for short term opportunistic use, whereas kale and swedes, for example, are higher yielding and would be used as main crops.

"In recent years we have seen a significant

"Overall, fodder beet yields were higher than normal last year, due to all the wet weather. However, there was still a notable difference of 2.1t/ha of DM between the lowest and the two top yielding varieties," says the company's Martin Titley. "Compared to buying in feed wheat at £120/t, the energy gained from this extra dry matter yield is worth £280/ha, demonstrating the importance of variety selection on livestock margins."



Iain Eadie: "Significant cost savings are a major incentive"

breakthrough in brassica breeding with the emergence of inter-species hybrids, bred exclusively in New Zealand by PGG Wrightson Seeds. The first two varieties, Swift and Redstart, are now commercially available and offer even greater versatility and a wider range of benefits.

The rape/kale hybrid Swift, for example, combines the rapid growth characteristics of rape with the winter tolerance of kale, providing high yields of palatable fodder in summer, autumn or winter."

The Kiwi company is the only one worldwide that is operating a major brassica breeding programme, and the non-GM technology in use to create the inter-species hybrids shatters the perception of what are commonly considered as very traditional crops.

"We are crossing a whole range of species and creating a level of diversity that would be impossible to achieve by simply breeding single species," says the company's Andy Dumbleton.

"The inter-species hybrids that we breed are screened for their agronomic performance and disease resistance, but we carry out grazing preference trials on everything before it goes to market.

"Brassicas are helping producers all over the world to create an even plateau of forage for year-round cost efficiency. We are seeing pasture based farms using these crops for summer milk production as well as for out-wintering dry cows or dairy heifers," he adds.

Work has been done at Harper Adams



Bridging the gap: brassicas can be an ideal solution to make up for shortage in summer grazing

University College looking at the scope for out-wintering in-calf dairy heifers on stubble turnips. Housed cattle (fed straw and concentrates) were compared with cattle out-wintered on Vollenda stubble turnips. Cattle performed well on the out-wintering system, showing significant compensatory growth in the period after turnout, and variable and fixed costs totalled just £1.27/head/day, which compared favourably with £2.28/head/day in the housed cattle.

Cost per head per day

Meanwhile, more commercial producers are beginning to see the advantages. Paul Dean, who farms in the Peak District

National Park near Wincle in Cheshire, is just one of them. Paul is moving towards an entirely spring grazing herd, with 160 cross-bred cows managed on an extended grazing system.

A total of 34 spring-born heifer calves have been out-wintered this year on 2.5 hectares of the hybrid brassica Swift. The crop was direct drilled into an old sward and has received around 100kgN/ha of fertiliser in two applications. The crop is estimated to have yielded about 10 tonnes DM/ha with the cost including spray, drilling and fertiliser working out at £41/tonne.

Heifers are supplemented with round bale hay when strip grazed on the Swift,

with the total cost per head per day being just 34p. The system also fits well into the farm's pasture renewal system, and that is something that Iain Eadie is keen to emphasise.

"It is important that brassicas are integrated fully into the farming system, and not seen as a stand-alone crop," he concludes. "They should be an integral part of the farm's grass reseeding programme, so providing excellent additional fodder, helping reduce feeding costs, and improving the quality of the following swards."

Rachael Porter