

GREENSWARD

*Journal of the South West and Central Scotland
Grassland Societies*



No. 50

2008



Dairy Select



- The Right Decision for Maximum Profitability

- Improve performance and profitability
- Receive up-to-date advice
- Select a package to suit your specific requirements



This can include:

- *Technical advice*
- *Enterprise monitoring & benchmarking*
- *Quota Management*
- *SAC's dairy information website*
- *Forage analyses*
- *Ration formulation*
- *Business Planning*

For further information on Dairy Select please contact:

Jimmy Goldie
Tel: 01387 263961
Email: jimmy.goldie@sac.co.uk

**Visit our web site at
www.MilkNET.sac.ac.uk**

Select Services - Advice for Today's Farming and Rural Business

GREENSWARD

*Journal of the South West and Central Scotland
Grassland Societies*

No. 50

2008



Front Cover Photograph: Dairy cows paddock grazing at Linns Farm, Collin, Dumfries,
29 November 2007.
(Photo : Andrew Best)

CONTENTS

	Page
SAC - Advert	2
Photo: SWSGS Silage Competition Winners 2008	4
Foreword	5
Officials: SWSGS	6
Officials: CSGS	7
It's all about Grass – N Young	8
SWSGS Winter Farm Visits in Dumfries 2007 – G E D Tiley	10
Tarff Valley Ltd - Advert	11
John Watson Seeds Ltd – Advert	12
CSGS Silage Competition 2007 & Davidson Brothers Ltd – Advert	13
CSGS Farm Visits 2008 - D Harvey	14
New Technology to increase Feed Conversion Efficiency – M Ford	14
Abermagic & High Sugar Grass Advert – British Seed Houses Ltd	15
Dow Agro Sciences - Advert	16
The BGS Summer Meeting, South Wales 2007 – J Marshall & G E D Tiley	17
Biotol Ltd - Advert	21
Milking Grass for Profit. BGS Farm Visit, Dumfries 2008 – G E D Tiley	22
Brown Swiss Cattle Society (UK) – Photo & Advert	23
Biodiversity and Animal Feed, EGF Meeting Uppsala 2008 – G E D Tiley	24
L S Smellie - Advert	25
SWSGS Silage Competition 2007 - G E D Tiley	26
Volac International Ltd - Advert	30
Scottish Silage Competition 2008 – R D Harkess OBE	33
Clampfilm reduces Silage Losses & Advert – Kelvin Cave Ltd	34-35
Notes from the Isle of Man 2008 – Caroline L Perry	36
SWSGS Summer Farm Visits in Wigtown 2008 – G E D Tiley	38
GrowHow UK Ltd - Advert	40
Nutrients and Spring Turnout – Elaine Jewkes	41
BGS National Management Competition 2007	42
Secure Covers – Thomas & Fontaine – Advert	43
Making more use of Grass for Beef – R Jones	44
Gravel Bags – Thomas & Fontaine - Advert	46
Tree Ferns and Kiwis but Grass is King – G E D Tiley	47
Waste Tyres – Thomas & Fontaine - Advert	51
Improving Farm Nutrient Utilisation – H McClymont	52
There's an awful lot of Beef in Brazil – S Forsyth	53
Chicory as alternative to Anthelmintics for lambs – Jennifer Kuchmeister	55
Forage Maize 2008 – Jennifer Bell & H McClymont	56
NWF Agriculture - Advert	58
SAC Environmental Focus Farm, Ayrshire – Carole Christian & R Crerar	59
Alan Sayle Associates – Advert	60
Weather data for Auchincruive & Crichton Royal Farm 2007 & 2008	61



Winners at the SWSGS 2007 Silage Competition night in the Douglas Arms Hotel, Castle Douglas, 31 January 2008
Silage Judge Maitland Mackie presenting the SWSGS Rosebowl to 2007 Silage Champion Calum McGinlay; Chairman Hugh
McClymont, centre; Beef/Sheep winner Robert Parker, 3rd from left.

Photo: *Sohway Press Services, Bob Geddes*

FOREWORD

The increasing globalisation of grassland agriculture is reflected in several of the articles in the current issue of "Greensward", including items from Europe, New Zealand and South America. There is also an increasing awareness of the effects on the planet of everything we do, particularly in relation to resource and energy use. It is however encouraging to note new developments and initiatives on farms and within commercial companies to cope with the challenges presented.

A noteworthy theme is the increasing emphasis on **Value** – what is valuable within the grassland livestock system? In New Zealand and increasingly in SW Scotland the abundant resource – grass – is being accorded value; for animal production, biodiversity, sport and amenity. It may yet prove of value in the future for carbon sequestration in the climate change battle. The livestock farmer places value on his/her animals instinctively; one New Zealand dairy farmer looked upon his cows as 'thoroughbreds' and treated them accordingly. A more precise value is being placed on the nutrient value of animal manures as costs of fertilisers continue to increase. Different application methods such as injection give scope for savings. The value of conserving wildlife is already widely appreciated in Scotland. As King Carl Gustaf of Sweden told delegates at the 2008 European Grassland Federation meeting in Uppsala: 'The grass resource should be used for the benefit of people but in a gentler way so as to leave something for future generations'.

Reports of farm visits and other activities of the Central and South West Scotland Grassland Societies for 2007-2008, plus invited contributions are included in this issue, the 50th Edition of 'Greensward'. Sincere thanks to all host farmers for the hospitality of visits to their farms, to speakers at meetings, to sponsors for their generous help and promotion of grassland and the constant support of SAC staff, are expressed by the two Societies, not forgetting the vital duties of stewarding Society funds by the respective Treasurers: Angela Mitton and Ken Phillips.

Special thanks are given to all contributors and for the willing support of advertisers in this edition. A lasting debt is owed by the Societies to Lorraine Reid, SAC Consulting, Auchincruive for word-processing and arranging the whole Journal. Printers: Walker & Connell Ltd are also thanked for their careful and excellent work in publication.

G E D TILEY - Journal Editor

International Code Number ISSN-0017-4092

Printed by Walker & Connell Ltd, Hastings Square, Darvel, Ayrshire.

Scottm@walkerandconnell.co.uk

**SOUTH WEST SCOTLAND GRASSLAND SOCIETY
EXECUTIVE COMMITTEE 2008**

- Chairman:** H McClymont, Crichton Royal Farm, Glencaple Road,
Dumfries DG1 4AS
- Vice Chairman:** W Welsh, Warnockland, Fenwick, KA3 6ER
- Past Chairman:** A Gray Jnr, Ingleston, Borgue, Kirks. DG6 4UA
- Secretary:** Dr G E D Tiley, SAC Auchincruive, Ayr, KA6 5HW
- Treasurer:** Angela Mitton, SAC Auchincruive, Ayr, KA6 5HW
- Journal Editor:** Dr G E D Tiley, SAC Auchincruive, Ayr, KA6 5HW
- Ayrshire Members:** A F Pickles, 3 Monument Road, Ayr KA7 2RL
Kara Craig, SAC FBS, JF Niven Bldg, Auchincruive KA6
5HW
- Dumfriesshire
Members:** P Cowan, East Lanegate, Lochmaben, Lockerbie,
DG11 7SG
A Braid, Lakehead Farming Co, Closeburn, Thornhill,
Dumfries DG3 5HP
G Jamieson, The Coppice, Newfield, Brydekirk
Dumfries DG12 5LP
- Kirkcudbrightshire
Members:** R Allbrooke, SAC, Mid Park, Bankend Road, Dumfries
DG1 4SZ
- Wigtown Members:** R G Parker, Drumdow, Kirkcolm, Stranraer DG9 0RW
A Brown, Balker, Stranraer DG9 8RS
S J Donnelly MBE, SAC FBS, 99 George Street,
Stranraer DG9 7JP
- Co-opted Member:** D Harvey, Central Scotland Grassland Society, Galloway
& MacLeod Ltd, King Street, Stonehouse ML9 3LH

**CENTRAL SCOTLAND GRASSLAND SOCIETY
EXECUTIVE COMMITTEE 2008**

- Chairman:** D Lawson, Parklea, Carmunnock, Clarkston
- Vice-Chairman:** A Reid, Glen Farm, Glen Village, Falkirk
- Past Chairman:** J Brown, Gaindykehead, By Airdrie
- Secretary:** D Harvey, Galloway & MacLeod Ltd, King Street,
Stonehouse
- Treasurer:** K Phillips, SAC, 57 High Street, Lanark

Committee Members:

W Bankier, Fernieshaw, Cleland, Motherwell
G Millar, Gallamuir, Plean
R Pollock, Bonnyhill, Bonnybridge
J Currie, Carlinside, Lanark

Co-opted Member: G E D Tiley, SWSGS, SAC Auchincruive, Ayr

IT'S ALL ABOUT GRASS

**Nigel Young, Corton Ash, Corton Denham, Sherborne, Dorset
President of the British Grassland Society 2006-2007**

“Grass, the best invention the world has ever known” is a statement attributed to no lesser luminary than Albert Einstein. As ever he was right. Grassland farmers already know this but some livestock farmers forget it from time to time as other crops go in and out of fashion. There is, of course, a place for several crops and feeds that complement grass and often these are easier to evaluate and manage, albeit at a cost. That grass is our cheapest feed is a cliché. But I wonder if looking on grass as cheap is the wrong attitude? If something is *cheap* we tend not to value it and can be careless with it. However, if something is *valuable* we nurture it and take a different attitude. This raises the question of ‘how valuable is grass’? How can we value it?

One way is as follows:-

Productive grasses (grass/clover) can generate between 8 –15 tonnes of DM ha⁻¹ annum⁻¹. Effective utilisation rates should be around 80% of that grown. Say we produce 12t DM ha⁻¹ and utilise 80%. That is 9.6t utilised. With good grassland management it is possible to maintain the quality at 11.5MJ of ME kg⁻¹ DM almost throughout the grazing season. 9.6t DM at 11.5 ME is equal to 110,000 Mega Joules of energy ha⁻¹ year⁻¹.

Now, say concentrates are 85% DM and have an energy concentration of 12 MJ of ME kg⁻¹ DM. Then 10.5t of concentrates would provide 107,000 Mega Joules of energy. Thus we can say that a well managed hectare of grass is worth 10.5t concentrates, at £160 tonne⁻¹ or £1,680 (at time of writing). Therefore grass is a valuable crop, or can be if correctly managed!

As with all Presidents before me, and those to come, I found the 3-year term of office stimulating, challenging and a great opportunity to interact with many like-minded and inspiring individuals. The BGS is now on a sound financial footing, at least for a while, due to the actions of recent Presidents, Treasurer Tony Evans and Jess the Society Director ably assisted by Rachael Proctor. As with any business, innovation and forward planning are always going to be required to keep the Society financially sound and relevant to the industry it serves and the current team are well up to this. Numerous new initiatives have been introduced of late and the Society is now closely interacting with the farm livestock industry and the equine world. One way of getting closer to our membership was the introduction of the ‘Early Grazing Days’ farm walks during March and April. Turning out early is key if high levels of sward utilization and maintenance of grass quality are to be achieved. The response to this initiative was staggering with some 600 farmers

attending the 4 walks held in 2007. These have been continued and were equally successful in 2008 including one event at Robert Kirkwood's Mouswald Grange farm, Dumfries. While the location for most Summer Meetings are in the UK, in 2008 we went to Holland, visiting some excellent farms, Lely machinery factory, Barenbrug seeds and the Lelystad Research Farm. This was rather different to the usual Summer Meetings in that all 60 delegates could travel on one coach, we stayed in a hotel rather than student accommodation and it attracted a high proportion of younger members. As we were based just outside Amsterdam some members also took the opportunity to venture into the city to view the wide range of visitor attractions; could they have also been looking for grass? We are all anticipating a well-organised and stimulating visit to Northern Ireland this year and have every confidence that our expectations will be fulfilled.

Of recent years the number of BGS committees has been reduced, also the number of meetings requiring travel and thus the burden of overhead costs. The Society is a lean machine well suited to the current environment, and with a widened industry focus, particularly those of Local Grassland Societies, is better able to serve members' interests.

BGS MEETINGS, 2009

22 April. Catering for Horses Today. Workshop at Royal Agricultural College, Cirencester.

7 May. Grassland UK with Bath & West Show at Shepton Mallet, Somerset. Includes a BGS-DairyCo seminar programme giving the latest information on current issues.

9 June. Forage Legumes Special Interest Group at Institute of Biological, Environmental and Rural Sciences (IBERS), Aberystwyth. Latest research findings on red, white clover and other legumes.

28 June – 1 July. BGS Summer Meeting, Northern Ireland at Greenmount College, Antrim, hosted by the Ulster and Fermanagh Grassland Societies.

7-9 September. 9th BGS Research Conference at Harper Adams Agricultural College.

16-17 September. Dairy Event and Livestock Show at Stoneleigh.

SWSGS WINTER FARM VISIT 2007 – DUMFRIES

G E D Tiley

Visit to LINNS, Collin, Dumfries on 29 November 2007
(By Invitation: Michael & Lorrie Kyle)

Visit sponsored by Tarff Valley Ltd, Ringford

On an unusually bright winter morning a good turnout of SWSGS visited Linns Farm on the eastern outskirts of Dumfries, to see the developments that had taken place on this dairy farm. It was barely a year ago (4 January 2007) that Michael and Lorrie Kyle had moved in, having purchased the 402ha from proceeds from the sale of land in Ireland. The enterprise was run as a husband-and-wife partnership, together with assistant manager, Martin plus two other labour.

An entirely new, purpose-built dairy had been built in a more central location on the farm, and a second hand 80-point rotary parlour installed. Cow tracks had been laid, piped water installed and grazing paddocks established.

The overall objective was 'to run a sustainable, labour friendly, profitable dairy enterprise, whilst leaving time for family, friends and other interests'.

At the time of the visit there were 440 Jersey and Jersey x Friesian cows with a target number of 800 during 2008; and aiming ultimately for all cross cows. Additional Friesians were bought in from Southern Ireland to cross with Jersey, all being vaccinated. A smaller animal was favoured to adapt to the New Zealand paddock grazing system. Average milk yield was 3,400 litres, with a target of 3,900 litres, but milk solid content was good. Target output per ha was over 9,000 litres.

Milking was once-daily in November before drying off in December. Calving would start in February aiming for a tight calving pattern. After calving the cows go to grass and calves are reared in a shed with a mobile calfeteria. The dry cows would be overwintered in nearby woodchip kraals. Some were strip grazing direct drilled kale on hilly ground, supplemented by silage bales which had been regularly interspread in the kale crop. A 4.5 million litre lagoon stores slurry and run-off from the kraals. A second lagoon stored liquid only after separation of solids. Spreading was by contractor through an umbilical system.

Soil pH and phosphate levels were low; 5t ha⁻¹ lime had been applied and P, K were being adjusted. N was applied at 200kg ha⁻¹ annually by contractor, with higher rates on the shoulders of the season. More clover would be introduced when soil nutrient levels had been corrected. Grass would be direct drilled on the

hill after the pioneer kale crop. It was aimed to make 4-5t fresh silage per cow with high quality to reduce concentrate usage.

The paddocks were being grazed each for 1 day on an 80-day cycle in November. A back fence was essential to allow grass recovery. Even after a previous day's rain, the paddock seen on the visit could be grazed without excessive poaching, due to a well-drained subsoil and provided 10kg DM grass per cow. Paddocks were walked once a week using a rising plate meter, as it was essential to monitor the state of grass growth. Pasture cover target was 1800kg ha⁻¹, but 2200kg ha⁻¹ at the start of the season.

The tracks had been laid by contractor using gravel from the farm. The SWSGS wishes to express best thanks to Michael and Lorrie for the privilege of this farm visit and for their warm hospitality.

TARFF

Agricultural Merchants
Ringford
Castle Douglas
DG7 2AN

"THE FARMER OWNED BUSINESS"

Animal Feeds - Karen Callander

Fertilizers, Crop Sprays, Grass Seeds - Murray Elliot

Animal Health, Hardware, Animal Equipment, Drainage -
Stephen Hunter

For all your agricultural requirements contact your
local depot:-

Ringford (Head Office) – 01557 820247

Dumfries- 01387 261661

Whauphill - 01988 840383

Castle Kennedy - 01776 705821



CASTLE

MIXTURES

• PREMIUM PERFORMANCE SEED •



WATSON SEEDS

Skateraw, Dunbar

East Lothian

EH42 1QR

Tel: 01368 840 655

Email: enquiries@watsonseeds.com

www.watsonseeds.com

**CENTRAL SCOTLAND GRASSLAND SOCIETY
SILAGE COMPETITION 2007**

CSGS Silage Competition Evening, Newhouse Hotel, Newhouse, 7 February 2008

Competition Evening sponsored by Pioneer Hi Bred Northern Europe

Silage Judge: J P Baird, Nether Affleck, Lesmahagow

Prizes were awarded as follows:

HF Seeds Cup & 1st Prize

For Dairy Silage:

2nd Prize

J Warnock, Eastfield of Coulter, Biggar
W Waugh, North Bankhead, Avonbridge,
Falkirk

3rd Prize

J Fleming, Hallhill, Crossford, Carluke

Hamilton Reco Salver for

Best Beef & Sheep Silage:

2nd Prize:

J Baillie, Easter Yardhouses, Carnwath
J J Bannatyne, Drumalbin, Carmichael,
Biggar

Big Bale Prize:

R & M Struthers, Collielaw, Carluke

Guest speaker was Jonathan Bellamy, Pioneer Hi Bred Northern Europe, who spoke about silage additives from Pioneer: 11GFT, 11CFT and 11CH4.



Dedicated to Delivering Excellence

Tel : - 01501 820 473

CENTRAL SCOTLAND GRASSLAND SOCIETY FARM VISITS, 2008

D Harvey, Secretary CSGS

21 March 2008, North Bankhead Farm, Avonbridge, Falkirk (*Courtesy: W Waugh*). A mid-day visit preceded by soup and sandwiches. North Bankhead extends to 124ha, all grass. Of the 48ha cut twice yearly for silage, 16ha contain red clover, 5ha with white clover, 27ha conventional silage mix. Remaining 76ha grazed. Stock includes 120 cows, milked by 2 robots; bull calves and beef heifers sold as 1 year stores; dairy heifers kept for replacements. All calves fed by automatic calf feeder. *Visit sponsored by McCaskie Farm Supplies Ltd.*

3 July 2008, Spring Farm Walks. Morning visit was to **Darnlaw, Auchinleck** (*Courtesy: Firm of B Sloan*). Farm at 180m includes 120ha plus a further 40ha rented. Cropping was 72ha first cut silage, 40ha second cut, 10ha wholecrop, 4ha barley, 3ha fodder beet. Herd of 150 Holsteins, aiming to increase. All youngstock reared at Little Heateth. Bryce and son Robert work the farm. After lunch at the Railway Hotel, Auchinleck, the afternoon visit was to **Lochlea, Mauchline** (*Courtesy: N McGeoch*). The visit saw the herd of 100 pedigree Simmentals producing top breeding bulls for sale with remainder sold fat. At Lochlea, 88ha are farmed at 140m with a further 60ha at Easter Blacklaw, Stewarton at 270m. First cut silage is taken from 28ha and 8-16ha barley are grown. One full time worker is employed.

NEW TECHNOLOGY TO INCREASE FEED CONVERSION EFFICIENCY

Max Ford, Richard Keenan & Company Limited

Mech-fiber is a new integrated approach to dairy and beef feeding which focuses on the physical structure of rations to improve utilisation in the rumen. Feed Conversion Efficiency (FCE) can be increased by up to 30%, enabling more production from less feed inputs. Based on research at Illinois, USA and Reading Universities, it was found that efficiency of digestion could be increased if there was a greater **consistency** of feed materials and fibre within the rumen, allowing a more efficient action of enzymes and microflora. The first indications that the physical state of rations could affect FCE came from Reading University where, feeding identical rations, they obtained higher milk yields (1 litre d⁻¹) from cows fed through a mixer than through a vertical auger. The time when rumen pH was less than 6.0 was also reduced by one third from mixer-fed rations.

Consistency of rumen contents is affected by a combination of bulk density of the ration, uniformity of particle size distribution and physical structure of the fibre particles. The development of feed mixers at Richard Keenan Limited have taken this research into account in the production of Mech-fiber feeders. A key feature of the new machines is the introduction of PACE (Performance Acceleration Control Enhancement) technology. This involves a control unit fitted to the mixer which can combine feed information and production requirements to produce a consistent ration. This new science and technology continues to evolve and a Mech-fiber mixer with PACE control is now being used at Coopon Carse, Palnure. Results show an improved milk performance with increased protein, using less feed. A fuel saving relative to a previous auger mixer has also been recorded. Further information is available from Richard Keenan (UK) Limited. Tel: 02476 698200.

ABERMAGIC, A NEW HIGH SUGAR RYEGRASS **British Seed Houses Limited**

AberMagic, a new high sugar ryegrass on the HVG/NIAB Recommended Lists in 2008 and now available from British Seed Houses, has the highest grazing yield at 114% and the highest water soluble carbohydrate measurements – the highest sugar levels of any perennial ryegrass variety. AberMagic is an intermediate diploid variety and offers good disease resistance, including a rating of 7 for crown rust. The variety also offers extended seasonal production, yielding well against control varieties in mid summer (113%), late summer (120%) and autumn (126%) when livestock farmers most need it. Five years of data from IGER's (now IBERS) Long Term Trial confirm that this latest AberHSG variety to become available to UK farmers offers another significant step forward in yield and herbage quality.

Aber High Sugar Grasses are the product of a 30-year breeding programme at IBERS aiming to improve nutritional quality alongside increasing yields and other desirable agronomic characteristics. Since the first variety: AberDart became available in 2000, the Recommended Lists have been dominated by Aber varieties including AberAvon, AberStar and AberEcho.

Note: IGER (Institute of Grassland and Environmental Research) became IBERS (Institute of Biological, Environmental and Rural Sciences) in 2008 following the Institute's merger with Aberystwyth University).

High Sugar Grass



THE GENUINE ARTICLE

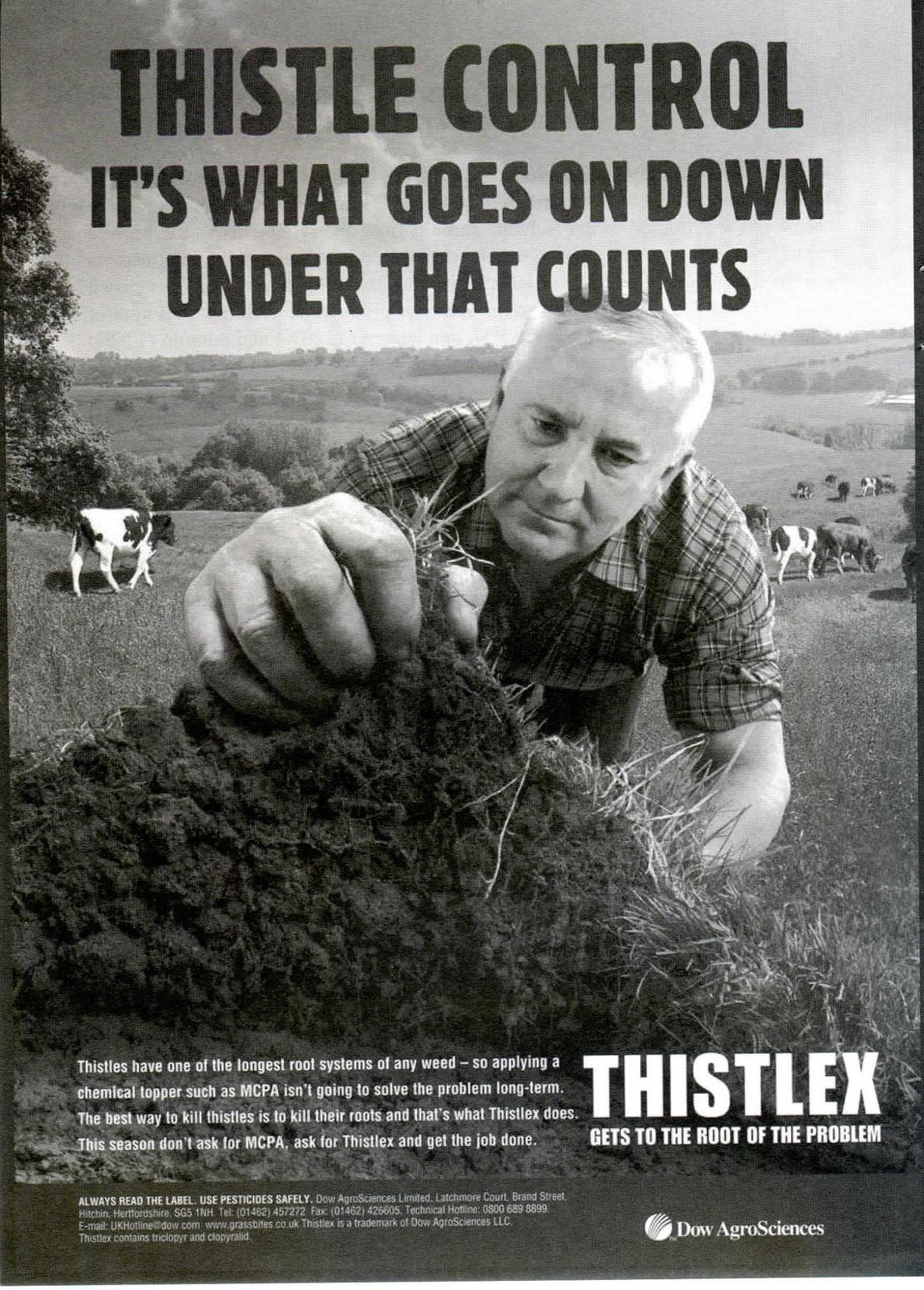
AberMagic HSG® AberStar HSG® AberAvon HSG® AberDart HSG®
AberEcho HSG® and AberEve HSG®
(all Registered Trademarks of Germinal Holdings Ltd)

Highly rated on SAC and NIAB Recommended Lists for all major yield, performance and herbage quality criteria. Bred in Britain to contain high levels of sugar.

6% more milk • 25% greater intake • 20% greater liveweight gain

Ask your merchant for the proven Aber High Sugar Grasses

THISTLE CONTROL IT'S WHAT GOES ON DOWN UNDER THAT COUNTS

A black and white photograph of a man in a plaid shirt leaning over a large pile of soil. He is holding a thistle root system, showing its extensive root network. In the background, there is a rural landscape with rolling hills and several cows grazing in a field.

Thistles have one of the longest root systems of any weed – so applying a chemical topper such as MCPA isn't going to solve the problem long-term. The best way to kill thistles is to kill their roots and that's what Thistlex does. This season don't ask for MCPA, ask for Thistlex and get the job done.

THISTLEX
GETS TO THE ROOT OF THE PROBLEM

ALWAYS READ THE LABEL. USE PESTICIDES SAFELY. Dow AgroSciences Limited, Latchmore Court, Brand Street, Hitchin, Hertfordshire, SG5 1NH. Tel: (01462) 457272 Fax: (01462) 426005. Technical Hotline: 0800 699 8899. E-mail: UKHotline@dow.com www.grassbites.co.uk Thistlex is a trademark of Dow AgroSciences LLC. Thistlex contains triclopyr and clopyralid.

 Dow AgroSciences

HOW 'GREEN' IS MY VALLEY?
BGS Summer Meeting in South East Wales, 8-12 July 2007
J Marshall & G E D Tiley

The British Grassland Society's 2007 Summer visit was hosted by the Brecon, Glamorgan and Monmouthshire Grassland Societies, under the Chairmanship of Eddie Phillips. There was the usual programme of 9 farm visits over three days, together with a full alternative programme. The programme aimed to demonstrate a range of farming systems and to see how the challenges of adding value, diversification and environmentally friendly farming were being met.

The farmed area of the three counties totals over 280,000ha, ranging from intensive vegetables and vineyards to extensive hill sheep. The lowland areas have good arable soils, including Red Sandstone, and low rainfall; the upland/hill of Brecon is podzolic or peaty with rainfall up to 2000mm, and includes the Brecon Beacons National Park. Sites of Outstanding Natural Beauty occur and numerous SSSIs. Grassland occupies 85% of the agricultural area. Dairy holdings have fallen in number but increased in average herd size to 86 cows. Beef cattle have increased but sheep numbers have dropped sharply. Tourism is popular and provides a good opportunity for diversification, organic and local products, together with a rise in equine interests.

Quality beef from quality grass

Treveddw Farm, Pandy, Abergavenny (*Mark and Liz Egerton*). The first visit was to this tenanted farm of 76ha to see meat production from high quality grass on a low input, easy system in a Less Favoured Area. At 110-230m above sea level, annual rainfall was 800mm. There were 70ha of grass, 2.5ha of red/white clover and 1.6ha of summer feed, 58 crossbred sucklers, calving spring to Aberdeen Angus bulls, plus 43 stores and finishing cattle. 90% are finished off grass, steers averaging 300kg deadweight, heifers 266kg and sold to Marks & Spencer. 110 Blackface ewes lamb to Charollais in January after housing in December. Grazing is by rotational set stocking, excess being cut for big bales, first cut around 20 May. Grazing ground receives 125kg urea ha⁻¹; silage ground 245kg 34.5% N in March, 250kg ha⁻¹ 25/0/16 after cutting and 250kg ha⁻¹ muriate of potash in late July. Silage making and fieldwork are done by contractor; Mark does all stock work plus relief milking for neighbours 2-3 days per week. Hedges are being laid and streams fenced from cattle. There is a pair of red kites on the farm.

Dairying and new pastures for a new generation

Bourne Farms Ltd, Dingestow, Monmouth (*Edward and Jacky Evans*). After only 18 months from taking over the management of this 176ha farm with 180 Holstein Friesian cows, Edward was achieving 8,500 litres milk per cow, 4,000 litres from forage. He was actively improving the pastures to increase output from grass and was working on establishment methods with Advanta Seeds. The best results were from rotavation since ploughing made the soil too light and fluffy. Crops were 135ha grass, 5ha red clover, 25ha maize, 11ha oats. Diets were 70 grass:30 maize silage plus 1800kg concentrates cow⁻¹ year⁻¹. Grazing ground received 50kg N ha⁻¹ plus trace elements in a March application of Nutrigrass, followed by 150kg ha⁻¹, 27/5/5 in May. Silage ground received 370kg ha⁻¹ 12/15/20 in March and 185kg 34.5% N in April. The use of slurry had reduced these rates to 250kg and 125kg, respectively. The visit saw a newly established reed bed to improve dirty water management and provide a wildlife habitat.

Welsh goats for Welsh cheese

Pant Farm, Lanvetherine, Abergavenny (*Gary and Jess Yeomans*). With high costs of buildings and milk quota, plus uncertainties in the dairy industry, Gary gave up a dairy herd and turned to goat milk production for cheese manufacture at the local Abergavenny Fine Foods company. Adding to his own 42ha with rented neighbour's land, he now farms 100ha, north facing at 100-170m, rainfall 925mm. Cropping is 66ha permanent pasture, 12ha maize, 6ha red clover/Italian ryegrass, 5ha kale/roots, 8ha spring barley, 3ha game cover crops. Stock are 320 milking goats, plus 60 goatlings and 50 kids, housed all year and fed TMR (grass + maize silage), 120 Lleyne ewes and 100 ewe lambs, 10 Welsh black sucklers, 3 replacements, 5 store cattle, 2 horses. The goats average 865 litres; concentrates fed 300kg goat⁻¹; margin over feed £233 per goat. The Lleyne ewes are managed easy-care with lambs finished on red clover aftermaths. A Tir Gofal environmental scheme involves hedge and tree planting, fencing, ponds, wild bird cover and educational access. A 1500 bird shoot is run with his neighbour.

Low Costs and low replacement rates on a dairy farm

Upper Pendre, Llangorse, Brecon (*Alun and Liz Thomas*). On 151ha upland (220-320m) dairy farm with 1000mm rain Alun has reduced milk production costs to 17.1p litre⁻¹ and only a 10% replacement rate. Cropping was 55ha winter wheat, 12ha spring barley, 12ha oilseed rape, 72ha grass, 18ha let out to a specialist potato grower. Stock were 189 Holstein-Friesians, 56 youngstock and 450 tack lambs, wintering from mid-October to mid-January. Grazing is mostly permanent pasture, to be rotationally grazed to extend the season. It receives 250kg ha⁻¹ 25/10/10 in late February and 185kg ha⁻¹ 34.5% N every succeeding month. Silage is made in conjunction with his uncle and cousin. In early March 375kg ha⁻¹ 15/15/20 is applied followed by 185kg ha⁻¹ 34.5% N in early April and 370kg ha⁻¹ 25/0/16 with S after the first cut. Alun carefully monitors his costs, benchmarks with similar businesses and regularly attends a local discussion group.

Diversification to a High Wire Activity Centre

The Gilfach, Llangorse, Brecon Beacons National Park (*John and Anne Thomas*). A neighbour of the previous farm (but no relation!), John's family have lived in this area for over 500 years. Initially farming, he diversified into several business activities: hotels and restaurants, construction, haulage, a Welsh food centre and the Activity Centre at Gilfach, investing over £2.5 million from the Tourist Board, Welsh Development Agency and European funds. Redundant farm buildings were developed in 1996 to the Activity Centre which incorporates walls for climbing, abseiling, caving, high wire activities. A more extensive high wire circuit with all necessary safety features is available outside. More than 100 horses were kept for riding and pony trekking which extends along 3m field boundaries on land farmed by Alun at Upper Pendre. Bunkhouses have been provided in the old 13th Century farmhouse. Over 100,000 people have visited the facilities on offer.

UK Grassland winner reaps the benefits of self sufficiency

Pwllyrhwyiad, Talybont-on-Usk, Brecon (*Glasnant, Linda and Huw Morgan*). A difficult farm, part owned, part tenanted, on old red sandstone in an LFA extending into mountain (150-430m), with 1750mm rainfall. Cropping: 96ha permanent grass, 25ha leys, 12ha cereals, 10ha roots, 25ha deciduous woodland. All operations except spraying and hedge trimming use own labour and own machinery. Stock based on 1020 Talybont Welsh ewes, 280 replacements and 29 Texel and Charollais rams, together with 55 crossbred sucklers, 80 youngstock, 2 bulls and 1 horse. Sheep heavily stocked to eliminate selective grazing and reduce weeds; rotational system to allow recovery and large areas rested over winter. Grazing receives 185kg ha⁻¹ 16/16/16, depending on soil indices; silage ground receives 370kg ha⁻¹ 16/16/16. Cattle fed wholecrop and haylage in winter and sold locally as stores. Sheep feed is home grown fodder and swedes with very little concentrate. Income from Tir Gofal environmental works, mainly woodland, is maximised on the steeply sloping land. 25 varieties of holly have been planted to create interest for school children visits and 365 apple varieties are dotted about the farm. 2000 trees were recently planted outwith grant schemes to aid carbon footprint. In 2005, Glasnant was the first beef/sheep winner of the UK Grassland Management Competition.

Direct meat sales from a scenic hill farm

Garth Uchaf Farm, Pentyrch, Cardiff (*Sue and Ted Williams*). A co-operative was formed in 2006 with four other farmers to sell mainly steers bred from Welsh Black cows as meat direct to the consumer through a butcher's shop close to Cardiff. There is a full time butcher and each farmer spends one day a week in the shop, which pays £2.25 kg⁻¹ deadweight. Garth Uchaf runs 56 cows, 22 heifers and 2 bulls, plus 1150 breeding ewes – South Wales Mountain, Black Welsh Mountain and Suffolk crosses. 400 Welsh ewes are crossed with Suffolk and Texel, the rest bred pure. Some of the sheep and most of the Welsh Black heifers are sold as breeding stock. The farm totals 230ha at 180-233m mostly dry, locally

stony and also with peat. High rainfall (1750mm); cropping: 200ha permanent grass, 24ha short term leys, 8ha roots, with access to 180ha common grazing. 34ha leys and pasture cut for silage in June and for hay. Long term commitment to the environment with woodland, species-rich grassland, hay meadows and 1500m of planted hedgerows.

Lapwing Champion producing forage for horses

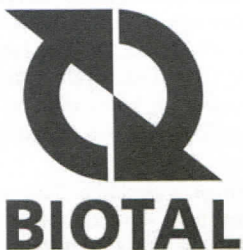
Llampha Farm, Llampha, Bridgend (*Richard and Llynwen Anthony*). From 45ha rented in 1997, plus contract work, the business has been built up, with additional rented land and contract areas, to 810ha at 0-100m, rainfall 1250mm. Cropping includes: 208ha winter wheat, 65ha maize, 76ha oilseed rape, 9ha triticale, 31ha spring beans, 207ha grass leys, all established by minimum tillage using a Vaderstad Top-Down machine. As well as first cut silage, areas of grass are cut for hay and haylage for sale to local horse owners. Pelerton Westerwolds is used within an arable rotation as it comes to head in the first year for hay and haylage. 700 Lleyn X ewes are kept, there being 83ha of permanent grass. The Welsh Lapwing Champion prize was won in 2005 for the establishment of 40ha as a Lapwing breeding habitat. Land is cultivated bare in spring, then sown with mustard at a half seed rate to provide cover for chicks. Nearby hedges are coppiced to remove perching sites for predators.

Taking to the bottle to add value on a small farm

Ty Tanglwyst Farm, Pyle, Bridgend (*John, Liz and Rhys Lougher*). With only 64ha and 80 Holsteins, diversification and adding value to the milk had been necessary to maintain income. Cheese-making and ice-cream were considered but selling bottled milk was the line chosen and a bottling plant was built. Milk is sold to commercial customers, including 3 doorstep delivery men, shops, camp sites, schools, pubs and restaurants. Surplus cream is sold to the cosmetics industry. Grass area is 50ha, with grazing and cutting integrated and 15-20% annual reseeded; the fields are grazed as rotational paddocks. Silage is made in 4 cuts using a forage wagon. Milk yield averages 9,000 litres, 3,750 litres from forage. Semi-TMR winter feed is based on half grass, half maize, the latter grown on 14ha rented land. Cow breeding is linear assessed, computer-aided to obtain the required balance of type, merit and longevity. Environmental work includes woodland improvement and bird-monitoring.

LUPICALEAGE[®]

**THE DESIGNER FORAGE FOR RUMINANTS
FROM**



Can we reduce your feed costs by 50%?

Why not call an expert?

**Chris Totten
07775 538073**

MILKING GRASS FOR PROFIT
Mouswald Grange, Dumfries (Robert Kirkwood & Family)
British Grassland Society Farm Visit and Discussion, 2 April 2008
G E D Tiley

This was one of a series of farm walks in 2008 organised jointly by the BGS, RABDF and DairyCo (previously MDC). This morning event was well attended from a wide area, including many SWSGS members. After a welcome from David Roberts who acknowledged the support of 10 local and national companies, the visitors were guided around the farm by Robert Kirkwood. He came to Mouswald Grange in 1970, now carrying 250 cows on 260ha and also worked nearby Drummuir. The aim was maximum efficiency out of grass and not yields. All followers and 100 sheep were kept. Milk yields were currently 9,000 litres (3,500 litres from forage). Walking through a grazing field, a good grass/clover mixture was seen. High sugar and hybrid grasses were used with 5kg white and 3.5kg ha⁻¹ red clover which gave early boost and required only half the fertiliser (½ unit N per day) compared with a conventional all grass field. The field was grazed hard by sheep last year and had recently been injected with slurry, to reduce atmospheric odour and to try and meet NVZ requirements. The new hybrid grass varieties did eventually thicken and gave good increases of yield and earlier bite. Grazing fields were never kept for more than 6 years. In 2008 the cows went out on 17 March, the date varying with season. Concentrate level was maintained during the first paddock cycle when grass growth was not fully developed so that milk yield did not suffer. A 9-day rotation was operated on the total of 30 paddocks during the summer peak; paddock size was adjustable early in the season.

With sandy soils, dry spells were more a problem than wet, so other crops were used. Fodder beet was grazed from 1 August for 1 hour after milking, this being the cheapest way to harvest. Chicory was being tried in the grass mixture and showed tremendous summer growth. Longevity and nutrient needs were being assessed. Swift (kale x rape) was also strip grazed in January. Peas and lupins were also being tried. Silage was harvested from 84ha for cows and youngstock. The hybrid ryegrass/red clover (20kg/7.5kg ha⁻¹) mixtures used must be cut frequently (4-5 cuts), first cut not too early (early June), aiming for 6t per cow. Red clover is not over-wilted and chop size chosen at 2-3cm. Slurry capacity had to be increased to 4.5 million litres to conform to NVZ, but crops did best with little and often applications. 140 cattle were finished annually to 320-350kg deadweight, feeding 1 ton barley and silage. Matt Kingsley (Kings Hay Farming Trust) demonstrated simple inspection of the soil using a spade to assess compaction and moisture content – wet soil feels cold to the touch. The health of the soil was indicated by smell, rooting depths and earthworm activity – could be 25 per sq foot. A cow's foot gave a pressure of 30-35 psi though compaction was not a problem on Mouswald Grange and soil aerators were not used.

On behalf of the BGS, RABDF, DairyCo and of the audience present, Richard Ratcliffe, President of the BGS expressed cordial thanks to hosts, Robert Kirkwood and family, for the hospitality of the visit, wishing them well in the future. The SWSGS would add its own gratitude to these sentiments.



Brown Swiss cow grazing at Beyond-the-Burn, Mouswald

The Brown Swiss Cattle Society (UK)



Reap the benefits of adding Brown Swiss to your Herd

**Superior producers of Protein
Fantastic locomotion, legs and feet
Good converters of forage
Renowned for longevity**

Please call for more information on

Tel: 01335 324009

Shawcroft Farm, Wootton, Ashbourne, Derbyshire. DE6 2GW

BIODIVERSITY AND ANIMAL FEED – FUTURE CHALLENGES FOR GRASSLAND PRODUCTION

The 22nd General Meeting of EGF, Uppsala, Sweden, June 2008
G E D Tiley

The 22nd General Meeting of the European Grassland Federation was held at the Swedish University of Agricultural Sciences, Uppsala in association with the Swedish Grassland Society. It was attended by over 460 participants from 41 countries, with a programme of 60 oral and 300 post papers contained in 5 main sections:

- 1 Biodiversity and productivity of grasslands – strategies and limitations.
- 2 Grassland as part of the food chain.
- 3 Efficient resource utilisation for sustainable conventional and organic grassland production.
- 4 Can grassland-based production survive in Europe? Pathways for future success.
- 5 The grassland landscape as a base for animal production – present, past and future.

The conference was addressed by the King of Sweden, His Majesty King Carl XVI Gustaf, who was keen on an environmentally friendly approach on his own farm “The land should be used to serve people, but in a gentler way to sustain it for future generations. The EGF has the knowledge to use grassland resources worldwide”.

Sweden is a big country (174,000 sq miles, c. 6 times the area of Scotland) with a small population of 9 million, stretching from 55°N to 69°N and lying between Norway, the Baltic Sea and Finland. The coastline is very long and there are many lakes and forests. Most of the agricultural area (3 million ha) and centres of population lie in the southern third of the country. Cereals, leys and oilseeds and sugar beet are the main crops. Cattle number around 1.5 million, one fifth dairy, sheep 0.5 million, pigs 1.5 million. Fertile plains in the south change further north to a fragmented landscape of exposed rocks among fields, hills and lakes. The north is hilly – mountainous with forests and large river valleys. Permanent fencing along the roadsides was to prevent the giant elk (moose) from straying into the road!

Impressions from the pre-conference tour in south west Sweden

Uppsala was the home of Carl Linnaeus and everywhere there was an awareness of a tradition of science and learning which has extended forward to excellence in modern plant and animal breeding. Agricultural centres visited demonstrated well organised, well supported R & D, with well-developed liaison with farmers.

At Viken Genetics over 300 elite cows were being progeny tested, used for embryo production and in feeding trials in an ultra-modern facility to provide breeding material for home and overseas. The company was a commercial offshoot of a Swedish farming co-operative, Lantmännen, owned by 49,000 farmers. The plant breeding and seed group Svalöf Weibull (SW) is also 60% owned by the same co-operative. The University's Götala Beef and Sheep Research Station also carried out well-funded collaborative research.

Numbers of dairy units in Sweden had declined to around 7,000 but yields per cow were rising (average over 8,000 litres). Herd size was generally less than 100 cows. Organic production was up to 5%. With long winters, emphasis was on silage production from short term leys, which frequently contained legumes, especially red clover. Emphasis was on high quality, around 11 ME. The 2008 Swedish Grassland Silage winner farmed 195ha just south of the Arctic Circle, with 150 growing days above 5°C. 100ha were cut 3 times, the first cut in mid-June giving ME 11.2-11.6. The timothy – meadow fescue – red clover mixture lasts for 3 years. Milk yields 9,500 litres.

CASTLEHILL

LONG TERM LEY MIXTURE



AUTHORISED DISTRIBUTOR

- Performance you can rely on
- Extremely palatable for all classes of stock
- Hardy and persistent
- Includes Tweed white clover blend
- Treated with Headstart and Integral

Telephone us today on 01357 520211 and request a free copy of the new Sinclair McGill Handbook – it's packed with useful information on grass mixtures and forage crops.

McGill & Smith (Seeds) Ltd.

L. S. Smellie & Sons Ltd.

SWSGS SILAGE COMPETITION 2007
Competition Evening of SWSGS, held in Douglas Arms Hotel,
Castle Douglas on 31 January 2008
G E D Tiley

*Sponsored by Kelvin Cave Ltd, with prizes donated by Biotal Ltd, bpi-agri Ltd,
Alan Sayle Associates, Nickerson (UK) Ltd and John Watson Seeds Ltd*

Silage Judge: Dr Maitland Mackie CBE, Westertown, Inverurie

On a wild, wintry night the Chairman, Hugh McClymont, welcomed a good turnout of members to the annual Competition evening. In a brief AGM he summarised the past year and looked ahead to the new year. After an excellent November visit to Linns, we could look forward to a joint visit with the BGS in early April. He warmly thanked all host farmers, sponsors and competition entrants in the Short Leet for judging. The Society's condolences were expressed to the family of John Cuthbertson, West Tannacrieff, Kilmaurs, a Committee member and keen society supporter who had been tragically lost in a farm accident.

Silage Quality 2007 – George Jamieson, SAC Farm Business Services, Dumfries

Compared with previous years, 2007 silages had significantly lower DM, were more acidic with slightly lower average protein content. Competition silages had similar energy content showing that good silage makers could still make a good product in a difficult season, though general farm averages had lower energies. High genetic potential cows had not done so well due to lower fermentable energy, higher lactic acid and lower intakes. Lower rumen available energy, too much degradable protein had led to increased urea and less milk. Molasses and protein supplements had helped. It was emphasised that there was no cheap concentrate feed. 'You cannot afford to have less than 13ME in the blend otherwise Energy is too low'. Suppliers should be challenged for an ME declaration. High yielding dairy cows aiming for 10,000 litres milk require a minimum of 12 ME energy density and intake of 23+ kg DM daily (50+ kg fresh). Hence silage for these cows needs to be 11+ ME and concentrates 13+ ME.

There had been an increase in demand for ration compilation from beef units, who often produce lower quality silage. Efficient finishing with reduced cereal requirement required good silage qualities and intakes. Bought-in blends should put emphasis on Energy and not on protein content. However, suckler cows especially spring-calving fare better on lower quality silage with straw added to fill the animal and lead to a healthier condition for calving.

Table 1 - SILAGE COMPETITION 2007 - ANALYSES MEANS

Overall Means - Grass Silages

Group (Number)	DM (%)	D (%)	CP (%)	SIP	ME
All Dairy (53)	26.8	69.0	13.3	101.6	11.3
Beef/Sheep (17)	30.2	63.5	12.3	87.8	10.1
Big Bale (2)	30.2	61.5	11.5	81.8	9.9
Dairy					
Ayr (12)	27.2	68.8	13.5	98.7	11.0
Dumfries (14)	29.1	71.3	13.9	105.5	11.4
Kirkcudbright (18)	26.8	70.4	13.5	102.7	11.3
Wigtown (9)	27.7	70.3	11.8	97.1	11.3

Wholecrop, Maize and Alkalage Silages

Group (Number)	DM (g kg⁻¹)	ME	CP (% DM)	Starch (% DM)
Wholecrop (8)	305	10.5	10.5	28.9
Maize (8)	202	10.9	9.3	25.7
Alkalage (4)	728	11.2	11.1	35.7

Key summary points were:

- Increased costs of feed and fertiliser meant it was more relevant than ever to make good silage, costs for making being the same for both good and bad silage.
- Fields should be sampled regularly for pH, P and K, to ensure N utilisation was optimum. Slurry contains relatively high levels of P and K plus N. Contents should be analysed and field inputs budgeted to avoid over-application thus avoiding pollution and saving money.
- Reduced N should be considered for first cut silage if taken early, to reduce the risk of non-protein N in the crops.
- Arrange early analysis of the first cut to give guidance whether or not a wholecrop option is required.
- In an arable rotation consider more clovers, especially red clover which has a low N requirement, can increase protein in the silage and leaves residual N in the soil.

The Frequency Distribution of analysis data from 2007 is given in Table 2, and a full list of short leet farms inspected and prizewinners in Table3.

Table 2 - FREQUENCY DISTRIBUTIONS (%) 2007

	Bale	Beef/ Sheep	A	D	<i>Dairy</i> K	W	All
No of Entries	2	17	12	14	18	9	53
<u>D-Value</u>							
>75	0	0	0	28	12	12	13
70-75	0	0	25	36	44	44	38
65-70	0	4	67	36	44	44	47
60-65	100	48	8	0	0	0	2
<60	0	11	0	0	0	0	0
<u>DM</u>							
>40	0	6	0	14	0	0	4
30-40	50	41	25	21	28	22	25
25-30	50	35	42	29	33	44	36
23-25	0	12	17	14	22	22	19
20-23	0	6	8	14	11	12	11
<20	0	0	8	8	6	0	5
<u>CP</u>							
16-18	0	6	8	8	6	12	8
14-16	0	12	25	42	28	22	36
12-14	0	41	59	42	60	33	51
10-12	100	29	8	8	6	33	11
<10	0	12	0	0	0	0	0
<u>SIP</u>							
>125	0	0	0	0	6	0	2
120-125	0	0	8	8	0	0	4
110-120	0	0	8	43	16	11	21
100-110	0	6	33	14	33	44	30
90-100	0	35	18	21	39	33	28
<90	100	59	33	14	6	12	15
<u>ME</u>							
>12	0	0	0	21	12	12	11
11.5-12.0	0	0	25	21	33	22	26
11.0-11.5	0	11	25	29	16	22	23
10.5-11.0	0	24	42	21	39	44	36
10.0-10.5	50	24	8	8	0	0	4
9.0-10.0	50	41	0	0	0	0	0

Table 3 – 2007 Silage Competition – Short Leet Entrants

<i>Prizes</i>		<i>Analyses</i> (35)	Marks	
			<i>Inspection</i> (65)	<i>Total</i> (100)
Dairy Class				
1st & SWSGS Rosebowl	J Rome, Ingleston, Irongray	29.4	60.6	90.0
2 nd	J & R Ramsay, Lodge of Kelton, Castle Douglas	33.0	53.4	86.4
3 rd	R Broatch, Thwaite, Ruthwell	27.4	58.2	85.6
Best New Entrant	J McCrae & Son, Milton of Buittle, Haugh of Urr	24.0	56.7	80.7
Michael Milligan Prize	A McKay, Broughton Mains, Sorbie	23.2	57.5	80.7
	W Young, Beuchan, Kier, Thornhill	28.6	51.0	79.6
	R & M Harvey, Nether Kier, Auldgirth	26.3	53.2	79.5
	J McFadzean, Towerhill, Kilmaurs	30.2	49.2	79.4
	J Walker, Barwinnock, Whauphill	28.6	49.7	78.3
	J W Edgar, Whitecroft, Carrutherstown	29.4	43.8	73.2
	A Shankland, Langdale, Ballantrae	24.8	46.5	71.3
Beef/Sheep Class				
1 st & BP Trophy	R Parker, Drumdow, Kirkcolm	17.1	62.6	79.7
	C Scott, Bankhead, Dalswinton	19.7	45.2	64.9
Big Bale Class (on analysis)				
1 st	A Reid, Claulchlands, Lamdash, Isle of Arran	17.9	-	-
Best Silage in County (on analysis)				<i>Analyses (35)</i>
Ayrshire	J McFadzean, Towerhill, Kilmaurs			30.2
Dumfries	J W Edgar & Co, Whitecroft, Carrutherstown			29.4
Kirkcudbright	J & R Ramsay, Lodge of Kelton, Castle Douglas			33.0
Wigtown	H J Walker, Barwinnock, Whauphill			28.6
Best Wholecrop Silage (on analysis)				<i>Marks</i>
Biotol Prize	R & M Harvey, Nether Kier, Auldgirth			84.1%
Best Maize Silage (on analysis)				
Nickerson Prize	J Rome, Ingleston, Irongray			63.1%
Best Alkalage Silage (on analysis)				
Alan Sayle Prize	R Whiteford, Abbey, Holywood			79.3%

Best New Entrant prize donated by John Watson Seeds Ltd

1st Dairy, Beef/Sheep and Big Bale winners also received cash tokens

donated by bpi-agri Ltd. The Best Photograph prize was won by Andy Best, Castle Douglas

volac[®]

AGROS[®]

A complete range of silage additives
for all forage systems



AGROS CLAMP
For 18 - 25%
Dry Matter
Grass Silage

AGROS DOMINATOR
For 20 - 30%
Dry Matter
Grass Silage
Wilted for 12+ hours

AGROS HI-DRI
For High
Dry Matter and
Big Bale
Grass Silage

AGROS XL40
For High
Dry Matter and
Big Bale
Grass Silage

Call 0800 919808 NOW for more information
and your FREE Forage Management Guide

volac[®]

Silage Judge – Maitland Mackie

The Chairman introduced Dr Mackie as ‘well-kent in Scotland and beyond’ for his dairy farming in the north east of Scotland, for ice-cream manufacture plus, more recently, for his interests in the renewable energy market. The Judge’s first impression of south west Scotland was of ‘a God-given country with the grass waving in the breeze where you couldn’t help producing milk’. He felt very humbled going around and judging ‘in the land of professionals’, but it had been the best three days he had spent for a long time. In general comments he felt effluent collection was mostly good, with sufficient collection capacity, though excess rainfall should be kept out; in mechanisation, large machines enabled a rapid operation but more machine-sharing was recommended; safety was very important and clamps should not be too high; farmers should be ashamed if still using tyres - we should look forward; plenty of space should be allowed for easy feeding, and areas cleaned out regularly. It was difficult to assess the contribution of silage to the diet and extra feed given. Many units were immaculate (clean and tidy). He felt some compensation marks should be allotted for Beef/Sheep farms to compete more equally because of a different type of silage. In fact, he had given highest Inspection marks to the Beef/Sheep winner, Robert Parker.

Judge’s Farm – Westertown, Inverurie

Silage Judge, Dr Mackie, was Chairman of Mackies of Scotland, which he described as a small company, initially a dairy farm, which had diversified from retailing milk to ice cream making in 1994 and was now into renewable energy. In 2007 Westertown was a Financial Times Regional Winner of an Environmental Award for a small enterprise doing most in reducing **Carbon footprint** in the whole of Europe, Asia and Africa.

The dairy farm was 640ha with 550 Jersey cows milked in robotic units of 50-70 cows. Herd average was 6,000 litres with high milk solids and fat, desirable for ice cream manufacture. Robotic milking produced 20% more milk and the cows were more relaxed. Feeding was individually computer-controlled. A 20 million litre lagoon stored dirty water, ice-cream waste and pot ale for application through a network of underground piping to stand pipes for umbilical spreading. Slurry was stored separately and cooling water recycled to the cows. Arable crops (winter and spring barley, winter wheat, oilseed rape and triticale) occupied 350ha. This was cultivated by minimum tillage (‘Mintil’) involving rapid operation, low energy use and low costs. Surface soil fertility and organic matter were built up to the benefit of earthworms which in turn meant better drainage. Crop yields were higher than neighbours, all home used with surplus sold through local co-op; triticale was used for alkalage.

Seed is no longer dressed. Weeds and slugs were higher than when ploughed. The company employed 70 staff, with an average of 10 years' service. Ice Cream production began in 1986 ('wind, sun and rain into ice cream'), current turnover £15 million, sold in UK, South Korea and Norway. Company mission was 'Investing in people, created by people, hearing from people', ie: everyone was involved in the business, reporting how they are doing; all staff know the profit and maintain an interest in their duties.

Carbon Footprint

In recent years, the company had developed a new motivation to calculate the Carbon footprint of its operations. This was engendered by the realisation of the finite energy resources available world-wide coupled with the concern about climate change, proven to require a reduction in carbon emission. World oil consumption over the last 5 years averaged 27 billion barrels annually. New finds averaged only 3 billion barrels and it was felt that the depths of major oil fields had already been plumbed. In the face of escalating world demands for oil a significant investment in new energy sources was required NOW while resources were available to carry out the necessary development work. Increasing demand is likely to lead to higher costs of energy. Everything around us is 50-90 % oil based! UK road transport fuel accounts for around one third of total oil and gas energy usage. Replacing this with hydrogen would require 67 nuclear power stations or 90,000 of the largest (3 MW) windmills. Ammonium nitrate production is totally dependent on oil and gas. Without it, world food supplies will fall rapidly (c. 50%) and half the world population of 6.1 billion would be underfed. Examples of carbon sequestration on his own farm, the Judge quoted minimum tillage, also saving fuel; 40ha woodland planted 20 years ago estimated to remove 6.1t C ha⁻¹ year⁻¹, as well as improving the environment; reduction of fertiliser use through planned use of slurry and waste pot ale; generation of 2.5 MW electricity from 3 wind turbines on the farm resulting in a positive C balance. Production of power to cover the base-load requirement when the windmills were not turning was planned from a methane producing plant. The Judge concluded with a suggested scheme for all farmers in UK to invest in 90,000 3 MW windmills, under *Farmers Windmills United Ltd*, calculated to generate all the power at present used.

Michael Carpenter, representing the main sponsor for the evening: Kelvin Cave Ltd, gave a brief presentation on 'Clampfilm'. The occurrence of waste was mainly on the sides and shoulders of the clamp. An average of 10% of the 55 million tonnes of silage made annually in the UK was wasted. This amounted to 5.5 million tonnes, estimated to cost the industry £11 million annually. 'Clampfilm' was developed to try and reduce this. It sucks down onto the clamp surface within a few minutes. This is then covered with the usual black polythene sheet and held down by a 'securecovers' mesh with sand bags. A few tyres may be needed depending on silage DM. Advantages of 'Clampfilm' were: it was lighter than polythene, tough enough to walk on, less plastic for disposal and less permeable. It lasts for one season

**SCOTTISH GRASSLAND SOCIETIES'
BGS SILAGE COMPETITION 2008
Dr Ron Harkess OBE, Perth**

The four finalists for the British Grassland Society Trophy in 2008 were: Eastfield, Biggar (Central Scotland Society); Kirkland, Irongray (South West Scotland Society); Parkend, Crossgates (East of Scotland Society) and Middleton, Potterton (North of Scotland Society). The farms were all dairy units apart from the Beef farm at Middleton. Finalists were winners in their local grassland society silage competition, from a total initial entry of over 100 across all societies. The event was co-ordinated by the BGS representative in Scotland, Michael Shannon of Thankerton Camp Farm, Biggar, with support from the four local societies via their secretaries and SAC.

The silage overall quality was slightly down on last year, but all finalists scored well on efficient feeding systems and the handling and use of silage effluent and manures. Wet weather conditions throughout the year had required special care with outdoor clamp silos in order to avoid water ingress and silage deterioration. Points awarded are based on the analysis of the silage (35 points) and the on-farm inspection with assessment of the system (65 points). The results were: Parkend 81 (26 & 55); Kirkland 76 (28 & 48); Middleton 75 (23 & 52) and Eastfield 67 (22 & 45).

Congratulations to Brian Weatherup of Parkend, who was awarded the BGS Silver trophy and to Calum McGinlay of Kirkland, the runner up. Well done too, to John Thomson of Middleton and John Warnock of Eastfield. At this level of competition, each of the entries is worthy of merit.

SWSGS PRIZES 2008

The **SWSGS Vice President's Prize** for the Best Grassland Student in the 1st year Agriculture course at SAC Auchincruive campus was awarded to **Neil McClelland** from Newton Mearns. Neil has restaurant interests in Glasgow and is keen to reduce food-miles by purchasing farm-fresh produce locally. He received his prize from SAC Principal, Bill McKelvey at the Awards ceremony held at Oswald Hall, Auchincruive, in November 2008. The Society congratulates Neil on his award and wishes him success in the completion of his Auchincruive studies and also in his future restaurant endeavours.

Winner of the **Malcolm Castle Memorial** prize in 2008 was **Jennifer Kuchmeister** from Edinburgh for the best dissertation in a livestock-orientated subject over all SAC campuses. Jennifer is based in Edinburgh but spent one year of the 4-year BSc (Hons) in Agriculture at Auchincruive. Her thesis was entitled: 'The use of chicory for finishing lambs'. As well as the Malcolm Castle Trophy Jennifer received a cash award to use toward her studies, at the July awards ceremony in Glasgow.

CLAMPFILM REDUCES SILAGE LOSSES IN THE CLAMP

Kelvin Cave Ltd

Clampfilm™ from Kelvin Cave Limited offers a simpler, more efficient and cost effective means of ensiling forage that effectively “vacuum packs” the feed, eliminating spoilage seen as composted or rotting material at the top and shoulders of the clamp. ClampFilm™ is a clear 40 micron primary silage sheet that is spread directly on top of the clamped feed, before being covered with conventional black plastic and weighted down in the usual way. Traditional 125 micron black plastic on its own is too heavy and oxygen-permeable to achieve a perfect seal so air pockets remain. With ClampFilm™ anaerobic fermentation, essential for making good silage, consumes the oxygen in the clamp and sucks the lightweight, flexible film into the surface of the silage forming a perfect air-tight seal.

The additional cost of ClampFilm™ can generally be offset many times over by the reduction in feed wastage and improved nutrient retention. Typically, a 1200 tonne clamp can be protected for just £90.

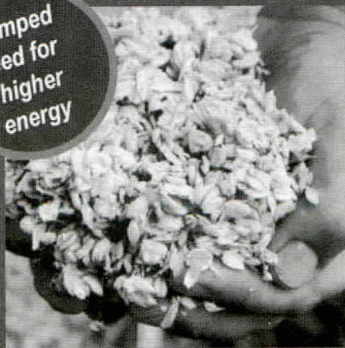
ClampFilm™ is available direct from Kelvin Cave Limited, specialists in feed preservation and processing. It is the star of Silage Protection.

Clampfilm protecting maize silage:



We're with you ...

Crimped
feed for
higher
energy

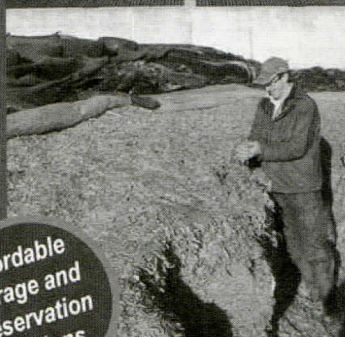


No
problem
combining
at
35-45% MC



...all the way.

Affordable
storage and
preservation
solutions



Crimping
and
dry rolling
machinery



Leading the field in home grown feed preservation and processing

We're Kelvin Cave Limited, the UK market leader in the development and implementation of home grown feed preservation and processing systems. Our expertise in harvesting, processing and ensiling crops for feed concentrates and forage, offers solutions for farmers seeking greater self-sufficiency and autonomy in their feed production.

Eliminate your dependency on bought-in feeds and produce crops that are higher in nutrients, easier and cheaper to store and can be harvested earlier when at the peak of their nutritional value. To find out how, visit...



www.kelvincave.com or call 01458 252281

Kelvin Cave Limited, Langport, Somerset, TA10 0LP

NOTES FROM THE ISLE OF MAN 2008
Caroline L Perry, Secretary, Manx Grassland Society

The Manx Grassland Society, now 30 years old, has retained its traditions and is as strong as ever in the currently constantly changing conditions. Total numbers of farmers have slowly declined but there is still enthusiasm and keen competitiveness among entrants to the Society competitions.

25 January 2008. Annual Dinner and 2007 Prize Presentations at the Max, Onchan. Silage judge was Tom Craig, Carsehall, Limavaddy, N. Ireland, whose farm had been visited by the Manx Society last June. Silage winner was John Caley, Lheakerrow, Andreas who also won Best Set Up and Best Kept Silage Pit prize. Tim Allison, The Craig, St Judes, won runner-up plus Best Utilisation prize. Awards were also given in 14 other silage, hay, maize, wholecrop, contractor and management classes.

11 March 2008. Visit to Ballakelly, Andreas (*Courtesy: Teare Family*), farmed with **Ballasteen**, rented from Clucas Estate. A total of 168ha, includes temporary grassland and 44ha of crops (winter and spring barley, triticale). Beef, lamb and pork are supplied to a local meat plant from the 120 sucklers, 60 sows and gilts and 460 ewes. Improvements have recently taken place to the buildings, FYM store and water supply.

Lleakerrow, Andreas (*Courtesy: John Caley and Family*). Winners of the 2007 grass and maize silage competitions, and of the silage competition on 9 previous occasions, Lheakerrow was rented from 1963 then bought in 1999. 84ha (32ha rented) support 94 cows averaging over 9,000 litres, 3,700 litres from forage. Two Merlin robots were installed in 2004. Silage is fed once a day year-round, including wholecrop and crimped wheat until December, maize thereafter. Cows graze paddocks from February-October. Soils are heavy clay and sandy loams; rainfall 750mm; maize and spring wheat occupy approximately 10ha each. A greatly improved silage quality in 2007 (ME 11.4) resulted in saving of around £10,000 in cost of feed.

27 April 2009 – Visit to New Prison, Jurby

11-12 June 2008. Study tour to see how N. Ireland farmers were adapting to changes in consumer demands, subsidies and environmental pressures. Support for the tour was received from the Department of Trade & Industry Training Division. A visit was made to the **Greenmount College Hill Farm** of 400ha with 1100 ewes and 110 sucklers. Research work included sheep and cow breeding with selection for meat quality and ease of management, and interaction of stock with the environment. The lowland **Aikey Farm and organic unit** were used for training students to monitor all aspects of management and marketing. The second day involved a visit to see the effect of a wind farm and livestock grazing on a countryside management area. This was followed by seeing a specialist food supply business, **Moyallon Foods, Craigavon**, sourcing products locally from smaller organic and free range units wherever possible and supplying restaurants and hotels throughout N.Ireland and Dublin.

19 June 2008. Evening visit to **Old Lonan Church Farm, Ballakilly, Baldrine** (*Courtesy: Angie, Sue & Stephen Goody*), 2007 winners of the Beef and Sheep Grassland Management competition. Purchased in 2001, the 80ha farm has been built up to carry 70 sucklers, 2 Blonde bulls, 1 Limousin bull, 170 sheep, 7 horses, together with 5 holiday cottages. The cows are of mixed breeds, the sheep Texel and Mule crosses. 7ha barley are grown but young cattle were not finished last year, due to high feed costs. Increasing emphasis is being placed on clover to improve pasture and silage feed value and reduce fertiliser use. Self sufficiency was the aim in forage production. The old stone buildings were upgraded to a holiday complex, now rated 5-star; modern farm sheds were erected to replace these.

1 August 2008. 30th Birthday celebration of the Manx Grassland Society at Eary Ween (*Philip & Jim Caley*). 130 people rode on trailers to Booilshuggel Farm, East Baldwin where the society was founded in 1978. At the barbecue a celebratory birthday cake was cut and three founder members gave a speech. GrowHow, Isle of Man Bank, Ramsay Mart and Isle of Man Creameries sponsored the event.

SWSGS SUMMER FARM VISITS 2008 – WIGTOWN G E D Tiley

Visits to **Hourie, Port William** (*Invitation: Hourie Farming Co – Rory Christie*)
and **Broadwigg, Whithorn** (*Invitation: Kevin Forsyth*) 21 August 2008

Farm Visits sponsored by **Tarff Valley Ltd**

On a fine morning and afternoon, SWSGS visited two contrasting large-herd dairy units in the South of Wigtown county, with a welcome soup-and-roll lunch provided by Caroline's Catering, sponsored by Tarff Valley Ltd and greatly appreciated by the good turnout of members and guests attending.

The morning visit was to **Hourie**, one of 3 farms within the Hourie Farming Co and previously visited on a wet and windy early spring day in 2004. Cow numbers had since increased from 250 to 708, fed on a fully committed New Zealand paddock grazing system and producing some 5 million litres of milk annually. The paddocks were each of 2ha, all with water piped from a burn. Grazing grass production was closely budgeted, and aimed for 3000kg DM ha⁻¹, when the cows go in and 1500kg eaten after one day with a rotation of 21 days. At the time of the visit, production was only 2500kg ha⁻¹ and rotation cycle 18 days, due to poor weather. In the spring rotation length was 15 days maximum. A parlour feed of 4kg day⁻¹ was given as an insurance against loss of condition and to get back in-calf. Pig slurry from a 900-sow unit was applied to every rotation to give 25kg N ha⁻¹ plus a high P & K content. 50kg N ha⁻¹ was applied in spring and in autumn if required. Fresh grass samples were analysed weekly to monitor its feed value. The youngest grass was always best and swards were renovated every 8 years and barley grown half for wholecrop and half for grain. Currently protein contents were high (22%) but DMs low (11%) due to slow growth; the cows were unable to eat sufficient grass and milk yields had fallen.

The cows would be dried off in November, out-wintering on rough areas and fed straw and silage to calve in late January/February. When 250 have calved grazing would begin usually in late February, depending on the season. From originally Holstein stock, breeding turned to New Zealand genetics with Friesian and Friesian x Jersey to produce smaller cows that want to eat grass, required less DM, can walk and are selected to calve on their own. Good tracks now 6m wide had been made using local gravel from the farm. After removing 60cm depth of soil the gravel is cambered and well hammered down to promote drainage and bring up fines to the surface. The cows must be returned quickly to graze to avoid loss of milk and to keep the tracks clean. There were very few foot problems.

At the time of the visit there was a long trek to a distant silage field which had been cut before grazing to supply 10kg DM per head. Due to poor weather 2nd silage cuts had been delayed and areas becoming available for normal grazing had run out. The entire herd of 708 cows were milked through a 44-point DeLaval rotary parlour in 3 hours with a current yield of 6,000 litres. Half the herd were seen at grass in one paddock. Further expansion of cow numbers was envisaged to utilise the full potential of grass available.

The afternoon visit took the Society to **Broadwigg, Whithorn** where Kevin Forsyth conducted the party around the extensive steading buildings and slurry stores. A raucous bird-scarer greeted the visitors in one of the cubicle houses! A total of 650 Holsteins were kept on the 146ha unit, approximately two thirds kept inside all year and fed silage plus bought-in wholecrop. 200 cows were outside on 56ha grazing. There had been a gradual expansion from 100 cows in 1978 to 280 in 1995 up to present day numbers. The parlour had been upgraded in 2006 to a 60-point Dairymaster rotary with a 700-cow capacity. Some 2½ hours were required for milking; average yields were 8,800 litres and annual sales around 5.5 million litres. The herd was managed in 5 groups, divided on yield level. A mechanical automatic backing gate facilitated entry onto the rotary. An innovative feature in the cow sheds was a floodwash system, utilising recycled dirty water and dairy washings. This operated automatically inside but manually for outside areas. A large outside reservoir tank with concrete walls stored the liquid for use. Solids were separated from slurry to be transported by trailer to distant fields. Slurry liquid could also be pumped to the fields. Silage was contractor cut and augmented by a bought-in area; 48ha wholecrop were grown plus extra purchased. Maize was formerly grown but yields proved unpredictable.

The Society expresses grateful thanks to Rory Christie and staff and Kevin Forsyth for the time they spent in demonstrating their respective dairy production systems and for the hospitality of these two farm visits.



Quality comes out of the blue

With consistent quality in every bag you shouldn't be surprised that you can rely on GrowHow fertilisers. Our products offer all the right nutrients to help you optimise yields and meet your quality targets.

And our range of advice and services will help you use fertilisers even more effectively – helping your business to grow as well as your crops.

www.growhow.co.uk


GrowHow

NUTRIENTS AND SPRING TURNOUT

Elaine Jewkes, GrowHow UK Ltd

Farmers generally look forward to the day when they can turn stock out, seeing the animals getting some fresh air and getting the chance to clear the sheds after winter housing. With a bit of care and attention to detail, the pasture that the animals go onto can provide an inviting, valuable feed. Make the most of your spring grass and you should see the benefits through the season.

Starting with nutrients, grass responds well to phosphorus in spring, so this is the time to apply where the soil index shows that it is required. Only modest amounts are needed for grazing – at index 2 the recommendation is 20 kg P₂O₅ ha⁻¹ (16 units ac⁻¹). Products such as EarlyBite (26:10:0) provide a suitable amount of N and P and have been shown to increase yields over straight N in trials on soils at P index 0 and 2. Potassium is not usually applied in spring except where the index shows a deficiency; here the application shouldn't be any more than 15 kg K₂O ha⁻¹ (12 units ac⁻¹) at any one time, to avoid the risk of grass staggers.

Do you know what your soil P & K indices are?! Soil testing should be carried out every 3-5 years – make it easy to remember by sampling a quarter of the farm every year. *If you know what you've got, you can work out what to apply.*

Nitrogen rates recommended for first dressings are 60 kg N ha⁻¹ (48 units ac⁻¹) for both beef/sheep and dairy, but this is a maximum for high stocking rates and for a total N use of 250+ kg N ha⁻¹ (200+ units ac⁻¹). For more modest stocking rates and lower total N use, reduce the rate accordingly. In terms of fertiliser timing, little and often works better for grass than large and infrequent dressings – this may be more important in early spring before uptake is at its peak. Slurry in spring makes the best use of the available nutrients, although some care is needed, especially on grazing, where luxury uptake of potash could result in staggers. For silage crops, slurry contains useful amounts of P & K, but make sure that any applications are made at least 6 weeks before cutting to avoid taint. Low emission application methods, such as shallow injection or trailing shoe spreaders offer a variety of benefits such as reduced ammonia emissions (and thus also less odour). This means that more of the applied N gets to the growing crop, as well as giving cleaner grass, the slurry not being spread over the surface of the leaves. Whilst the equipment is more expensive to buy, it is worth considering if you are replacing existing spreaders, and many contractors now offer one of these methods – does yours? *Don't forget to adjust fertiliser applications according to the nutrients applied in slurry.*

In managing the sward for spring grazing the principle is “enough but not too much”. The aim is to encourage continued leafy growth by grazing down tightly, but not going too far so that growth is damaged. For rotational grazing with cows,

aim for a sward height at the end of grazing of 7-8cm (uncompressed height – ie measured with a sward stick or ruler), or an average sward height of 6-7cm for continuous grazing. For sheep, around 4cm, rising to 6cm by mid season is the equivalent. For grass-clover pastures, particularly newly sown ones, this “tight but not too tight” grazing strategy is critical, allowing light into the sward for clover growth, but not damaging the stolons by overgrazing.

One practice that seems to have fallen off the radar is harrowing. This can be very beneficial, particularly if there is a matted “thatch” in the base of the sward. Harrowing helps to aerate the root zone and let light in to stimulate growth. Better aeration may also help mineralisation of N in the upper layers, releasing N for the plant. It is best done when ground conditions allow and before peak growth begins, to make the most of the benefits.

BGS NATIONAL GRASSLAND MANAGEMENT COMPETITION 2007

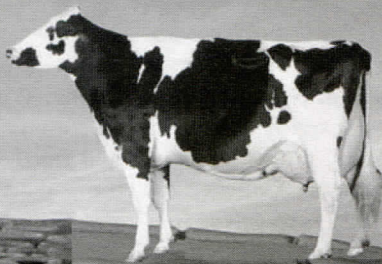
Sponsored by **GrowHow** and **DLF-Trifolium**

Winner of the 2007 BGS National Grassland Management Competition was a beef/sheep farm on the edge of the Snowdonia National Park in North Wales. The runners up were from Hereford and Somerset. The winner, Emyr Jones and two sons, Aled and Dylan, are members of the Meirionydd Grassland Society, father also deputy president of the Wales Farmers Union. The farm, Rhiwaedog, is 190ha on steep land at 180-340m, mostly reclaimed from bracken during the last 30 years, and receiving over 2000mm rain. The grassland, all very high quality perennial ryegrass plus small leaved white clover, is divided into 3-10ha blocks. This gives flexibility of management, allowing adjustment of stocking to the grass available. Stock consists of 1200 ewes, mainly Welsh Mountain and 60 pedigree Welsh Black sucklers, which benefit the grazing management. The cattle are housed from October-May, fed on silage baled from 40ha of low ground fields. The sheep have been selected to adapt to the farm and gave 163% lambing last year. A 10-year environmental programme of tree and hedge planting, fencing and stone dyking has been carried out.

The farm at Bromyard, Hereford (Whitehouse Farm) is 75ha, carrying 95 New Zealand Friesians producing 6,600 litres of organic milk, 4,800 litres from forage. Hybrid ryegrass-red clover leys are grown, oversown with white clover in later years. Grazing management is tightly budgeted using an electric fence. Straw is used to produce FYM for spreading. The Somerset farm at Warminster is 182ha with 320 Holsteins producing nearly 9,000 litres, Italian/Hybrid ryegrass and red clover leys are used for silage; long term leys are grazed as paddocks; the clover content and injection of slurry reduce N fertiliser to 180kg ha⁻¹. Slurry is separated into liquid and thicker consistency.

Secure Covers

Tyrelessly protecting silage pits



Save labour and stop waste
with Secure Covers
and Secure Gravel Bags

Tyre recycling service available

Call Freephone: 0800 783 2804
or visit www.securecovers.co.uk



Secure Covers thomas
the complete package fontaine

MAKING MORE USE OF GRASS FOR BEEF

Rhidian Jones, SAC Beef Specialist
Crichton Royal, Mid Park, Dumfries

SAC Beef Tour to Ireland – October 2008

A party of 33 farmers from south west and other parts of Scotland, plus 3 SAC Consultants went on this 3-day study tour of beef units in Ireland. The chief purpose was to see how leading farmers were adapting their systems to make better use of **grazed grass**, which had become necessary due to a reduced Irish beef price.

The five units visited were:

Northern Ireland, Narrow Water Castle, Warrenpoint, Co. Down (Courtesy: Marcus Hall). 90 spring calving and 50 autumn calving, Limousin, Simmental and Stabiliser Crosses, producing stores and finished cattle off 117ha grass. **Abbey Farm, Greenmount College, Antrim**. Shorthorn, Angus and Limousin. All progeny plus dairy bred calves finished.

Southern Ireland, Cookstown, Kells, Co. Meath (Courtesy: Donal Callery). 170 Limousin producing breeding bulls and finished cattle on 105ha. **Rathkenny, Co. Meath** (Courtesy: Dennis Meade). Angus, Limousin, Montbelliarde and Simmental crosses, 41 spring calving, 54 autumn calving, producing suckled calves. **Grange Beef Research Centre, Trim, Co. Meath** (Courtesy: Teagasc). 1000 beef cattle, including 150 sucklers and dairy bred beef on 253ha. Research staff of over 80 conducting beef research.

The salient points observed on this tour were:

Cost of grazed grass. The Irish data suggests that grazed grass costs around €30 tonne DM⁻¹, 1st cut silage €90 and 2nd cut silage €120 tonne DM⁻¹. Grass quality is better in the spring so the cost of energy from grazing is even lower relative to keeping stock on silage, not taking into account other housing costs.

Cash in on early spring growth of grass. Store cattle turned out in early spring can grow at 1.5kg day⁻¹ on grass alone. Therefore animals desired for earliest finishing should be prioritised for early turnout to take advantage of these high growth rates. All farms visited grazed silage fields before moving onto grazing ground.

Careful planning and budgeting of grazing resources. The farms were divided into small paddocks using simple electric fencing, with cow tracks for moving cattle and pipe distribution of water often lying on the surface. In autumn fields were shut off in sequence from mid-October to late November to give a range of pasture heights to commence rotational grazing in the following spring. Fields may be grazed down to around 5cm (equivalent to 600kg DM ha⁻¹), sometimes using sheep. A rest of 16-20 weeks was recommended for early turnout and it was most important to resist any temptation to go back and graze earlier. Continuous winter sheep grazing was not tolerated.

Rotational grazing. Rotational paddock grazing was practised on all farms visited, with length of rotation varied according to paddock size, seasonal pasture growth rates and size of animal group. Surplus grass was cut for silage and shortages complemented by buffer feeding or even temporary housing until grass growth recovered. This flexibility was a key essential, with silage making secondary to the grazing system.

Pasture budgeting. Grass growth was regularly measured and budgeted to match livestock requirements. Initially, the farmers used rising plate meters, but most managers had become confident in gauging grass availability by eye. Swards were occasionally topped to freshen up grass growth and make management of sward heights easier. At times paddocks were pre-mowed 48 hours before grazing behind a fence. This was useful where grass height was getting ahead of the livestock and resulted in very little wastage and an even regrowth.

Manuring. Good use of slurry was made in early spring on all farms to stimulate grass growth and reduce reliance on bagged N. It was important that ground conditions were suitable when slurry was spread. When clover was to be relied on to provide adequate N, correct soil conditions of pH and of P and K levels were required.

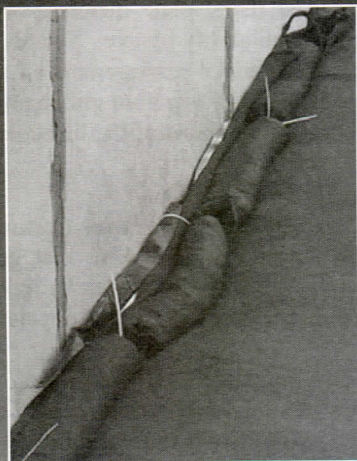
In Summary, the Irish beef producers were: aiming for a **better use of grass potential** particularly in the mid-season; **walking the fields** regularly to see what grass is there; allowing **complete recovery** (up to 140 days) in winter by removing all stock, and definitely no sheep! Even the best farms felt they were not making use of all the grass potential available.

save silage!



Prevent thousands of ££££'s of silage clamp waste.

Secure Gravel Bags



- Stop air and rainwater getting into silage and prevent spoilage
- More weight focused on shoulders where tyres cannot reach
- Make the optimal seal when used with side sheets
- Easy to handle and store
- Reusable year after year

For further information contact:

Freephone: 0800 783 2804

or visit our website at:

www.securecovers.co.uk

Manufactured by:
Thomas & Fontaine Ltd, Edgton,
Craven Arms, Shropshire, SY7 8HN, UK
Tel: 01588 680 661

thomas
fontaine



The simple way to save silage

TREE FERNS AND KIWIS BUT GRASS IS KING
A visit to New Zealand, 18 February – 19 March 2008
G E D Tiley

This memorable trip ‘down under’ was made possible through the instigation and generosity of South West Scotland Grassland Society who sponsored the air travel and to whom most grateful thanks are offered. Visits were made to a number of farms, Universities, a seed company and consultant, to family and friends, as well as enjoying a taste of the many and wonderful tourist attractions in a beautiful country with lovely people. Sincere thanks are expressed to all host farmers and research staff, especially to Deric Charlton and family, Clive Dalton, John Dawson, and not forgetting Ray Allbrooke and Colin Owen for help and guidance.

Geography and Climate

While New Zealand has similarities to Scotland in some respects – rugged landscape and coastline, maritime climate and good for grassland, there are clear geographical differences. New Zealand lies between 34° and 47° South compared with Scotland’s 55°-60° North. This means that the North Island of New Zealand equates with North Africa, Spain and Greece in Europe, and the tip of the South Island is on a level with Zurich in Switzerland. With an area of 268 sq km, New Zealand is larger than the UK (245 sq km) but with a population of only 4.2 million (7% of UK).

Climate. Coming across the Tasman Sea from Australia, the prevailing westerly winds are warm and moist leading to very high rainfall over the Southern Alps on S.Island (up to 300 in – 7500mm) and regular rainfall in N.Island (around 50 in – 1300mm). A southerly wind comes from the Antarctic and brings cold weather. Geology in the North Island is volcanic, including active volcanoes and thermal areas, resulting in fertile soils. In the South Island a geological upthrust has created a line of Southern Alps to the west; the east is a contrasting flat alluvial area of fertile silty soils – the Canterbury Plain, with a low rainfall (330mm). The native vegetation is mainly evergreen forest in the North and coarse tufted grassland in the South. Introduced imports from the UK which have reached pest proportions include whins, broom, creeping (‘Cally’) thistle, not to mention, rabbits.

Agriculture. The impression was of a vibrant, developed farming with support and controlled marketing, particularly in the dairy sector which contributes 20% of New Zealand exports. Sheep numbers, mainly in the South Island, were declining with many farms changing to dairying. A strong tourist industry leads to opportunities in diversification, especially near towns. Fruit, vegetables and wine production are also significant. With fewer people, less traffic and good roads, travelling was straightforward outwith large towns. Fuel prices were lower than in UK but cost of living was not low. Dwellings are well spaced out in both town and

country and indicate a good standard of living. However, dependence on private vehicles seemed essential. Being younger than European countries the New Zealand economy is still developing, with a 'work hard/play hard' mentality and an emphasis on sport and recreation. There is scope for the younger generation 'to get on the ladder'. Thus in dairying there are stepped arrangements (sharemilking) whereby keen youngsters can progress from milking to gradually share income and ultimately own a farm. However, there appears to have been a decrease in social contact, meetings, etc in the last 20 years in rural areas and less contact with neighbours. Some of the younger generation are less inclined to work, want to sell off land and gravitate towards the towns.

Research and Advisory. In the dairy industry a levy on milk solids, the basis of milk price, provides finance (Total NZ \$53 million, £22 million in 2008) for **Dairy NZ**, the industry-supported organisation which represents all dairy farmers; 'to protect and advance their competitive edge in the global market'. The levy is invested in R & D projects to combat potential problems, eg: bovine TB, reducing the carbon footprint, reducing methane emissions, and to provide publications plus current management advice, such as getting through the summer dry period. University research is part-commercial part-government funded and is directed to solving practical problems. Both teaching and research appeared to be in a healthy, progressive state with good modern facilities in attractive campuses. Plant breeding of legumes and grasses was particularly prominent. The UK tendency to fewer agricultural students was noted; it was said to be impossible to fill agronomist staff vacancies, as there is currently almost no funding for agronomic research available. The advisory service is very active though it appeared to attract only the top 25% of farmers. The New Zealand Grassland Association is well-supported with its membership well proportioned among farmers (50%), with researchers, consultants, educators and technical personnel from relevant industries making up the remainder. It hosts an annual conference which reviews recent research. Staff at seed companies and private consultants were well used. Specific grassland problems observed were: In late summer (March) 2008, the country was experiencing a prolonged drought, which was seriously reducing milk yields by 13-25%. All the hills looked brown. Once a day (OAD) milking, drying off or shipping cows away were strategies being followed. Perennial ryegrasses harbour endophyte fungi which gave rise to staggers, so new varieties containing less harmful endophytes were being bred and marketed. Facial eczema on animals could also be caused by fungal spores on dead grass leaves in the sward. White clover was under threat from a clover weevil in the North Island and northern South Island which caused serious damage to the plant. An Irish parasitoid wasp has been released on farms to combat the clover root weevil and this is already reducing the threat to some extent. To mitigate greenhouse gas emissions, New Zealand may introduce an Emissions Trading Scheme (ETS) in 2013, in which Carbon credits could be purchased. Dairy NZ were therefore researching new cost effective technologies in readiness for this.

Farms Visited

North Island. Dairy Farms in Waikato river valley.

Drumlea, Hamilton RD (*Greg Glover*). A director of Fonterra, the main farmer-owned co-op buying milk, Greg keeps 1000 cows (cross bred and Friesian) on 250ha. He uses maize silage to flatten out the grass growth curve and lead to better utilisation of grass. He pointed out that maize silage was easy to make whereas grass silage was difficult. In 2008 maize DMs were down to 18% from normal 22-25% and yields 20% lower. Overall milk yields were 60,000kg milk solids lower, at NZ \$7 kg⁻¹ representing much reduced returns. Dry cows were being transported to grazings in the north. He was careful to check out these grazings and transport arrangements as he regarded his cows as 'thoroughbreds'. His 50 point rotary parlour was not big enough for 1000 cows, which required 5 hours for milking. Studs were fitted on the platform to keep the cow's legs apart for milking. A feature in the calf house was plastic coated slats; all calves were fitted with a DNA earplug.

Koramatea, Hamilton RD (*Ivan Mitchell & Son*). A nearby farm with 190 Jersey cows on low lying land which was good in summer but wet in winter. One field had been recently cleared from woodland but rows of sweet chestnut trees were left along the boundary to provide shade for the animals. Other fields had thick barberry hedgerows. Buttercups and docks required herbicide treatment and Cally thistles (creeping thistle) were spot sprayed from a quad bike. Products were added to the parlour water supply to provide trace elements and counter facial eczema.

Waipiri, Old School Road, Hamilton RD (*David & Pip Fullarton*). A specialist breeder of Holsteins, David had lines imported from SW Scotland. At the time of the visit he was preparing to air freight 30 bulls to China; he produced embryos for heifers also for export to China. Milk was produced from 168ha of the 212ha farm, the remainder being devoted to bull production. His aim was to produce maximum milk using supplement if necessary. A Fonterra milk tanker and trailer was seen leaving on the farm road in a cloud of dust! As with other farms, grazing was by paddocks with grass measurement and budgeting. Paddocks were topped if necessary and collected into round bales which had proved useful in this dry year.

Mairire and Bennett Farms, Waitoa, Morrinsville. (*John Luxton*). John was MP for the area, uniquely following his father who had also been local MP. The visit was in the company of John Dawson, agricultural consultant, on one of his regular advisory visits. 450-500 Jersey and Jersey x Friesian cows were stocked at 4 ha⁻¹; a smaller, lighter animal being preferred. Feed budgeted was 16t DM grass and 1t DM supplement cow⁻¹ year⁻¹. Paddocks were grazed on a 30-day cycle extending to 90 days in winter as the soil was heavy and easily poached. In the dry summer with limited grass growth maize silage spread in the field was cleared

within a day. If rain did not come soon 100-200 cows would be dried off in preparation for next season; barren cows would be sold. The concrete collecting yard had automatic cleaning; the slurry pit was underground whence settled liquid was spread by irrigators from fixed points around the fields.

Burleigh, Bulls (*Harry and Chloe Wier (Wiervikski)*). An organic arable/beef farm raising beef, now mainly from steers, from grazed paddocks using an innovative system of grazing management – **TechnoGrazing™** developed by Harry, commercialised in 1992 and now being adopted by other farmers. The method involves subdividing the paddocks into small units with permanent and temporary electric fencing enabling a very efficient and intensive use of pasture. Substantial benefits to pasture and animal output are achieved with minimum outlays and low labour inputs. Small animal groups are less stress-prone and more frequent fresh pasture stimulates appetite and gives a more consistent diet. Permanent electric fencing is used to form long narrow strips which are subdivided by temporary cross strands to provide two-day grazing cells usually <0.1ha. The fence posts are of fibreglass with insulated fittings; and the wires suspended on springs. The dividing cross fences are easily moveable using a quad bike with crash bars allowing the vehicle to drive over live fences. Harry Weir established a factory (Kiwitech International Ltd) to make and sell all fittings and equipment necessary to set up the system. A watering system with portable or submerged micro troughs has also been developed. The animals readily adapt to the prospect of fresh grazing and Harry's daughter could transfer a herd of bulls to new paddocks in about 20 minutes. An electrified 'fishing-rod' could be used to separate out selected animals. Technograzing could also be applied to heifer grazing, lamb finishing and even deer and dairying. For more information see www.kiwitech.co.nz.

Clover and ryegrass breeding was seen at **AgResearch Grasslands, Palmerston North** next to Massey University. In the South Island, visits were made in the Christchurch area to: **AgResearch at Lincoln**, where Lester Fletcher was evaluating combinations of ryegrass varieties with different endophyte strains by grazing with sheep. **The Pyne Gould Guinness Wrightson Seed Co Research Farm at Kimihia** is breeding and testing farm and amenity grass varieties, chicory and plantain. Chicory was useful for finishing high value animals, especially lambs. Plantain was winter active here. A nearby farm at Leeston was used for field scale evaluation for finishing lambs from a hill farm further south. The rotation comprised leaf turnip/rape under sown with red clover/red clover, undersown Italian ryegrass and annual ryegrass, all direct drilled. Lambs finish on almost pure red clover. Bred selections of plantain were used for ewes with twins to grow the lambs forward for early lambing. A herd of red deer and red deer X elk, mainly for meat production, was also seen on this property. The New Zealand Grassland Association website: www.grassland.org.nz provides much useful grassland information for farmers.

Waste tyres?

We can recycle them into environmentally friendly Secure Tyre Blocks which have many on-farm construction uses e.g.

- stock barriers
- silage pits
- tracks & gateways
- retaining walls

From 50p per tyre

Secure Tyre Recycling Service



To find out more about our nationwide service contact:

Freephone 0800 783 2804

www.securecovers.co.uk thomas
fontaine

IMPROVING FARM NUTRIENT UTILISATION

Hugh McClymont

Farm Manager, Crichton Royal Farm, Dumfries

With the prospect of ever-increasing prices for fertilisers, the need to avoid environmental pollution plus the sharpening focus on the more precise management of farm inputs and outputs, it is more than ever vital to budget and manage farm nutrient utilisation. Previous generations of farmers placed great value on animal manures and advisors have long pointed to slurry as an ASSET rather than a disposal problem.

Considering the details, a 650kg cow produces a tenth of its weight (65kg) of waste daily. At Crichton, 350 cows are housed for 6 months producing 4000m³, 100 stock housed all year, 2370m³ and 240 dairy youngstock housed for 8 months, 1150m³. TOTAL per annum over 7000m³. Plus additional water of 5000m³ gives 12,000m³ year⁻¹. **How can this be valued?** Take a farm sample and obtain a chemical analysis. A typical (consistency: "Thick soup", DM 6%) DAIRY slurry contains 3N/1.2P/3.5K kg t⁻¹. Diluted slurry ("Thin soup", DM 2%) contains 1.5N/0.6P/2K kg t⁻¹.

BEEF slurries have slightly lower N and K, PIG slurries higher N and P, lower K. One cubic metre (1 tonne) of a 6% DM dairy slurry thus contains 3kg N, 1.2kg P, 3.5kg K. At current fertiliser prices, this equates to £7.5 tonne⁻¹ slurry, or £75 per 10m³ tanker load (2200 gallons or 9,900 litres). Annual total value for Crichton would be an estimated £90,000. Thinner slurry (2% DM) would be half this value.

Utilising Farm Nutrients

To make maximum and efficient use of these nutrients each field application should be tested and balanced against crop requirements (as though you were feeding animals!). Thorough pre-application mixing will ensure a more uniform product. As much slurry as possible should be **shallow injected**, to minimise losses of ammonia to the atmosphere. This is borne out by figures which show substantial reductions of emissions to the atmosphere by different spreading methods relative to splash plate distribution, eg: up to 87% using shallow slit injection; up to 63% by trailing shoe.

At Crichton, **grazing** land receives 2 applications of 30m³ slurry ha⁻¹, July and August, following applications of fertiliser totalling 180kg N ha⁻¹ from mid-February to the end of June. **Silage** ground receives 3 applications (March, May, June) of 30m³ ha⁻¹ of slurry toward the requirement of 65kg/65kg/50kg N ha⁻¹. Being in a NVZ, regulations dictate: a longer (22 weeks) closed period for slurry application, limit on organic N loading, increased storage capacity or reduced water content, a Waste Management Plan. Accurate recording of all applications will be essential with clear instructions for operators.

THERE'S AN AWFUL LOT OF BEEF IN BRAZIL!
Sandy Forsyth, Bennan, Tynron, Thornhill
Visit of Dumfriesshire Beef/Sheep Farmers to Brazil, October 2005



Brazil is a vast country bounded by 10 neighbouring countries, takes over 5 hours to fly from one end to the other and is already the world's largest exporter of beef, coffee, ethanol, orange juice, poultry products, sugar and tobacco. The country is blessed with a tropical climate with intermittent rain storms for 9 to 10 months of the year giving an abundance of tropical grasses throughout that period. They do however have a dry winter period from mid July to early October when grass growth slows and eventually stops. Suckler herds are run in extensive, low-cost systems similar to our hill sheep. 60 million suckler cows produce 40 million calves per annum within a total cattle population of 195 million head. To put this in perspective, Scotland currently has 458,000 suckler cows. Production methods are extensive, grass-based and near organic with cows calving down in early spring (October and November), weaning in July or August with little or no supplementary winter feeding. Because of the hot tropical climate and the abundance of ticks, Zebu and Zebu cross European breeds are favoured with the Nelore breed the most popular. Units tend to be large by our standards with one ranch we visited running 14,000 suckler cows and up to 28,000 head of cattle at any one time. Beef is big business in Brazil with a number of television channels dedicated to the dissemination of modern cattle breeding techniques along with live bull and semen sales. The vastness of the country makes television an extremely useful medium in which to engage with farmers. One AI centre we visited proudly showed us a Simmental bull previously owned by the president of Nestlé and sold on to three Brazilian pop stars for US\$1 million

The Brazilians use slaughter rate for benchmarking performance. A typical 100 cow Scottish herd would be 79 out of 280 total cattle = 28.2%. Current Brazilian average slaughter rate is 18% with better units achieving above 25%. São Paulo University agricultural department informed us that with a few simple improvements such as judicious use of fertiliser, improved tropical grass varieties and targeted supplementary feeding in the dry winter period, slaughter rates could easily be improved by 10%. With a total cattle population of 195 million, every 1% increase in slaughter rate will mean an extra 1.95 million cattle for slaughter per annum demonstrating staggering un-tapped potential.

The majority of breeding units finish their own cattle simplifying traceability, which is optional but, with substantial premiums available for cattle eligible for the very lucrative EU market, forward thinking farmers were voluntarily meeting EU traceability regulations as a means of increasing income. Most cattle are finished at grass but carcass weights can be low (average 214 kg) and can be up to 4 years old. There are over 300 meat processing plants in Brazil of which, at the time of our visit, 82 were approved for export. The plant we visited was slaughtering over 1000 cattle per day with the whole plant dedicated to the export market. We saw Tesco labelled steaks in trays ready for supermarket shelves being loaded into containers bound for the UK. The plant claimed that they were regularly inspected by EU officials and recently by Tesco executives who flagged up some concern that the large holding pens did not fully meet EU regulations. The company was rectifying this by a no expense spared complete rebuild of the handling pens which had been redesigned by Prof Temple Grandin, the world renowned animal behaviour expert.

Labour on both Brazilian farms and in meat processing plants is plentiful with average wages of £160 per month. One ranch we visited (24,760 ha and covering 50 km from one end to the other) employed a total of 230 staff to handle its 5000 ha of sugar cane and 28,000 head of beef cattle. Staff were housed in tied cottages and the farm had its own primary school. With Brazilian unemployment around 17% at the time of our visit, those with secure agricultural jobs were certainly more fortunate than those living in the many shantytowns. We encountered extreme wealth and abject poverty side-by-side with the wealthy protected by robust security including electric fences and armed security guards.

The rapidly expanding sugar cane industry is the current agricultural economic driver pushing cattle further north and inland into less developed areas with one unit we visited about to transport 40,000 cattle 1000 miles north to make way for their expanding sugar cane area. When a new sugar cane refinery is built, the value of surrounding land increases by approximately 300% to £4000 per hectare. Refineries produce sugar and ethanol for the domestic and world markets with 20% of Brazil's fuel supply derived from home produced ethanol. In comparison, less than 2% of UK energy is produced from renewable fuels.

Having studied beef production in USA, Ireland, France, and Italy as well as Brazil, I am confident that Brazil will be back in the EU market in the near future. We have the highest price for beef in the world and Brazil has the lowest costs (less than half UK costs per kilogram of production). We can only hope that consumers recognise the inferior taste and lower tenderness of the Zebu product.

Sandy Forsyth (sandy@cara.co.uk) is a Dumfriesshire based beef and sheep farmer and a founder director and consultant with Cara Consultants Ltd. This fact-finding journey was organised and facilitated by Sandy as part of Cara Consultants' contract to supply facilitation services for Scottish Enterprise's Planning to Succeed project.

THE USE OF CHICORY (*CICHORIUM INTYBUS*) AS AN ALTERNATIVE TO ANTHELMINTICS FOR PARASITE CONTROL IN GRAZING LAMBS

Jennifer Kuchmeister

Abstract of dissertation submitted for BSc (Hons) in Agriculture, Scottish Agricultural College, April 2008

Parasitic gastro-enteritis is one of the most important diseases of sheep production in the UK both economically and in terms of animal health and welfare. An increase in the incidence of anthelmintic resistance and public demand for organically farmed produce has led to current methods of control becoming increasingly unviable, creating a requirement for research into alternative methods. One area of research which has been particularly successful is that of bioactive forages in particular the use of chicory.

The aims of this project were 1) to investigate the possibility of using Chicory (*Cichorium intybus*) as an alternative to prophylactic anthelmintics in grazing lambs, focusing on the ability to produce positive live weight gains; 2) to establish any variation in these anthelmintic-like properties over the grazing season.

Two experiments were carried out: firstly a grazing experiment to monitor animal performance and levels of parasitism over a season of grazing on the forage crops: grass and chicory, and secondly an *in-vitro* experiment to determine the ability of water extracts of chicory to inhibit larval migration.

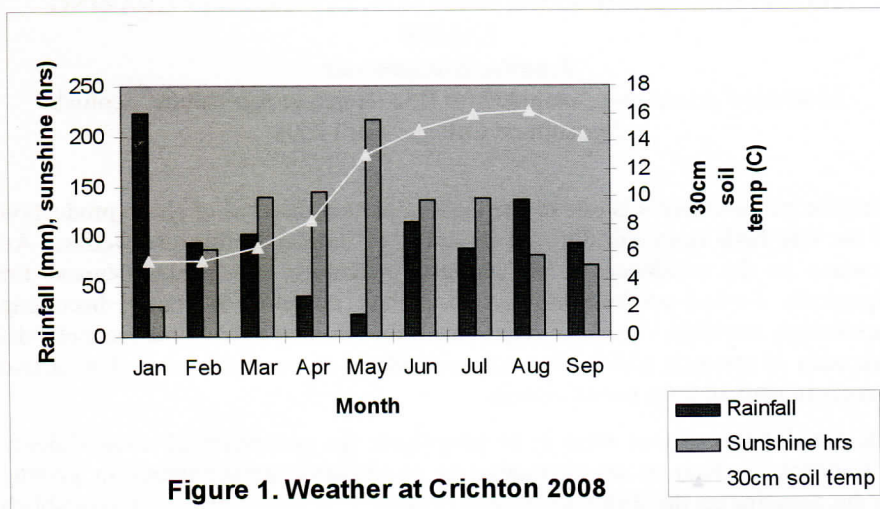
The key findings of this project show that lambs grazing on chicory had significantly lower levels of parasitism and significantly higher growth rates. The results suggested that lower levels of parasitism were due to an elevated immune response linked to the higher nutritional value of chicory. No variation was found in the positive anti-parasitic effects produced by chicory over the grazing season.

FORAGE MAIZE AT CRICHTON ROYAL FARM, 2008

Jennifer Bell & Hugh McClymont, Crichton Royal Farm, Dumfries

Maize in 2008 was grown only for forage, and the area planted increased by 25% over 2007. Extra land was rented, on Cairn o' Craigs Farm, to add to the area sown. A total of 53.6ha was grown on 9 fields, 3 with plastic. Harvest was delayed due to wet weather and took place 21 September-31 October. Most fields yielded 40t freshweight (FW) per ha, or above, with two exceptions. DM was up to 33% and starch 32%, D value 71, ME 11.4, crude protein 7.9%.

Rainfall, hours of sunshine and temperature of the soil at 30cm for the growing season are shown in Figure 1. May had the greatest number of sunshine hours, and lowest rainfall. The soil temperature rose from 5°C at the beginning of the year to 16°C in August, then beginning to fall in September.



Compared with 2006, the main maize growing season: June-September was cooler and wetter in both 2007 and 2008, and sunshine hours much less (Table 2).

Table 2. Monthly Mean temperatures, rainfall and sunshine, June-September, Crichton Royal Farm, 2006-2008

	June	July	August	September
Mean Temperature (°C)				
2006	14.8	17.0	15.4	15.2
2007	13.9	14.4	14.5	12.5
2008	13.4	15.8	15.2	12.5
Rainfall (mm)				
2006	37	62	59	124
2007	154	87	87	44
2008	114	87	128	92
Sunshine (Hours)				
2006	170	225	148	132
2007	126	265	140	107
2008	135	138	80	70

Forage maize is an integral part of the ration for the Langhill herd systems study at Crichton, with equal amounts (23kg fresh cow⁻¹ day⁻¹) of grass and maize silage fed. The highest yielding cows were giving over 60kg milk daily on this ration.

The use of plastic covering at sowing was an insurance policy which definitely brings forward maturity with an earlier harvest. However, additional costs of £210 ha⁻¹, lack of placement fertiliser and problems with weed control and slow degradability were negative factors. With nearly 20 years' experience of growing maize, added to the improvement in varieties suited to a Scottish growing season, it is a crop we can grow with confidence to feed to other groups of cows at the Dairy Centre as well.



feeds for a better future

Your local contacts are

Matt Gilliland
07977 570051

Robert Harding
07813 966090

David Hawkes
07595 887582

... Leading Suppliers of
HIGH QUALITY
COMPOUND FEEDS
for Dairy, Beef & Sheep ...

SPECIALIST BLENDS
for all types of stock

CUSTOMISED BLENDS
mixed to your own specification

Fertilisers- Minerals-
Straights- Milk Powders-
Silage Additives- Grass Seed

NWF Agriculture, Wardle, Nantwich, Cheshire, CW5 6AQ
Tel: 0800 262397 Fax: 01829 260061

SAC ENVIRONMENTAL FOCUS FARM – AYRSHIRE

Progress Report 2008

**Carole Christian, Focus Groups' Facilitator, SAC Bush Estate, Edinburgh
R Crerar, Agricultural Consultant, SAC Consulting Ayr**

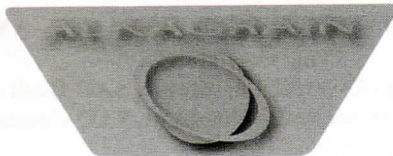
The SAC Environmental Focus Farm project was developed from the Monitor Farm approach, with the aim of forming a group of farmers within a priority river catchment area to meet and discuss measures to reduce diffuse pollution and improve river and coastal water quality. Low Holehouse (W R Campbell), straddles the Killoch Burn which feeds into the Cessnock Burn and the River Irvine. The Cessnock is one of the Monitored Priority Catchments identified by SEPA for monitoring and reducing agricultural pollution loads. A second farm, Mains of Balgavies (T Sampson) was selected in Angus.

Low Holehouse (57ha owned plus around 100ha rented) receives 1100mm rainfall on clay and peaty soils. Cropping is all grass apart from spring wheat for wholecrop. Stock are 110 dairy cows with up to 300 beef animals, finished and wintered, plus a flock of 250 ewes.

Slurry storage and management, water run off, fertiliser application and soil erosion are the critical features under consideration. Progress to date has included the construction of a new slurry store, 6m tall capacity 1.7 million litres aiming to store for 180 days and to ensure safe collection and storage.

Effective utilisation of the resource of stored slurry will require monitoring its nutrient value; in addition soil analyses, crop requirement assessment, budgeted fertiliser applications and record keeping will be involved. Cost savings coupled with environmental benefits are primary motivations. Avoiding over application of nutrients beyond requirements is vital to prevent water pollution. Physical loss of soil particles in water erosion from fields is another major source of waterway pollution and is a gross loss of the soil resource from a farm, particularly on sloping land adjacent to watercourses.

Intensive monitoring of water quality at Low Holehouse has focused on Faecal Indicator Organisms (FIOs) which are strong indicators of farm pollution. FIOs were correlated with flow rate of water which was high in 2008. There is a risk that FIOs originating from farms will travel downstream to beaches and, if the beach is a designated Bathing Beach, this could cause the Bathing Water regulations to be broken. How levels of FIOs can be reduced will be a major challenge in future years. Regular meetings of farmers within the group have highlighted some of the critical factors leading to diffuse pollution, and options for minimisation have been examined. Support is given to the groups' farmers who may wish to implement these on their own farms.



New Ways To Make More From Home Grown Feeds

Alkagrain is a new application of old technology, and related to proven Alkalage production systems, that allows the most cost effective storing, processing and supplementing of grain all in one process whilst maximising grain yield per acre. Consider the options for a crop of wheat grain.

	Milled Grain	Soda Grain	Crimped Grain	Alkagrain
Dry Matter %	86	70	65	80
Protein %DM	12.5	12.2	13.2	17.5
Starch %DM	68	66	58	66
ME MJ/kgDM	13.7	13.1	13.3	13.5
pH	c6.5	c8.5	<4.5	>8.5
Built in Buffer	No	Yes	No	Yes
Drying Needed	Yes	Yes	No	No
Specialist Storage	Yes	Usually	No	No
Ready to Feed From Store	No	No	Yes	Yes
Resists Vermin	No	No	No	Yes
Protein Balance Required	Yes	Yes	Yes	No
Total Cost / t Balanced DM Fed	£223	£229	£233	£203
Cost / t Fed Fresh	£191	£160	£151	£162

All Figures based on typical UK wheat crop costs plus protein to balance at current market prices.

Global Alkagrain production has grown hugely in Ireland, Australia and New Zealand where there is a powerful drive to make more from farm grown resources.

Interesting? Then call our Technical Team For More Information

Malcolm Graham Tel +44 1938 590615 Mob +44 7989 985937
 Email malcolm@bioagri.biz

Alan Sayle Tel +44 1200 445525 Mob +44 7976 779465
 Email alansayle@hotmail.com



WEATHER DATA FOR 2007
SAC AUCHINCUIVE (55°29'N 4°34'W) Alt 45m

<i>Month</i>	Mean Air Temp °C		Mean Soil Temp °C	Rainfall		Sunshine
	<i>Max</i>	<i>Min</i>	<i>At 30 cm</i>	<i>Total (mm)</i>	<i>No of Days</i>	<i>Total Hours*</i>
January	9.2	3.6	6.3	137.6	22	27.3
February	8.2	2.9	5.6	61.8	24	67.7
March	10.5	3.5	6.7	98.4	18	126.7
April	14.6	6.1	9.4	24.8	7	200.3
May	14.6	6.7	12.1	90.2	21	193.0
June	17.7	10.1	14.8	95.4	17	152.2
July	18.0	10.8	15.9	105.6	19	181.3
August	17.5	11.4	15.6	94.6	23	120.8
September	15.6	9.3	14.0	61.4	20	94.1
October	14.4	8.0	11.8	39.2	19	99.5
November	10.7	5.1	9.4	79.0	24	35.5
December	8.2	2.3	6.7	91.4	20	39.8
Means/ Totals	13.3	6.7	10.7	979.4	234	1338.2

Max air temperature: 24.1° on 9 June. Min air temperature: -6.2° on 21 December.
 Last frost: 2 April 2007. First frost: 27 September 2007.

* RNAS Prestwick.

WEATHER DATA FOR 2007
SAC CRICHTON ROYAL FARM (55°03'N 3°35'W) Alt 65m

<i>Month</i>	Mean Air Temp °C		Mean Soil Temp °C	Rainfall		Sunshine
	<i>Max</i>	<i>Min</i>	<i>At 30 cm</i>	<i>Total (mm)</i>	<i>No of Days</i>	<i>Total Hours</i>
January	9.6	3.6	6.0	129.8	22	53.3
February	8.1	2.9	5.6	86.7	14	70.5
March	10.6	3.8	7.2	95.2	15	130.8
April	15.3	5.9	10.5	21.6	5	194.7
May	15.1	7.1	13.3	64.5	19	174.4
June	18.5	10.5	15.6	154.0	16	126.4
July	18.5	10.9	16.6	87.6	19	165.1
August	18.0	10.5	15.3	87.2	11	140.4
September	16.9	9.2	14.6	44.3	11	107.1
October	13.8	6.7	12.0	36.2	12	100.3
November	10.6	4.9	9.1	109.4	23	52.1
December	7.3	1.5	5.7	113.5	18	44.6
Means/ Totals	13.5	6.5	11.0	1030.0	185	1359.7

Max air temperature: 25.1° on 11 June. Min air temperature: -5.6° on 17, 21 December. Last frost: 21 March 2007. First frost: 24 October 2007.

The year began with January gales and rain, frosts in February and further wind and rain before calming to an abnormally sunny April and early May. Cool wet conditions intervened before a fine, hot early June. The rest of the summer was then dull and wet, frequently breezy. October saw several fine days and less rainfall, preceding a mild wet late autumn before hard frosts to end the year.

Meteorological data reproduced courtesy of SAC Auchincruive, SAC Crichton Royal Farm and Met. Office, Exeter.

WEATHER DATA FOR 2008
SAC AUCHINCUIVE (55°29'N 4°34'W) Alt 45m

<i>Month</i>	Mean Air Temp °C		Mean Soil Temp °C	Rainfall		Sunshine
	<i>Max</i>	<i>Min</i>	<i>At 30 cm</i>	<i>Total (mm)</i>	<i>No of Days</i>	<i>Total Hours*</i>
January	8.1	3.3	6.1	161.4	29	18.5
February	9.4	2.6	5.8	49.6	20	76.8
March	8.7	2.5	6.2	114.2	25	87.7
April	11.5	4.1	7.6	63.2	21	150.8
May	17.9	8.1	11.8	20.2	6	224.9
June	16.8	9.3	13.7	64.0	18	154.6
July	19.0	12.4	15.2	88.2	18	143.1
August	18.5	12.4	16.2	101.2	23	89.1
September	16.2	9.6	14.3	91.0	19	62.4
October	12.4	6.4	11.1	110.4	20	87.9
November	9.6	3.6	8.2	47.2	21	61.0
December	7.1	0.4	5.5	87.4	24	48.6
Means/ Totals	12.9	6.2	10.1	998.0	234	1205.4

Max air temperature: 27.9° on 28 July. Min air temperature: -5.6° on 30 November. Last frost: 17 April 2008. First frost: 30 October 2008.

* RNAS Prestwick.

WEATHER DATA FOR 2008
SAC CRICHTON ROYAL FARM (55°3'N 3°35'W) Alt 65m

<i>Month</i>	Mean Air Temp °C		Mean Soil Temp °C	Rainfall		Sunshine
	<i>Max</i>	<i>Min</i>	<i>At 30 cm</i>	<i>Total (mm)</i>	<i>No of Days</i>	<i>Total Hours</i>
January	7.2	2.5	5.4	222.5	28	31.0
February	9.2	1.9	5.4	93.8	17	87.9
March	9.1	2.7	6.4	102.0	23	139.2
April	11.0	3.5	8.3	40.0	20	144.6
May	17.8	8.5	13.1	21.0	9	217.0
June	17.5	9.3	14.9	114.0	14	135.4
July	20.0	11.7	15.9	87.1	21	138.0
August	18.3	12.3	16.2	136.4	26	80.4
September	15.9	9.1	14.4	92.2	20	70.3
October	12.7	5.2	11.4	196.1	25	110.1
November	9.9	3.5	8.2	60.0	17	64.1
December	6.4	0.4	4.7	96.0	14	46.1
Means/ Totals	12.9	5.9	10.4	1261.1	234	1264.1

Max air temperature: 26.6⁰ on 28 July. Min air temperature: -11.5⁰ on 30 December. Last frost: 17 April 2008. First frost: 29 October 2008.

After severe gales and heavy rain in January, becoming colder with intermittent snow and cold winds continuing into April, 2008 will be remembered for an unusually hot sunny early summer. This then deteriorated to wet sunless conditions for the rest of the year, apart from a few fine days in late July and very occasional bright days in autumn. It became colder with frequent hard frosts during November and December.

Meteorological data reproduced courtesy of SAC Auchincruive, SAC Crichton Royal Farm and Met. Office, Exeter.

SPONSORS

The South West Scotland and Central Scotland Grassland Societies wish to gratefully acknowledge and thank the several sponsors who have supported their activities during the 2007-2008 season:

Alan Sayle Associates

bp-agri

GrowHow UK Ltd

John Watson Seeds Ltd

Nickerson (UK) Ltd

Pioneer Hi-Bred Northern Europe

South West Seeds Ltd

Biotol Ltd

Galloway & MacLeod Ltd

HF Seeds Ltd, Edinburgh

McCaskie Farm Supplies Ltd

NWF Agriculture Ltd

SAC

Tarff Valley Ltd

ADVERTISERS

The two Grassland Societies acknowledge and thank the following firms who have placed adverts in the current issue of this Journal. Please mention "Greensward" when replying to any of these adverts.

Alan Sayle Associates

British Seed Houses Limited

Davidson Brothers (Shotts) Ltd

GrowHow UK Ltd

Kelvin Cave Ltd

NWF Agriculture Limited

Tarff Valley Ltd

Volac International Ltd

Biotol Ltd

Brown Swiss Cattle Society (UK)

Dow AgroSciences Ltd

John Watson Seeds Ltd

L S Smellie & Sons

SAC

Thomas & Fontaine Ltd

Note: Reference to, or advertisement of, any commercial products in this Journal is for factual purposes only, and does not imply approval or recommendation. Similarly, no criticism is implied of products not mentioned.

