

Forager

OUT-WINTERING – AN OPTION FOR DAIRY?

Investigating the viability of out-wintering dry cows and heifers on brassicas falls well within the remit of the Milk Development Council, says its head of farm management programmes **Brian Lindsay**.



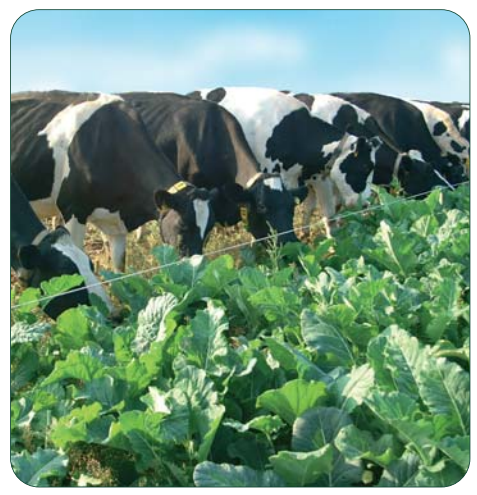
review what is known with a view to identifying the gaps and investing in practical research appropriate to the needs of UK dairy farmers. The initial desktop study – which is a worldwide search co-funded by DEFRA – should be complete within six months, and that will determine the next steps.

The MDC's priority is to help secure a more profitable future for dairy farmers, and that means challenging the status quo to find practical solutions to current problems. Saving costs is a key area, and with building depreciation, labour and feeding making up a significant proportion of the burden, there's no doubt that out-wintering non-milking stock could be a consideration – particularly as global warming seems set to have an increasing influence on the UK climate.

I've seen out-wintering systems working effectively on dairy farms in other parts of the world – and we are already seeing successful adoption over here – so it is time to

THIS ISSUE:

- The importance of reseeded mixture selection
- Monitoring the maize revolution
- Red clover fuels premium beef success
- New forage options underpin flock expansion



DAIRY COWS ON KALE

BRASSICA BENEFITS:

- Reduced building costs
- Cost effective fodder
- Rotational benefits
- Labour saving?

We must look ahead and explore all possibilities. Whether through innovation or new perspectives, our aim is to provide information that will enable farmers to make informed judgements about what is right for their businesses.

Inside this issue, we follow the progress of beef and dairy farmer, who has established 35 acres of Maris Kestrel kale to out-winter store cattle and suckler cows.

See us at the Dairy Event Stand EH4, 409



DEVELOPING LUPINS AS A VIABLE ALTERNATIVE TO SOYA

Spring sown lupins grown for their high-protein grain could in the near future offer UK livestock farmers a cost effective homegrown alternative to imported protein sources such as soya.



This development is anticipated as a result of an on-going five-year project being carried out as part of the DEFRA Sustainable Arable LINK Scheme, which encompasses germplasm improvement, agronomy (in conventional and organic rotations), feeding trials with pigs, cows and sheep, and investigations of environmental impacts. A major downside of lupins in the past has been unreliable yields and inconsistent

performance, and hence a focused selection process using the latest molecular techniques is a key prerequisite in order to lay the foundations for the breeding of new varieties. "We are concentrating on yellow and blue lupins for spring drilling, as distinct from the winter-sown white lupins that have been the focus of earlier interest in the UK," explains Michael Abberton, head of legume breeding at IGER where the project is

being co-ordinated. "In addition to more reliable yields we are also aiming for earlier maturity and greater tolerance of alkaline soils." Encouraging progress to date indicates the potential for a grain crop of 2 – 3 t/ha with a protein content in the 35 – 45% bracket and ME of 11 – 14 MJ/kg DM. Crimping is being investigated as one on-farm processing option, and feeding trials are underway at both IGER and Newcastle University to evaluate the grain as an alternative to soya and peas for sheep, cows and pigs. "We calculated at the start of the project that 1 – 1.5 t/ha would be the threshold beyond which spring-sown lupins would become viable, so the potential is clearly there to establish the crop as a cost effective

alternative protein source," concludes Dr Abberton. "Continued breeding progress, together with work to establish best agronomic practice, should bring the consistency and reliability that will make the crop a success in practice." "In addition to being a reliable and totally traceable source of protein, lupins improve soil fertility by fixing nitrogen from the atmosphere and may make more effective use of phosphorus than peas or beans – both major environmental benefits and important aspects in relation to sustainable livestock farming."

Sponsored by DEFRA through the Sustainable Arable LINK Programme in association with IGER, University of Newcastle, TAG, PGRO, Germinal Holdings, ABNA, Kelvin Cave, MDC, MLC.

Aber HSG – THE SECRET IS OUT DOWN-UNDER

New Zealand dairy farmer Duncan Barr says he tried to stay level headed and objective when he first noticed significant lifts in milk production from AberAvon high sugar grass.

"The first time I thought it was a fluke. The second time I thought it was a bit coincidental. The third time I concluded it had to be the high sugar grass," he says. "It wasn't as though cows were going from old brown top onto quality grass or were suddenly getting extra rations. Twelve hours after going onto AberAvon, they produced 2-3 litres per cow per day more milk – every time, simple as that." Read more from New Zealand in future issues of Forager.



GERALD COSSGROVE OF ABERRESEARCH (LEFT) AND DAVID KERR OF GERMINAL SEEDS NZ DISCUSS THE IMPACT OF ABERAVON HSG WITH DAIRY FARMER DUNCAN BARR.

FIND OUT MORE...

If you would like additional information about forage crops and new varieties, the following technical guides are available FREE on request from British Seed Houses.

- AberHybrid Ryegrass** - pioneering varieties that harness together the best traits of Perennial and Italian Ryegrass.
- FodderMaster Guide** - a comprehensive, practical guide to growing cost-effective brassica forage and root crops for ruminants.
- Seed Mark** - Top quality grazing and silage mixtures, including AberHSG, AberHybrid Ryegrass and other IGER-bred varieties.

- Aber Clover Management Guide** - how to make the best use of red and white clovers. Plus a review of all Aber clover varieties.
- Game Cover Crops** - find out more about successful cover crops with this practical and comprehensive guide.
- Aber Grass & Clover Mixtures** - the definitive guide to the new "Aber" varieties developed by IGER for more efficient meat and milk production.

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IMPROVING GRAZING LEYS WITH THE USE OF HIGH QUALITY ABER RYEGRASSES AND WHITE CLOVER HAS BEEN THE FIRST STEP IN INCREASING FORAGE OUTPUT AT DINAS ISLAND FARM

FORAGE INNOVATION UNDERPINS FLOCK EXPANSION

Far from facing an unsubsidised agriculture with trepidation, North Pembrokeshire father and son farming partners Roger and Neil Perkins are embracing change and adapting their business to ensure a profitable future for themselves and future generations.

Key to their strategy going forward is to increase the forage production capacity of 600-acre Dinas Island Farm to underpin an expanded and improved breeding sheep and lamb finishing operation. At least part of their inspiration has come from New Zealand, where first Roger in 2001 and then Neil more recently undertook Churchill and Nuffield Farming Scholarships respectively, returning with first hand experience of how this industry has survived under free market conditions. "It was following my father's tour of New Zealand that we first embarked on improving our grassland, introducing white clover along with better quality ryegrasses," explains Neil. "Since then we have taken a more strategic look at the overall business in light of CAP Reform changes and have decided to increase our sheep numbers and convert our intensive barley beef into a more extensive forage-

based system. "We've stopped growing barley as a consequence, and now have a lot more pasture and aim to reseed the cultivable land on a 4 – 5 year rotation, using stubble turnips and potentially other alternative forages such as chicory and forage rape as break crops." Around 400 acres of the Perkins' land is rented from the National Trust, and roughly half of this is either wetland, woodland or coastal bents and is farmed within various environmental schemes. "We have a good relationship

with the National Trust and ultimately both parties benefit from a co-operative approach," adds Neil. "Our more extensive beef cattle graze well on the environmental pastures and, with the increased productivity on other parts of the farm, restrictions such as wildlife buffer zones in some areas are not an issue. "We have never been big fertiliser users, but the improvement of pastures through reseeded – and most importantly the introduction of white clover – means we are even more efficient in this area and that again meets our objectives without compromising the relationship with our landlord."

Expansion and improvement of the Dinas Island Farm flock will involve a transition from Welsh Mules to Lleyn, with ewe numbers rising from 800 to a target of 1,800. Meanwhile a pedigree flock of 50 Suffolks will be increased to 300, to provide terminal sires for the Lleyn flock as well as additional income from sale.

Ultimately, the Feb/March lambing Lleyn flock will be aiming to rear and finish close to 3,000 lambs off forage, and Neil aims to employ all the technology available to achieve his goal.

This includes the selection of performance recorded breeding stock, to ensure he has the best genetics available from both the male and female lines, as well as faecal egg counting to optimise worm control and electronic identification to aid all aspects of management.

It also includes the introduction of alternative fodder crops, to complement the high quality grass and white clover leys that now dominate

the farm. So far, Neil has seen the benefits of Vollenda stubble turnips, drilled in June 2005 for grazing in the October to December period, and this demonstrated the crop's potential for finishing lambs – but is still very much a work in progress. "The main problem with the stubble turnips last autumn is that we didn't grow enough of them," he says. "The idea was that we'd finish the final one-third of the lamb crop by grazing them, but we ran out before we'd managed to get all the lambs away. "We're growing more this year for finishing lambs, but the longer term plan is to finish all the lambs pre-winter and to use the turnips to over-winter the ewes.



VOLLENDIA STUBBLE TURNIPS, DRILLED IN JUNE, WERE ON COURSE TO PROVIDE VALUABLE ADDITIONAL FODDER IN THE AUTUMN (PICTURED EARLY JULY)

"I think the inclusion of perennial chicory in new grass and white clover mixtures will provide the right forage for finishing lambs, so in future we shall aim to wean lambs onto this kind of ley. "The stubble turnips will feature strongly in the rotation, as they provide a good break from grass and create the opportunity for a stale seedbed prior to reseeding, which is crucial now that we are no longer growing barley."

It also includes the introduction of alternative fodder crops, to complement the high quality grass and white clover leys that now dominate

KEY POINTS:

- Quality grass/clover leys
- Stubble turnips for additional grazing and break
- Inclusion of Grasslands Puna chicory in grazing leys
- Alternative brassicas under review



GOOD MANAGEMENT OF NEW LEYS INCLUDING TIMELY TOPPING TO PREVENT HEADING, IS KEEPING GRAZING QUALITY HIGH

ON TRACK FOR OUT-WINTERING

South Wales livestock producer **Paul Rymer** is well on track for out-wintering his beef cattle later this year after sowing 35 acres of Maris Kestrel kale on 22nd June.

The kale has gone into five fields at Wylands Farm and Portskewett. The ground was ploughed, power harrowed with a combination drill and sowed at 2kg/acre, then rolled. The crop then received 150 kg/acre of 21:8:11 fertiliser.

Despite the summer heatwave and near drought conditions the kale has established extremely well. "I'm sure any other crop would have really struggled, but the kale is greening up nicely and doesn't look at all stressed," he comments.

Tenant farming operation PA and MJ Rymer run three units on 80 Holstein Friesian dairy cows plus followers, and beef and sheep operations. Some of the kale will be used to grow on around 200 14-15 month store cattle from October. "Previously we were bringing the store cattle inside and finishing them on cereals, but they were getting too fat, too young. Now they'll stay out on the kale into the winter and hopefully finish at higher weights."

The kale will also out-winter



PAUL RYMER (RIGHT) INSPECTS MARIS KESTREL KALE WITH RICHARD WILKIE OF BRITISH SEED HOUSES, HAVING POSITIONED BALES FOR IN-SITU WINTER FEEDING. THIS MEANS NO MACHINERY NEEDS TO GO ON THE LAND DURING WINTER.

suckler cows and calves from October this year.

"We expect the cows and calves to be out all winter and the kale should keep the cows milking well," concludes Paul Rymer.

ULTRA EARLY MAIZE GAINS GROUND

Revolver is the most recent Ultra Early forage maize variety to become available in the UK and – like the longer-established Maturity Class 11s Scimitar and Camelot – is offering farmers in both favourable and less favourable areas new options when growing the crop.

Much has been said and written about the benefits of Ultra Early in the context of the new environmental responsibilities for maize growers – specifically in terms of meeting cross compliance obligations through ensuring a timely harvest – but these varieties offer far more than this in a broader agronomic and cost reduction context.

Extreme early vigour is a trait offered by Revolver, for example, which has already shown its value in its first season of full commercial availability. 2006 is the first season for many years that growers have not had the low-cost chemical weed control option of atrazine, so canopy closure – to provide a natural barrier to inter-row weed development – has been all the more important. Reports from several areas of the UK during the latter half of June reported the rapid development of Revolver towards canopy closure, and this can only be good news from a weed control perspective – most notably in reducing the potential costs incurred.



AGRONOMIST BEN LINNINGTON OF CROP CARE AND ANIMAL HEALTH COMPANY SPURHILL DEMONSTRATES THE EARLY CANOPY CLOSURE OF A CROP OF REVOLVER NEAR SHREWSBURY IN SHROPSHIRE AT THE END OF JUNE. THE 30-ACRE FIELD WAS DRILLED IN THE FIRST WEEK OF MAY.

Early canopy closure has also had particular advantages in 2006 by improving soil moisture retention, particularly in areas where drought conditions prevailed in the early part of the summer. This has undoubtedly allowed some crops to kick on earlier, despite a lack of rainfall.

can bring the maturity date forward by 2-3 weeks, although the evidence is largely anecdotal.

"With a variety like Revolver, for example, growers can produce dry matter yields comparable to the best Maturity Class 8s. What's more, a dry matter content of 38.5% in Descriptive List trials shows that optimum maturity (28 – 32%) could easily come three weeks earlier than a mainstream variety if you apply the accepted formula of 2% dry down per week.

"30% of the maize grown in counties like Cumbria is currently under plastic, but a good proportion of these could save themselves the cost by selecting an Ultra Early variety."



6 FT CHESHIRE DAIRY FARMER PETER DODD IS BARELY VISIBLE IN HIS CROP OF REVOLVER DURING THE FIRST WEEK OF JULY.



THE FELS IN THE BACKGROUND TELL YOU THIS CROP OF REVOLVER IS IN CUMBRIA, AND IT WAS ABOVE KNEE HIGH ON THE 4TH OF JULY, AS EGREMENT FARMER MICHAEL COTTAM AND STEVE HEMMINGWAY OF ASPATRIA FARMERS FOUND OUT.

Further north, Scimitar and Camelot have become the favoured choice in recent years over the older favoured varieties for the more marginal areas, offering yield as well as earlier maturity. Revolver is now also making a mark, and – with the kind of performance that the trial data indicates – all the Ultra Earlys could well remove the need for plastic on some farms.

"Growing maize under plastic adds £70 - £100/acre to the growing costs, or around 30%," says Helen Mathieu of British Seed Houses. "So fresh weight yields need to be increased by a similar percentage of 20-30% to break even on the investment. It is also claimed that plastic

RED CLOVER CONTRIBUTION

Red clover was included in an alternative version of the advanced mixture, which was grown alongside the two other plots. This mixture with red clover yielded a further 0.6kg/sqm above that produced by the advanced mixture, clearly illustrating the potential contribution that this inclusion can make in a silage-cutting situation.

Sugar Grass varieties – the intermediate perennials AberStar and AberDart and the hybrid AberEcho – plus the small leaved clover AberAce and the medium leaved clover AberConcord. The control mixture comprises of intermediate diploid and tetraploid perennial ryegrass varieties and white clover, all in comparable proportions and selected from the current Recommended List.

FRESH WEIGHT YIELDS FROM SQUARE METRE PLOTS ON 17 MAY 2006

Mixture	Contents	Fresh weight yield
Advanced	2kg AberEcho hybrid PRG, 6kg AberStar int. diploid PRG, 6kg AberDart int. diploid PRG, 0.25kg AberAce white clover, 0.75kg AberConcord white clover	4.6 kg/sqm
Advanced + red clover	2kg AberEcho hybrid PRG, 5kg AberStar int. diploid PRG, 5kg AberDart int. diploid PRG, 2kg Merviot red clover, 0.25kg AberAce white clover, 0.75kg AberConcord white clover	5.2 kg/sqm
Control	10kg intermediate diploid PRG (5kg x two varieties), 4kg intermediate tetraploid PRG, 1kg white clover	3.8 kg/sqm



HELEN MATHIEU (LEFT) OF BRITISH SEED HOUSES MEASURES REGROWTHS AT THE REASEHEATH COLLEGE GRASS DEMONSTRATION SITE IN CHESHIRE, WITH THE COLLEGE'S RICHARD GEORGE

Reaseheath College, who is overseeing the demonstration.

"All varieties used in the trials are on the NIAB Recommended List, so it is interesting to see such variation between the mixtures.

"Grass and clover breeding has made great strides in recent years, and there are clear advantages to be gained by livestock farmers if they select their mixtures carefully and insist on the best."

The advanced mixture contains the three Aber High

WHEN RESEEDING, SELECT THE BEST AVAILABLE

Multiple benefits of reseeding with the best-performing grass and clover varieties are being graphically demonstrated at a field-scale site at Reaseheath College in Cheshire.

At the 15-acre field that was reseeded in August 2005 with three comparative mixtures, early season growth and post harvest regrowth measurements are showing tangible advantages in favour of IGER-bred Aber grass and clover varieties. The demonstration is also highlighting the yield and regrowth advantages of including red clover.

All three mixtures were drilled at a seed rate of 15kg/acre into a good seedbed following ploughing and two passes with a power harrow. The field had been in set aside and received heavy applications of manure before cultivation.

Fertiliser applications have again been standard across the site, and have been managed in accordance with Nitrate Vulnerable Zone restrictions. As a result, an aftercut application of 80kgN/ha of nitrogen has been applied on 14th June, but

no additional potash or phosphate has been used. The field was grazed with sheep over winter and a clover-safe dock spray was used in early May.

BENEFITS OF SELECTING THE BEST

In a key comparison of a control mixture containing widely grown perennial ryegrasses and white clover from official recommended lists with an advanced mixture containing IGER-bred varieties, fresh weight yields in mid May were over 20% higher. Equally significant, however, is the contrast in regrowth just a few weeks after a first cut was taken – 2 weeks late due to wet conditions – on 5th June. "Speed of regrowth is a clear indication of the superior performance of the advanced mixture and backs up the fresh weight measurements that were taken before first cut," commented Sam Grundy of



TIM (RIGHT) AND JOHN DOWNES BELIEVE HIGH QUALITY RED CLOVER SILAGE IS THE SECRET TO THE SUCCESS OF THEIR ORGANIC BEEF SYSTEM

ORGANIC BEEF KEPT IN CLOVER

Red clover and high sugar ryegrasses are combining to provide the key component of the beef-finishing ration at John and Tim Downes' Longnor Farm organic unit in Shropshire.

Round-baled at 30-35% dry matter, and typically analysing at 16-17% crude protein and around 11 MJ/kg ME, the forage is the mainstay for Aberdeen Angus cross steers and heifers in the months prior to slaughter, supplemented by up to 1kg/hd/day of home-mixed cereals.

Further improvements in performance are anticipated going forward, partly from the use of better red clover varieties as breeding progress gathers pace, but also from practical innovations on the farm such as the investment in a round baler that chops the forage and should therefore improve intakes and reduce wastage.

Beef calves at Longnor Farm originate from the 160-strong New Zealand Friesian dairy herd, with all heifers – plus any cows requiring a sweeper – being served by the Downes' own Aberdeen Angus bull.

This produces around 75 crossbred calves a year that are reared on milk prior to weaning at 12 weeks.

"We aim to give the calves the best start possible," explains Tim,



THE ABERDEEN ANGUS CROSS CATTLE ARE REARED AND FINISHED PREDOMINANTLY OFF A FORAGE RATION

"so in addition to milk they are offered a grass and white clover haylage prior to weaning – to help stimulate rumen function – and home mixed concentrate that will typically comprise wheat, oats, triticale, beans, minerals and molasses. "Calves will be receiving about 4 litres of milk a day at the point of weaning, after which point they will go onto silage and up to 1.5kg/head/day of concentrates until turnout onto clean grazing."

Cattle receive no supplementation whilst on the grass and white clover leys until the final month and are grazed on a rotational paddock system, with three areas providing 10-14 days of keep in turn, depending on grass growth and stocking density. The plan is to include chicory and plantain alongside high sugar ryegrasses and white clover in future leys, and these will provide a range of additional minerals and trace elements that

Tim describes as an animal tonic. Red clover is included at a low inclusion rate in some grazing leys, but is mainly used in the farm's three-year silage leys. A typical mixture comprises 3-4kg/acre red clover and 6-7kg/acre of Aber hybrid high sugar ryegrasses, plus about 0.5kg/acre white clover. Cocksfoot and Timothy are being considered for inclusion currently to increase drought tolerance, and Tim is also keen to include the new generation red clover AberRuby as soon as organic seed is available.

New leys typically follow a third arable crop – usually winter wheat grown for crimping, or beans – and will be drilled in August (or as early as July if possible). Ploughed and pressed land is Cambridge rolled either side of cultivation, and rolled again with a ballast roller after drilling.

Apart from its nutritional benefits, Tim and John Downes are keen on red clover because it contributes 150-200kgN/ha each year, and it also has a major beneficial effect on soil structure.

"The plant itself has a deep tap root, which really benefits soil structure," says Tim. "It is also drawing nutrients from lower down in the soil than grass and white clover, and above the surface it tends to out-compete weeds very well."

Red clover and hybrid ryegrass leys remain productive on the farm for three years, and may stay down for a further year if the red clover content remains strong. Leys provide three cuts of silage, and a period of late season grazing, with big bales

being treated with an additive and – from this season onwards – chopped during harvesting.

The Aberdeen Angus cross cattle come off grass onto the red clover and ryegrass silage after the grazing season, and will be supplemented by between



A NEW ROUND BALER WITH AN INTEGRAL CHOPPING MECHANISM IS EXPECTED TO HELP IMPROVE INTAKES AND PERFORMANCE STILL FURTHER

0.75 and 1kg/head/day of a home-mixed concentrate ration. Heifers typically finish in 18 – 22 months and steers in 24 months, mostly achieving a target minimum deadweight of 260kg for a Waitrose premium brand contract. There is currently a 30-40p/kg premium for producing traditional breeds organically, which makes this extensive system a viable alternative to a conventional beef enterprise.

KEY POINTS:

- Angus X dairy beef
- Quality grass/white clover grazing.
- Red clover silage to finish (18 – 24 months)
- Home-mixed concentrate (limited)
- Premium organic contract



STRONG PROSPECTS

At a Better Returns Programme event hosted at Longnor Farm in the summer, EBLEX gave a positive review of the prospects for grass-fed beef, highlighting the following:

- UK beef consumption is now 14% higher than before the BSE crisis
- Grass-fed/extensive beef increasingly recognised for taste and nutritional value
- Consumer spend on premium meat brands increased by 54% from 2004 to 2005
- Premium meat brands in UK now worth £60m/annum
- 20-30% premium being paid for premium beef brands in supermarkets

To receive details of further Better Returns Programme events contact EBLEX on 0870-241-8829 or visit www.eblex.org.uk



MAIZE MONITOR FARMERS GUARDIAN

In the lead up to maize harvesting, British Seed Houses will be working with Farmers Guardian to provide its seasonal Maize Monitor column, which will report on the progress of forage maize crops across the country. Experts in the field, operating in the south east, south west, border counties, Midlands, north of England and south west Scotland, will provide weekly assessments of crops of different maturity class and provide comment that should help with decisions on harvest timing. Look out for the Maize Monitor column in Farmers Guardian and on the www.britisseedhouses.com website.