GREENSWARD

Journal of the South West and Central Scotland Grassland Societies

No. 54 2013

GOLDEN JUBILEE
1963 - 2013

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Journal of the South West and Central Scotland Grassland Societies

GOLDEN JUBILEE of CENTRAL SCOTLAND GRASSLAND SOCIETY

No. 54 2013

Front Cover Photo: Contractor Graham Rae cutting 1st cut on a new reseed at Dalruscan, Amisfield, Dumfries on 8 June 2013 *(Courtesy: A Henderson)*
Photo: Andrew Best.

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Winners of SWSGS Silage Competition 2012 during Competition Evening, 31 January 2013.
Seated (Left-Right): F Nicholson, Newhouse, Silage Champion, I Whiteford, Silage Judge, C Dodds, representing Grange, Beef/Sheep winner.
Back row (Right-Left): J Heaphy (Limagrain UK), R Murdoch, High Park, W Welsh, retiring Chairman, P Cowan, incoming Chairman, D Biggar, Grange, W Watson, Muir, D Laird, contractor's cup winner, G Tiley, Secretary
Photo: *Andrew Best*

FOREWORD

A glance at the 2012 weather records at the end of this edition of Greensward is hardly necessary to remind us of the low sunshine and heavy and frequent rainfall during the second half of last season. This being particularly evident in the south of the region around Dumfries, where rain fell on 3 days out of 4 from June onwards, totalling over 1000mm. Recovery from the aftermath of these unfavourable conditions has overshadowed grassland farming in the current, 2013, season, itself unusually late. Several articles feature steps to deal with soil compaction, drainage, winter feed. The value of covered clamps and of the adequate management of run-off and dirty water also comes to the fore. It is hardly surprising that a forthcoming Conference in Dumfries in September will focus on how climate change could affect farming.

In spite of an almost unrelenting pressure of bad weather, there are articles highlighting increased efficiencies in animal production with the introduction of new techniques. Examples are: paddock grazing, sward monitoring and budgeting; new and more persistent varieties of the high yielding legume, red clover, as well as the well known principles of good silage and clamp management, production of high quality silage, oversowing pasture and attention to detail in cow welfare and management. The increased activities of the parent British Grassland Society and of SRUC advisory and research staff present greater opportunities for Knowledge Exchange and of modernised approaches to grassland and stock management. The Central and South West Scotland Grassland Societies continue to play their part in the new development and demonstration of these in co-operation with research, advisory and commercial interests.

2013 is the Golden Jubilee year of the Central Scotland Grassland Society, to whom heartiest congratulations are extended! It is the privilege of current and future grassland farmers in Central Scotland to continue the fine tradition laid down by their Founding members, under the dedicated leadership of their local Committee.

The two Societies extend grateful thanks to all contributors of articles in this issue. Especial thanks are expressed to host farmers, sponsors and advertisers in this Journal; also to members of the Committee and for the support of SRUC staff. The excellent work of word-processing and compilation of this issue by Lorraine Reid, SAC Consulting, Auchincruive, and the final task of publication by Scott McDonald, CCB, Glasgow, are again most sincerely acknowledged.

G E D TILEY - Journal Editor

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SOUTH WEST SCOTLAND GRASSLAND SOCIETY
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Secretary:	Dr G E D Tiley, SAC Auchincruive, Ayr, KA6 5HW
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Co-opted Member:	A Pilkington, Central Scotland Grassland Society, Galloway & MacLeod Ltd, King Street, Stonehouse ML9 3LH

CENTRAL SCOTLAND GRASSLAND SOCIETY
EXECUTIVE COMMITTEE 2012

Chairman: A Reid, Glen Farm, Glen Village, Falkirk

Vice-Chairman: W Waugh, North Bankhead, Avonbridge, Falkirk

Past Chairman: D Lawson, Parklea, Carmunnock, Clarkston

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G Millar, Gallamuir, Plean
R Pollock, Bonnyhill, Bonnybridge
R Struthers, Collielaw, Carluke

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

THE CENTRAL SCOTLAND GRASSLAND SOCIETY
A BRIEF HISTORY
G E Blackhall, Hill of Westerhouse, Yieldshields, Carluke

The stimulus provided by the formation of the North of Scotland and South West Scotland Grassland Societies, had its effect in the Central belt of Scotland in 1963, when the establishment of a Grassland Society for that area was suggested. The Colleges were playing a major role in Grassland Societies and the area to be involved was that covered by the West College, namely Clackmannanshire, West Perthshire, Lanarkshire, Dumbartonshire, Renfrewshire, Stirlingshire, Argyll & Bute. Principal D S Hendrie of the West College had already been deeply involved with the setting up of the South West Society in 1962, and along with College personnel, particularly Graham Berrie and John Waddell, was of great assistance in the initial preliminaries required. The experience of the previous year relating to constitution and general guidelines undoubtedly simplified the approach work and much of the detail which was necessary in setting up the Central Society. It was anticipated that there would be considerable interest in the proposal for a Society specifically related to grassland farming, since these were the days of great anticipation and expansion; and grassland, especially in an area well suited to growing grass, would figure prominently in many farmers' plans and objectives.

An inaugural meeting was planned for 29 July 1963 at the Burn Farm, Chapelton, near Strathaven, farmed by Robert Yuill, where 45 dairy cows were kept on a similar number of acres. The meeting was well attended and chaired by Principal Hendrie. After a farm walk and discussion, the objective of setting up the Society was completed. Mr George Gilmour was elected Chairman and Minto Argo as his Vice-Chairman. The posts of Secretary and Treasurer were in the very capable hands of Graham Berrie and John Waddell, with a Committee of: A P Anderson, W Elder, R Howie, A Malcolm, J Minto, A Paterson, A Robertson, R Yuill, Major R Tullis, Principal D S Hendrie, I V Hunt, A Parkinson, C Watson. The subscription was set at £1/head, and after the initial committee meeting and the awareness of the existence of the new Society, the membership was 172.

Central Scotland now had a viable agency with the responsibility of promoting grassland farming in the realms of techniques, production and profit. Winter meetings consisted of four groups of speakers: (i) 'Professionals' – people who are associated with farming and grass, but not actually farming; (ii) the everyday farmer who has some special skills with grass; (iii) a combination of these two, where a 'Professional' is actually involved with farm animals in his work (eg: Crichton, Hannah, Hillsborough); and (iv) a panel night of three farmers involved in a 'My Farm' type of meeting. The first farmer to hold the stage by himself was N McCall Smith from Crieff, and this seemed to set a change in pattern for the ensuing years. Since then there have been 24 farmer speakers, 4 nights with panels of three farmers, 10 'Professional'/Farmers and 15 'Professionals' as speakers.

Visits were made by the Society, usually three per year, in May, August and prior to the AGM in November, predominantly to farms within reach for a 1 day visit. The scope of the visits have been wide and varied, both as to distance and type of farm – Bute to Stonehaven, Fife to the SMMB Centre (AI), a meat processing unit and a forage machinery demonstration. In addition, there have been extended tours of more than 1 day's duration when the Central Society combined with the South West in visits to Northern Ireland in 1965 and to Eire in 1967. In 1973 and 1979, the Society had its own outings to Cumberland and Berwick.

The Silage Competition was introduced in 1979 and has attracted a good response, with 40-60 entries per annum. In 1985 a beef and sheep section was started, with the main sponsorship from SAI, and a trophy from Reco, together with Messrs Hamilton of Larkhall. Finally we have had the good fortune of being able to participate in the South West journal and benefit from all the advantages of having **Greensward** as part of the service to members. We acted as joint hosts to two BGS tours in 1969 and in 1987 when the British Grassland Society Summer Visits encompassed the Central area. These are very worthwhile occasions not only for the farm visits and the official social events, but also for the contacts and friendships evolving from the visits. Likewise we have sponsored members to go to BGS visits in the South and keep us informed of trends and patterns arising at these visits.

There is, of course, a tremendous indebtedness to all office bearers, sponsors and helpers who have worked so diligently. Our thanks go to everybody who has played a part in the functioning of the Society, especially to the West College who provided all the Secretaries from Graham Berrie at the start through to Ian Mitchell, Tony Hope, Ray Allbrooke, Brian Simpson to Iain Fraser at the present time. Major contributions have also come from all the farmers and their wives who have hosted the farm visits and provided excellent venues for lively and profitable meetings, together with the very kind hospitality which they provided, not forgetting the commercial firms associated with farming who have contributed generously to the Society.

There have been many changes influencing the Society over its life span, but whatever happens in the run up to the next century in farming, there is no doubt that grass will be of prime importance. It is worth remembering that we have a very useful Grassland Society in the Central area to assist us in the improvement in our grass knowledge for the next 25 years.

A message from the Chairman in 1988, W Lawson, Parklea Farm, Carmunock, Glasgow

"Twenty five years ago the Central Scotland Grassland Society was formed with the idea of helping farmers with the production and utilisation of grass. Also to

provide opportunities for its members to talk of their experiences and to learn from each other. Over the years, farm outings to different areas of the country and evening meetings with well informed speakers on a wide range of topics have helped to promote this aim.

The Silage Competition each year has created great interest and has gone a long way to improve the quality and use of silage. Many changes in methods and mechanisation have been seen and great progress made, and I feel that the Society can take some credit for it. As profit margins fall in farming, it is of the utmost importance that we keep up with the latest developments and keep our members informed. The next 25 years will be a challenge, and I hope that we can encourage young farmers to join us and enable the Society to continue with the help and advice as it originally set out to do."

(From Greensward No.31, 1988)

CSGS – NATIONAL SILAGE WINNERS

The following farms in Central Scotland were winners in the Scottish National Silage Competitions:

1982 and 1985	J Clark, Dunrod, Inverkip
1995	I & R Kerr, Kirklands, Dunsyre
1998	T & B Wilson, Bishopbrae, Bathgate
2004	J & J Fleming, Hallhill

ERRATUM

Last years 'Greensward' Issue No53, 2012, page 12

In **Treasurers of SWSGS 1962-2012**
should have read:

1985 – **2001**	Rod F Gooding, Auchincruive
2002 – 2012	Angela Henderson, Auchincruive

OFFICE-BEARERS OF CSGS 1963 – 2013

Chairmen

1963-65	George Gilmour, West Crosshill, East Kilbride
1965-67	Minto Argo, Newton Farm, Cambuslang
1967-69	Robert Howie, Drumfork, Helensburgh
1969-71	Bill Elder, Mid Glen, Langbank
1971-73	Lex Smith, Hazeldean, Stonehouse
1973-75	Jim Brown, Gaindykehead, Airdrie
1975-77	Robert Yuill, Walston Mansions, Dunsyre
1977-79	Robert Simpson, Duchlage, Crieff
1979-81	Basil Baird, Windhill, Eaglesham
1981-83	George Blackhall, Hill of Westerhouse, Carluke
1983-85	Michael Milne, Wellhall, Dollar
1985-87	Sandy Bankier, Fernieshaw, Cleland
1987-89	Willie Lawson, Parklea Farm, Carmunock
1989-91	G Hamilton, High Garrion, Larkhall
1991-93	T Brown, Muirhouse, Libberton, Carnwath
1993-95	R Miller, Newlands, Uddingston
1996-98	R Reid, Glen Farm, Glen Village, Falkirk
1999-2000	J Boyd, Dechmont, Cambuslang
2001-2003	G Millar Jnr, Gallamuir, Plean, Stirling
2004-2005	W Bankier, Fernieshaw, Cleland
2006-2007	J Brown, Gaindykehead, Airdrie
2008-2010	D Lawson, Parklea, Carmunock, Clarkston
2011 -	A Reid, Glen Farm, Glen Village, Falkirk

Secretaries

1963-69	Graham H Berrie, WSAC, Glasgow
1969-73	Ian Mitchell, WSAC, Stirling
1973-77	Tony Hope, WSAC, Stirling
1977-79	Ray Allbrooke, WSAC, Stirling
1979-81	Brian Simpson, WSAC, Stirling
1981-88	Iain Fraser, SAC Stirling
1988-2003	Colin McCombie, SAC Stirling
2003-2010	Donald Harvey, Galloway & MacLeod Ltd
2010 -	Archie Pinkerton, Galloway & MacLeod Ltd

Treasurers

1963-73	John Waddell, WSAC, Lanark
1973-78	Gordon Berry, WSAC, Lanark
1978-81	David Marshall, WSAC, Lanark
1981-84	Ian W Taylor, WSAC, Lanark
1984 -	Ken Phillips, SAC, Lanark

CENTRAL SCOTLAND GRASSLAND SOCIETY
SILAGE COMPETITION 2012

Silage Judge: R McNee, Woodend, Armadale

Prizes were awarded as follows:

HF Seeds Cup & 1st Prize	J & W Baillie, Hillhead of Covington, Thankerton, Biggar
Dairy Silage:	
1st Prize	J & W Baillie, Hillhead of Covington, Thankerton, Biggar
2nd Prize	J P Baird, Nether Affleck, Lanark
3rd Prize	John Warnock & Son, Eastfield of Coulter Biggar
Hamilton Reco Salver for Best Beef & Sheep Silage:	J & J Bannatyne, Drumalbin, Carmichael, Biggar
2nd Prize:	R & M Struthers, Collielaw, Kilncadzow, Carluke
Best Big Bale:	R & M Struthers, Collielaw, Kilncadzow, Carluke

CSGS FARM WALKS 2012

Two farms were visited in the Dumfries area on 25 May 2012.

F & R Nicholson, Newhouse Farms Ltd, Dumfries – A very tidy and well run dairy farm.

S I Carlisle & Co, Dargavel Farm, Dumfries – An impressive commercial beef unit.

The Central Scotland Grassland Society thanks the two farmer hosts for allowing the members to visit their farms.

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LOOKING AHEAD WITH THE BGS

Tony Evans, Andersons, Old Bell House, Melton Mowbray
President of the British Grassland Society 2010-2011

It was a privilege to follow in the footsteps of the many distinguished grassland practitioners and researchers to have been elected as BGS President, which gave me a unique opportunity to obtain an overview of the state of grassland in the UK.

It is important that all the key resources for profitable food production – grassland research, extension advisors, meat and milk processors and animal geneticists – work together. The long term targets would include: greater returns for farmers, improved lifestyle and improving longevity. The role of the BGS and local societies should be: to advocate best PROFIT practice, not best looking; to encourage and support R & D in forage systems; to learn from the best practitioners. This should lead to the benefits of good profits with minimal subsidy, enjoyable farming practices, farming opportunities for the next generation and access to farmer mentors to give confidence to change.

With ever higher feed costs, farmers will need to consider how much energy and protein will have to be brought onto the farm, and to what extent these could be home produced. The BGS has embarked on a programme to: make the most of early N application; increase confidence for an early turnout; more fully understand sward production and identify weaknesses, make more use of slurry nutrients, grow more clover and other high protein forages, to improve grazing practices.

The BGS will continue to inform, coach and encourage livestock producers to optimise forage quality and utilisation and to enthuse the next generation, all the time helping farmers to remain competitive.

I greatly enjoyed my opportunity to contribute towards these aims and to the development of your National Society.

With acknowledgement to 'Grass & Forage Farmer'.

GROWING FOR GOLD
BGS Summer Meeting in Pembroke, Cardigan and Carmarthen counties in SW Wales, 8-11 July 2012
G E D Tiley

The 2012 BGS Summer Meeting was hosted by the Narberth and District, Cleddau, Carmarthen, North Pembrokeshire and Cardiganshire & District Grassland Societies. The meeting was arranged in SW Wales to celebrate the 50th Anniversary of the Narberth & District Grassland Society, the oldest Society in Wales, founded 7 May 1962. BGS President, Sinclair Mayne, presented a Certificate to the Narberth Society's Chairman, John Phillips. John's grandfather was a founder member of that Society and also later proposed the formation of a 'Federation of Local Grassland Societies in Wales'.

Over the years, the Narberth Society had organised tours to Holland, France, Germany, Eire and throughout the UK, and supported members through the difficult times occasioned by Foot & Mouth, TB, etc.

Pembroke
Pembroke is know for its magnificent coastline, 250m long with rugged cliffs, sandy beaches and seaside towns, and a 186m coastal path. The land rises to flat then undulating farmland up to heather covered hills, including the Preseli mountains in the north. Climate is mild, with cool summers and frequent Atlantic gales, though high average sunshine (1700 hours).

Farming occupies 124,000 ha of the 164,000 ha total area, 80% grassland , 12% crops, 3% farm woodland. It includes one quarter of the total of Wales crop and horticulture, over half of potatoes and one third of barley, plus 25% of Welsh dairy cattle. Many farms run tourism and agri-food enterprises.

Cardiganshire
The market town of Cardigan is on the estuary of the river Teifi which flows in a deep inland wooded valley, with thriving wildlife and the best sea trout angling in Europe.

Carmarthenshire
Carmarthen has rolling green hills and lush parks, many castles and is home to the National Botanical Gardens of Wales.

High Milk Yields from Intensive Forage

Poyerston, Cosheston, Pembroke (*Philip, Sheila & Roger Lewis*)

A pedigree herd of 240 Holstein Friesians is totally closed, with emphasis on breeding a robust and functional cow. Tight autumn block calving to achieve maximum use of conserved forage in winter and grazed grass in spring and summer. Turnout mid-March beginning with paddocks but tending to set stocking as more grazing becomes available. Total area 142ha, 53ha rented; 24ha of wholecrop wheat grown, found to be cheaper and more reliable than maize. Milk yield 9,000 litres, nearly 4,000 litres from forage, aiming for 4,500 litres. Concentrates used: 0.28kg litre^{-1}. Philip is Past Chairman of Narberth Grassland Society; Roger is present chairman of Cleddau Society.

Prize Silage and Housed Cows for Profit

Trefynys, Peniel, Carmarthen (*Wyn, Eleri & Gruffydd Evans*)

With a high rainfall (2000m, 80 inches) and hilly ground, grazing management would be difficult at Trefynys farm, so the 350 year-round calving Holstein Friesians are housed all year in airy sheds and fed prizewinning silage. Only youngstock and dry cows are grazed. Total area 230ha (155ha rented) includes 20ha maize under plastic and 4ha undersown cereal. Silage is cut 3-4 times. As well as investment in buildings and slurry store, a 50-point rotary parlour has recently been installed, reducing milk time from 10 to 2.5 hours daily. Yield is 9,000 litres, aiming to increase to 10,000 litres and cow numbers to increase to 500.

Skilled Grassland Management with Extended Grazing

Coxlake, Narberth, Pembroke (*Tim Simons*)

In a one-man unit, 180 crossbred (50% Jersey) cows graze from February to late November on a rotational system, using an electric fence. The farm area of 75ha is split by a main road and day/night paddocks are necessary. Cows are block calved in spring and yield 5,400 litres for sale on a cheese contract. Swards are grazed down to a consistent residual height, achieving 90% utilisation of the 14t DM ha^{-1} produced. The high stocking rate, short rotation and early/late grazing lead to insignificant amounts of white clover. Tim is a BGS Grazing Partner Mentor and is involved with passing on his skills to other farmers in the area.

Organic Dairying for Retail and Global Markets

Fflosyficer, Abercych, Boncath, Pembroke (*Lawrence & Tom Harris*).

When the organic milk premium fell soon after Fflosyficer had completed organic conversion, the Harris family decided to retail. After 10 years the Trioni company sells fresh milk and cream in Wales and exports UHT milk around the globe. 350 autumn-calving cows average 6,500 litres on the 808ha farm, which also carries 80 beef cross cattle and 1000 breeding ewes. Complete restocking was necessary after a TB outbreak in 2008, and the Harris family are understandably keen campaigners for an effective reduction of TB in Wales. Cropping is: 200ha arable,

including undersown cereals and wheat, barley, oats for crimping; 240ha long term leys and rough grazing; 120ha white clover leys for grazing; 100ha red and white clover silage leys. A second farm carries a separate 350 cow spring calving herd.

Kale Outwintering and Pheasant Rearing on a Beef/Sheep Farm

Pencwm, Molygrove, Cardigan (*Berwyn & Hedydd Lloyd*)

Pencwm totals 109ha at 165m with annual rain at 1000mm in an early growing area, with largely free draining land. 80 Limousin cross sucklers are put to Limousin or Saler to calve in early spring and make maximum use of quality grass for calf growth. Creep feed is introduced in July and the calves sold at 14-18 months as stores. 500 sheep run on tack from November-January The cows are outwintered entirely on 10ha Maris Kestrel kale until January when they are housed for calving. The rotation is kale/rape/cereals/4-5 year grass ley. Cereals (24ha) are important, 200t being sold in 2011. The arable machinery is also used for off-farm contracting. A pheasant-rearing enterprise of 1000 hens yield some 25,000 chicks which are reared to 7 weeks before supplied as poults to shoots in mid- and south Wales.

Efficient Lamb Production from Grass not Subsidies

Dinas Island Farm, Fishguard, Pembroke (*Neil Perkins & family*)

This sheep farm covers 162ha of productive grass plus 81ha of mainly coastal land within the Tir Gofal environmental scheme, rising to 140m. The 1600 breeding ewes include 1000 pure bred Lleyn, together with Mules and Suffolk x Mules. Grassland management has been completely changed following a visit to New Zealand in 2005 on a Nuffield Scholarship. After lambing, the ewes are grazed rotationally in 10ha fields, sub-divided according to grass growth. The productive leys contain high sugar grasses with white clover and chicory. Up to 2000 lambs are finished by 8 months on red clover leys with no concentrates, yet achieving high growth rates of over 300g day^{-1}. An Italian ryegrass break provides bulk silage and controls weeds before reseeding with a white clover ley. Neil also contract rears calves to 6 months using a computerised calf rearing machine in a lambing shed, handling 200 calves in spring, 100 in autumn.

Close Grass and Stock Monitoring for Maximum Profit

Gilfach, Lampeter Valfrey, Narberth (*Paul Morris*)

Paul Morris is also preparing to farm without subsidies, as Neil Perkins, by maximising use of grass and easy care systems. Again, this was motivated following a Welsh Hybu Cig Cymru scholarship to visit New Zealand in 2006. All lambing is outdoors from 1 April and calving of sucklers concentrated in March/April, both to make maximum use of grass. Gilfach is 100ha augmented by 68ha rented. The land is on red sandstone and free-draining, situated at 180m and 80% ploughable. 18ha barley are grown for grain and straw, plus 18ha undersown cereals. Stock are: 500 Lleyn and New Zealand Suffolk ewes, with 250 ewe lambs; 60 spring calving Limousin sucklers plus 15 heifers calving at 42 months,

with all progeny finished. Grass is measured and budgeted to target sward heights for grazing, achieved by moving electric fences. Animal performance is also closely monitored. Mixed grazing is practised to maintain density and quality, and swards are oversown with white clover.

Simple Low Cost Dairying based on Grazing
Home Farm, Stackpole, Pembroke (*Chris & Nigel James – James Brothers Enterprises Ltd*)
A herd of 1100 New Zealand-bred Friesian cows and 360 followers is shared between two dairies at Home Farm and Stackpole Quay. Management follows the system advocated by New Zealand consultants in the 90's. The cows are turned out to grass after calving starting on 28 January, with a very tight calving (10 weeks) pattern. Yield is 5,000 litres cow^{-1}, 13200 litres ha^{-1}, and stocking rate 3.2 cows ha^{-1}. Up to 300kg cow^{-1} concentrates are fed to balance grass supply. Swards are measured weekly with a plate meter to guide grass allocation. Late heading diploid perennial ryegrasses result in persistent and productive swards. 250kg N ha^{-1} is applied annually, the farm being in an NVZ. White clover does not persist under the high grazing pressure. Milk is sold to Glanbia to produce mozzarella cheese for pizza toppings. At each dairy there are 3 full-time staff who are given extensive training.

Alternative Programme
The Alternative Programme enjoyed visits to Cwm Deri vineyard for wine tasting, Pant Mawr organic cheese farm for cheese tasting, Tregwynt Woollen Mill, Aberglasney Gardens, the Cathedral in St David's City, and the castles of Picton and Carreg Cennin. There was also an evening visit with the Main Party to the recreational farm park at Folly Farm, Kilgetty, for a hog roast.

BGS SUMMER MEETING 2013
23-26 June 2013
'A Taste of Cumbria'

The 2013 BGS Summer Meeting will be hosted by the Cumbrian Grassland Society and will be centred in Penrith. Visits have been arranged to 8 farms (5 dairy, 3 beef/sheep) around Penrith, covering a wide range of excellent grass and stock management. A new £2 million dairy unit being built at Newton Rigg College will be included.

Detailed programme and booking form available on: www.britishgrassland.com/event/bgs-summer-meeting-2013-taste-cumbria.

CONFIDENCE AND OPTIMISM WITH GRASS – 'THE FUTURE IS GREEN!'

John Downes, Red House Farm, Smethcott, Church Stretton, Shropshire
President of the British Grassland Society 2011-2012

The past twelve months have tested the most efficient grassland enthusiasts and South West Scotland more than most with exceptional rainfall and severe weather this Spring. As Summer finally arrives and grass reaches magic day when growth exceeds demand we can shrug off the past and return to optimism. How does BGS help in encouraging reliance on the Green Gold under our feet? There is always a need with knowledge transfer to build confidence, creating a grass based system to suit the farm, the stock and the aims of the farmer.

The choice of grassland systems can be guided by information from the media, such as our quarterly Grass and Forage Farmer with its increasing coverage of our events and advice from our Corporate members.

For a committed Organic dairy and beef producer, the advice is always reinforced when it is seen to be working successfully on the farm. Our visits to two excellent Spring farm walks, repeated annually, followed in 2012 by a visit to Andrew Nelson's near Castle Douglas, using hill, level and flooding land to best advantage, set the standard.

The Summer meeting in Pembrokeshire visited an area renowned for its grassland management. One hundred and fifty delegates compared high yielding autumn block calved dairy cows, housed because of an 80" rainfall with herds achieving 80% yield from grazed forage. For beef producers, outwintering Limousin cows on kale grown on well drained land cut costs. Neil Perkins, our National Grassland Management winner and Welsh Grassland winner used a Nuffield Scholarship to develop a low cost intensive sheep production system (see p18).

This year in Cumbria we are guaranteed another mix of grassland enthusiasts prepared to share ideas, encouraging visitors to better utilise grassland. Day visitors are always most welcome. We will then look forward to a return to Aberdeen in 2014.

Our strong team at BGS is increasing membership with a very strong financial base allowing us to put in new systems to benefit all members. Our aim is to provide technical knowledge on grassland and forage choices along with soil management. The goal is to increase grassland production and utilisation by 20% in 2020. It **is** possible and we look forward to rising to the challenge. We are also beginning a new competition training Young Farmer members to appreciate the value of good grassland. **The future is Green!**

LAUNCH OF SRUC
Dairy Event at Barony College, 3 October 2012
G E D Tiley

This was one of the events held to celebrate the launch of **SRUC – Scotland's Rural University College**. At the beginning of October 2012, the **Scottish Agricultural College (SAC)** merged with **Barony College** in the south west, **Elmwood College** in the north east and **Oatridge College** in the east of Scotland to form SRUC, working together in **Agriculture, Training, Learning, Research** and **Consultancy**.

Four main aspects of current work were featured in the Barony event.

1 **Robotic Milking and Welfare of Housed Cows**

Because **robotic milking** was started in the Netherlands, there was a perception that it was not compatible with grazing. However, in New Zealand and Ireland all management was by grazing with no housing, but was designed with a 3-block system so that the cows could benefit from the attraction of fresh pasture. Management was critical – good stockmanship was required.

The computer output is like a daily newspaper, recording cow condition – milk quality, activity measurement, whether cows are ill or require attention + STOP PRESS! Milk fat and protein contents can also be monitored. Cows have to be motivated to come to the robot. Time spent at the robot includes standby time; there should be no blind alleys or corners while queuing.

Welfare Research at Crichton Royal Farm

A survey of 860 dairy farms found an increasing number were keeping their cows inside. Two thirds kept them in for part of the summer months; in 6 per cent of the farms, the cows were in all the time. Only a third practised the traditional wintering system.

A study of loafing areas showed differences between concrete and field. In warm weather an outside lie was more comfortable, whereas in poor weather cows preferred lying inside, especially if straw was available.

Stock densities should be correct to avoid problems of bullying; heifers will stand back if feeding space was restricted.

It was important to see how the animals lie within the cubicle so that they ruminate well. Also, how long they were forced to stand in the collecting area which could be bad for their feet and reduce the opportunity to ruminate.

2 Reducing Lameness

Information and demonstrations were given on the correct method of trimming the cow's hoof. If trimming was incorrect or the hoof worn the sensitive parts of the foot, with nerves and blood supply, could be exposed. This could take months to heal. It was important to aim for equal lengths of the two hoof claws to balance weight distribution. A regular programme of inspection and trimming was important to maintain foot condition, to save time and trouble in the long run. Ideal claw length was 7.5-8.0cm and attention to foot baths and slurry management in buildings was required.

3 Winter Feeding

There can be a huge variation in the quality of winter feeds. If sugars are low and acids high, it is difficult to balance the ration. Wholecrop silages are very variable and with low starch. How much silage remaining in silage pits should be measured on a DM basis.

In the compilation of rations it was essential to appreciate that we are feeding the microbial population of the rumen. For most of the time, this population is balanced, but if, for example, there is acidosis, the microbes require time to recover. Concentrates break down quickly, producing acid. A mix is required to keep up the pH; protein and energy must be balanced. Target yields of milk should be defined; it could be better to accept a slightly lower yield since the last litre can be very expensive. Before using additives it was worth checking that the basic ration is correct, and that the composition of the additive is known.

4 Soil Compaction

After a wet season, patches of standing water or of brown pasture are symptoms of soil compaction. This can be checked by digging a hole of two spade-depths down and looking at soil structure. A large lump, block structure, associated with an acid smell and mottling indicates compaction. A soil structure of small lumps which readily crumbles is desirable. Heavily compacted soil develops a plate structure.

At Crichton, a compaction trial has shown a 20% grass yield reduction following cattle compaction, and 14-15% reduction for tractor wheelings. Lightly compacted soils can recover if given a rest at the end of the season. Very compacted soils can be improved by ploughing or slitting. Sward lifting is being tried in the Crichton trial. The influence of a lower tractor tyre pressure was demonstrated. A pressure of 14 compared with 21 psi allowed the tyre walls to flex, resulting in spreading the wheel weight over a greater surface area. Manufacturers' guidelines should be followed, taking into account speeds and weight. It was noted that under-inflated tyres resulted in higher fuel consumption.

SWSGS WINTER FARM VISIT – DUMFRIES
Visit to Cumrue, Lockerbie, Dumfries and Barony College
4 December 2012
(Invitation: R Beattie and Brendan Muldowney)
Visit sponsored by ***NWF Agriculture Ltd***
G E D Tiley

On a cold, icy morning Society members were welcomed to the new steading at Cumrue by farm manager, Brendan Muldowney, and owner Richard Beattie. The farm had only been purchased in late November 2011 and the visit was planned to see the developments to date. It had been decided to convert the farm to a grass grazing unit and the impressive results so far were largely due to a massive team effort on the part of suppliers, contractors, friends and neighbours. Following intensive planning, new buildings had been erected, 6.5km field tracks and 12km water piping laid together with 44km fencing. Initially milking was in a temporary parlour before the new 44/44 swingover unit was used. The 2012 season had been very challenging in that grass production was less than normal. However, the year-end results had been good, with excellent cow fertility and only 2 animals lost. Milk yield in 2012 averaged 4,500 litres, feeding 700kg cow^{-1}.

There were 320 Jersey X Friesian cows at the time of the visit, but aiming to increase to 450 cows in 2013. Total farm area was 240ha, of which 212ha were usable, all into grass. This had been divided into 40 paddocks of size designed for an enlarged herd. All paddocks were regularly monitored on Mondays – 'the most important day of the week'. This was done by eye, backed up with occasional samples cut from 50cm x 50cm (0.25m^2) quadrats with electric clippers at 4cm height, and oven dried to obtain DM, if necessary. Target grass yield to graze was 3,000kg DM, allowing for 3 grazings, maximum 36 hours before moving to the next paddock. Grass is allowed to build up in autumn ready for turnout in February. The cows are milked once daily from November before drying off in mid-December ready for spring calving from 1 February.

Outdoor cubicles, some with woodchip bedding, were increasingly used to winter the cows, which were fed by contractor. Youngstock were outwintered on strip-grazed Maris Kestrel kale plus silage, the fence being moved 4m per day. A new 2.5 million gallon (11 million litre) slurry lagoon was nearing completion. A borehole supplied water to tower storage and a woodchip fired biomass boiler heated water for the parlour to 80^{o}F.

Cow tracks to the paddocks had been laid using excavated material from construction of the shed, silage pit and cubicles. The track profile was convex being higher in the centre and the surface evened with a soil covering.

Grass monitoring. In order to gain experience of grass monitoring and grazing assessment for the effective operation of paddock grazing, Manager Brendan had spent time walking paddocks with a good manager and also with a consultant in addition to studying printed and internet information. He recommended these preliminaries to anyone contemplating changing to a paddock grazing regime.

Robotic milking at Barony College. Following the morning visit to Cumrue and a soup & sandwich lunch at the Barony College, generously sponsored by NWF, Society members were invited to visit the Barony dairy unit to view Robotic milking. The demonstration and discussion were led by Paul Kelly, Farm Manager at the Barony.

GOLD GRAZE COMPOUND FEED RANGE
NWF Agriculture Ltd, Wardle, Nantwich

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THE BENEFITS FROM BREEDING GRASS AND CLOVER VARIETIES

Peter Shipway, SRUC Aberdeen
Head of NLT Grass and Clover Testing, SRUC

Talk given at CSGS Silage Competition Evening, 31 January 2013

Grass and clover breeding over the last 20 years has resulted in 10-15% increases in annual yields, together with improvements in early and late season yields. Early spring growth has been increased by up to 25% and late autumn growth by up to 15%. D-values have been increased by up to 3-5 units in both grazed and cut swards. Varieties are now more persistent and show greater disease resistance. Increasing D-value by 1 unit can increase milk yield by 1.5% or lead to an increase of 5% lwg in cattle or 10% lwg in sheep.

High sugar grasses Ryegrasses (Italian, perennial) have higher sugar contents than timothy, meadow fescue and cocksfoot. Sugars in **tetraploid** ryegrasses are 2% higher than in the **diploids**, resulting in better digestibility, ie: in better **Quality**. However, recent breeding at the Welsh Plant Breeding Station, Aberystwyth has produced high-sugar **diploids**, eg: AberDart, AberMagic.

Clovers. The benefits of clovers include: N-fixation plus higher mineral content, greater palatability, greater digestibility and longer maintenance of quality, compared with grasses, thus giving improved animal performance in terms of milk yields and lwg. White clover, with rooting stolons, can be used for both cutting and grazing. Red clover, with a taproot, is more adapted to cutting, perhaps with aftermath grazing. Red clover yields are best at the 1st and 2nd cuts, and in the 1st and 2nd years. Breeders are trying to select for a longer persistence.

Variety Evaluation. Following initial testing by breeders, varieties are entered into the National List for testing by SRUC in Scotland. Those judged best are then tested further in the Recommended Lists, with support from the Grass Levy Scheme. This is funded voluntarily by seeds merchants with a levy (currently 3.2p kg^{-1} seed sold), which allows access to the variety test results by participating merchants. The Seeds Scheme logo on a bag of purchased seed confirms that the contents include varieties thoroughly tested under Scottish conditions.

The Benefits of Re-Seeding

The second part of Peter Shipway's presentation discussed: Re-seeding, choice of seeds mixture and improving existing pastures. Regular **reseeding** is a tool for improving grass productivity and profit by: improving the production of grass, improving its quality whether for grazing or cutting, improving animal production

(meat and milk), greater efficiency of nitrogen use, plus the opportunity to introduce clovers and remove weeds, soil compaction and other constraints.

Increases in production can be up to 25% in the first year, with longer lasting benefits from the newer, higher yielding varieties, so long as these persist in a high proportion of the sward.

Improved quality of fresh young grass which has a higher D-value than weedy swards. Some newer ryegrasses produce herbage of 3-5 D-value units higher. The combination of higher yields **and** improved quality in reseeds using modern varieties can potentially result in up to a 20% increase in animal production.

Fertiliser responses are also much better with young grass; weed grasses only give 40-70% of the response by ryegrasses.

Introduction of white clover gives an opportunity to improve grazing quality and thus animal performance, as well as adding free N to the sward.

Removal of perennial weeds, alleviating compaction through cultivation, correcting soil pH and P and K status can boost first year yields by an additional 10%.

In Conclusion – can your business afford not to invest in its most important asset – GRASS?

Choosing a Seeds Mixture:

- Purpose of reseed: for grazing, cutting or both
- Intended lifespan: long, short term
- Which type of stock: dairy, beef, sheep, horses
- Soil type: clay, sand, loam, fertility levels, drainage
- Location, altitude: lowground, upland
- Will clover be beneficial?

Improving an Existing Pasture

- Drainage and ditches, boundaries
- Soil physical conditions – surface aeration or subsoiling
- Check soil analysis – targets pH 5.8-6.0; moderate levels of P and K
- Control perennial weeds – docks, thistles, nettles
- Apply N to maintain production

- Consider boosting by oversowing/direct drilling newer grass varieties (tetraploids) and/or white clover; correct timing and pre- and post-management.
- Avoid back end poaching, but graze down at end of season to avoid winter-kill.

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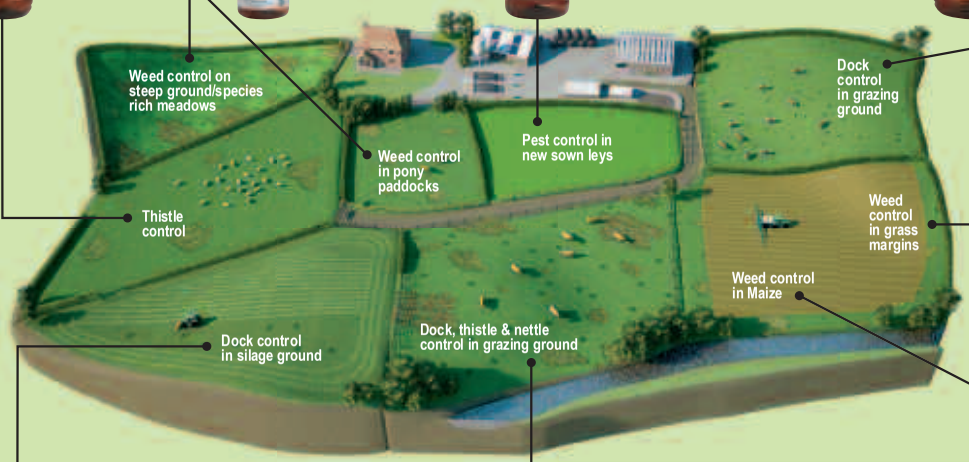
- Fast acting, also controls brambles, gorse & broom

Pastor
- Outstanding control of docks, nettles & thistles
- Great on new sown leys – chickweed, mayweed, thistle control & others

Forefront T
- Widest spectrum & highest levels of weed control in grassland
- Use on grazing ground grazed by cattle & sheep only
- Use on dock, thistle, nettle, buttercup, dandelion & ragwort
- Seek advice before use

DoxstarPro
- New more concentrated formulation
- Lasting control of all species of docks and chickweed



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GROW MORE GRASS BY CONTROLLING WEEDS

David Roberts, Grassland Agronomist, Dow AgroSciences

Farmers desperate to ensure they have enough forage for the coming winter can maximise grass silage yields by getting rid of broad-leaved weeds right now. Where weeds grow, grass does not, so yields are bound to suffer in weedy fields. Research carried out by SRUC showed that a 10% infestation of docks (ten weeds in a 5m x 7m area), reduces grass growth by a similar amount – so it pays to take steps to control them.

Spray docks to increase grass yield

Use grass-safe herbicides. Product choice is vital this year as every blade of grass is precious after the very late spring. Avoiding herbicides with a reputation for being harsh on grass is essential. Modern translocated products containing active ingredients such as triclopyr (found in DoxstarPro and Pastor) and aminopyralid (found in Forefront T) are the most reliable choices for controlling broad-leaved weeds in grassland. Crucially they are also very safe to grass and will not adversely affect its subsequent growth in any way. **Forefront T** is the most effective herbicide on the market today. Used appropriately, it will give lasting control of docks, nettles, thistles, buttercup, dandelion and ragwort in grazing pastures. Note that it does require advice from a BASIS registered agronomist before purchase, and should not be used on silage or hay crops. **New formulations.** Dow AgroSciences continues to invest in new formulations and products that offer long-term solutions for weed control. The launch this year of DoxstarPro - a new more concentrated formulation of Doxstar, and GrazonPro which replaces Grazon 90, demonstrates this, as well as the company's commitment to helping farmers generate as much milk and meat as possible from grass.

For more information on weed control in grassland visit www.grassbites.co.uk.

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BGS NATIONAL GRASSLAND MANAGEMENT COMPETITION 2012

Sponsored by ***GrowHow UK*** and ***DLF Trifolium***

The 2012 National Grassland Management Competition was won by **Neil Perkins, Dinas Island Farm, Pembroke**. He was one of the best farmers in the 2012 BGS Summer Meeting in SW Wales (page 18) and was also the Farmers Weekly 'Sheep Farmer of the Year' in 2012. The judges were impressed by excellent grassland management, together with the use of technology and sheep management tools rarely seen in UK. The flock had been improved by using EID and computer recording systems to monitor physical performance. The data is used to select the best ewes for breeding, achieving improved efficiency in stock and grassland management. Following a visit to New Zealand as a Nuffield Scholar in 2005, Neil changed to a rotational paddock system, relying heavily on grazing and becoming less reliant on farm subsidies. With weekly grass measurement and consumption records, grass and stock needs can be forecast, pasture quality maximised and individual field performance monitored.

Runners up in the National Competition were:
Sam Chesney, Ulster Grassland Society on the Airds Peninsula, Ulster, who showed great attention to detail in an efficient and profitable system. Limousin sucklers plus calves are grazed on rotational paddocks for 3 days, with 21 days rest. Electric fences allow an increase in paddock size as the calves get bigger. Liveweight output achieved is 859kg ha^{-1} compared with a Northern Ireland average of 465kg ha^{-1}, associated with new grass-clover reseeding, sward measurement and budgeting, but reduced concentrate feeding.

Matthew Senior, Somerset Grassland Society, who had, within 3 years, transformed a 140 hectare farm under a Share Farm Agreement. 200 pedigree Jersey and 120 Friesian x Jersey cows were run on a grazing-based system with weekly grass monitoring and budgeting. Milk yields were 4109 litres, 2752 litres from forage, 2,403 litres from grazing. Organic conversion is in progress, adding red clover to high sugar grass-white clover swards.

SWSGS JUBILEE SCHOLARSHIP

Our Jubilee Scholarship will be awarded to:

1 Crichton Royal Dairy Research Centre to support a study on earthworms in the slurry and soil compaction trials on the Crichton Royal Farm.
2 Dr Jan Connell, Agriculture Programme Leader SRUC Ayr, Riverside Campus, to visit dairy and beef farms near Sydney after the main International Grassland Congress.

Reports on these will appear in next year's Greensward.

LONG-LASTING RED CLOVER CREATES NEW OPTIONS FOR QUALITY SILAGE LEYS

Iain Eadie, British Seed Houses

Livestock farmers will have improved options for quality forage production following the inclusion of the first long-lasting red clover variety **AberClaret** in a new specialist silage seeds mixture from British Seed Houses. The new mixture **Aber® Red 5 HSG**, containing three SAC 1-rated Aber high sugar perennial ryegrasses alongside AberClaret, is classed as a medium term mixture, offering around twice the persistency of conventional red clover mixtures. AberClaret is the first of the new longer-lasting red clovers bred at IBERS Aberystwyth University, where long term trials have shown it remains highly productive as part of a mixed sward for up to five years. This is a significant breakthrough that now allows livestock farmers to exploit the advantages of red clover more easily and cost effectively, because the 4-5 year productive life is more compatible with many farms' rotations. Conventional red clover is generally considered productive for 2-3 years only. Red clover is a quality forage that provides high yields of protein-rich dry matter. As a legume, red clover also fixes nitrogen at around 150kgN ha^{-1} $year^{-1}$, so there will be a significant cumulative benefit from this over the duration of a medium term ley. Aber Red 5 HSG is included in British Seed Houses' Aber Premium Mixtures catalogue for the 2013 season. The new catalogue also includes shorter term silage mixtures with the option of conventional red clover, as well as the new high sugar extended grazing mixture **AberXtend HSG**. The catalogue can be obtained from British Seed Houses by calling 01522 868714 or by downloading from the links and downloads section on the agricultural site at **www.britishseedhouses.com**.

NOTES FROM THE ISLE OF MAN 2012
Chris Kneale, Secretary, Manx Grassland Society

January 2012 – Annual dinner and Prize presentation. The Competitions this year were judged by John Lawson sponsored by Carrs Billington and JW Kneen and Son. Main Prize winners included Sanders Family – Dairy grassland management and overall grassland management; Billown Farms – Beef & Sheep grassland management; Silage Master award – Adam Kelly; Best pit silage – Colin and Will Duggan; Best Big bale silage – Adam Kelly; Best Whole Crop – John Caley.

March 2012 - Welcomed James Bretherton of Agscope. James gave a good presentation on the importance of good soil management followed by a practical session in a nearby field. The meeting was well attended with plenty of interesting points to take on board.

May AGM – An evening meeting at Ballacricket Farm, Ronague, courtesy of Neil and Vicky Masson. Neil and Vicky had taken on the farm from Neil's parents and were in the process of improving the farm and the herd. The couple have placed a lot of focus on cow welfare, improving the cow accommodation, young stock rearing and also selected high quality genetics for the herd. The AGM followed the farm walk where Neil was elected chairman for the coming year, taking over from James Callow.

September 2012 - Grassland trip to Lancashire with the assistance of Mark Perry of Carrs Billington. The group visited a number of high yielding dairy herds, focused on maximising milk from forage and farming in some challenging environments. The **Verity family** had been visited some years ago by the Manx Grassland society and it was interesting to see how this autumn calving herd had expanded and evolved, with further expansion planned. The **Throup family** were combining a high yielding dairy herd with some high quality sheep, focusing on breeding mule ewe replacements. **Mark & Elaine Hartly** showed us their small but very impressive British Blue Herd followed by **Greame Atkinson** who was focused on finishing cattle, sourced from as far away as north Wales. The second day saw us visit **Mark and Heather Atkinson** who were operating a 10,000 litre herd in some of the harshest farming terrain the group could imagine – a very simple but effective system. **John Carr** followed and he had recently converted from a high yielding herd to a spring block calving system. John had imported a number of heifers from Ireland and was in the process of increasing herd numbers. The day ended with a visit to **Lancashire mart** where the group got a feel for the types and values of stock being traded.

November 2012 - Slide show with Pat Newton who had been commissioned to photograph and record as many Manx farm buildings as she could. The slide show featured a number of farms and the seasonal activities taking place.

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DAIRY FARMING IN NEW ZEALAND NOT EASY THIS YEAR

Andy Beardsmore, Ecosyl-Volac Ltd, Stokesley, N. Yorks

I visited New Zealand for the first time in February and March this year to celebrate my sixtieth birthday. One of my sons happened to be travelling through that part of the world and we had agreed to meet as a family for a party. We flew into the South Island two years to the day after the earthquake had so devastated Christchurch. Travelling south from there it was equally shocking for me to see how dry the land was. New Zealand has been enduring one of the longest droughts on record.

I have sat in my office in North Yorkshire year after year enviously reading how wonderful grass growing conditions were in New Zealand, so I expected a little rain, green pastures and contented cows. We were there for 16 days and had two minutes of rain during the whole time. Cows were searching for the odd blade of grass in what can only be described as arid landscapes and were having to be fed silage to maintain milk yields. Even feeding this winter forage has not prevented milk yields plummeting in some West Coast areas because grass has been in such short supply.

Milk production in March slumped 16% from a year earlier and whole milk powder price climbed to a record high as the drought curbed output. Only a few days ago, Fonterra, who are notoriously shy of revealing production details, confirmed that milk production will be down for the first time in six years because of the summer drought. When we visited "Hobbiton" (we are all avid "Lord of the Rings" fans!) on the North Island the owner told us that he usually keeps 3000 ewes on the normally lush pastures. These had all been sent elsewhere because grass growth was only enough for the cows.

Although this year has caused problems for the NZ dairy farmer, maybe the British Dairy farmer can for once benefit a little from somebody else's tribulations! Milk will continue to be in short supply down there as winter approaches and feed stocks are not available. Because Fonterra has such a strong hold on world milk prices perhaps prices to the UK farmer will be higher and remain so for the next year. I am sure you would agree that this is needed for our hard pressed industry! When we eventually get some Spring weather hopefully the grass will grow, we can harvest at the right time and be able to maximise milk from forage. Achieving the highest quality forage is vital at the best of times but it could be especially important now if milk prices increase. When the rains do come in New Zealand, it will still take some time for grass to recover. In addition, winter stocks of silage will need to be replenished and I see that as my opportunity! I will be visiting there again in late June with a view to persuading them to use ECOSYL silage inoculant to get the most from their silage! Wish me luck!

SWSGS SILAGE COMPETITION 2012
Competition Evening of SWSGS, held in Lochside House Hotel, New Cumnock on 31 January 2013
G E D Tiley

Sponsored by ***Ecosyl Volac****,* with *prizes sponsored by* ***Biotal Ltd, John Watson Seeds Ltd***, ***Limagrain UK Ltd*** and ***Nickerson UK Ltd***

Silage Judge: Ian Whiteford, Hilltarvit Mains, Cupar

After a welcome to Society members by Chairman Wallace Welsh, the business of the 51st AGM was briefly conducted, including a mention of BGS activities from Ian Whiteford, the 2012 Silage Judge. There would be an emphasis on management in the next National Competition which would be for the 'Grassland Farmer of the Year'. Host farmers, sponsors of visits and prizes and the support of all members were thanked by the Chairman, on behalf of the Society.

Chairman Wallace Welsh welcomed the Silage Judge, Ian Whiteford, on behalf of the Society. Ian was a neighbour of last year's judge, Bob Mitchell, and like him a former Chairman of the East of Scotland Grassland Society. Ian was also current Scottish representative on the Council of the British Grassland Society. Ian thanked the South West Scotland Grassland Society for the invitation to judge the 2012 Silage Competition which he felt very honoured and a real pleasure to do. He had spent three tremendous days seeing how the south west farmers had managed their silage making in a very difficult year. He also thanked his chauffeurs who had kept him well-informed.

As a general comment, he wondered why no-one in the short leet applied clingfilm on the top of the clamp when it was an established fact that this gave a tight seal and was worth the extra effort of laying it. He also strongly recommended a side sheet to cover the shoulder of the clamp, especially with sloping sides. Otherwise he could not fault any of the clamps inspected. He had been most impressed by the quality of management in the large covered sheds which gave a great advantage. He felt that farms would be hoping for an early silage season in 2013, especially in the East of Scotland where 'there was not a blade of grass anywhere'.

Congratulating the prizewinners, the judge had found great difficulty in differentiating between the top farms in both the Dairy and Beef/Sheep sections. There were only small differences in on-farm scores and ranking came down to chemical analyses. The standards of silage quality were all very good including among the non-prizewinners. The leading dairy entries all operated extra large herds and the top four beef/sheep farmers were very close in the marking.

Comments from some of the winners on how they made good silage centred on the importance of the contractor and of being ready to go whenever the weather changed, even for one day; the importance of correct sheeting was also emphasised. Winner of the Limagrain Contractor's cup, D Laird, attributed his success to keeping a constant eye on the weather and to good staff; but it was up to the customer how well the clamp was sealed. To achieve high DM, one farm tedded the cut grass on dull days when temperatures were around 16-17^{o}C, but not when temperatures were above 20^{o}C.

Silage Quality 2012 – Chloe McCulloch, SAC Consulting, Ayr

Though 2011 had been a difficult, wet year, 2012 was, in its latter half, even wetter. In spite of major difficulties, congratulations were due on the quality of silage made (Table 1). DMs were fairly high, proteins quite good and a satisfactory ME, with D values 71-72. Palatabilities (SIP values) were maintained. Since 2007, silages had become consistently drier, with steady improvements in D value, CP and intake potentials. Thus, steady progress was being made and effects of weather were decreasing. However, it was very important to have a plan for silage production. Improvements could be made and costs minimised, including better use of manures, whether to use an additive and which one. There should be a date in the diary to aim for the best cutting date. Wilt if necessary, consolidate well, cover as quickly as possible and seal well – all to minimise losses. It was very noticeable that the best silage makers had very consistent quality from year to year. A DairyCo study had compared the standard method of covering with a more active, careful attention to get it just right, which proved to be worth an extra 37p per cow.

Points from discussion included: continual budgeting of silage stocks through the winter; DO NOT sacrifice quality with quantity; take care with the basic preparations of the silage sward, especially timing of rolling and manuring; prepare field, clamp and equipment early, well in advance of the season; grass varieties are being significantly improved year by year. Have methods of analysing silage changed in recent years? It was difficult to sample wholecrop for starch content.

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Table 1 - SILAGE COMPETITION 2012 - ANALYSES MEANS

Overall Means - Grass Silages

Group (Number)	DM (%)	D (%)	CP (%)	SIP	ME
All Dairy (80)	37.4	71.7	14.3	114	11.5
Beef/Sheep (23)	33.4	66.2	12.2	99	10.6
Big Bale (14)	44.4	64.6	11.9	103	10.3
Dairy					
Ayr (33)	39.4	71.0	14.2	114	11.4
Dumfries (15)	36.3	72.2	14.1	116	11.6
Kirkcudbright (20)	35.2	72.9	14.8	114	11.7
Wigtown (12)	37.2	71.3	13.8	110	11.4

Wholecrop and Maize Silages

Group (Number)	DM (g kg^{-1})	ME	CP (% DM)	Starch (% DM)
Wholecrop (10)	39.8	10.0	10.3	-
Maize (6)	25.8	10.7	8.2	30.7

Table 2 – 2012 Silage Competition – Short Leet Entrants

Prizes		Marks *Analyses (35)*	*Inspection (65)*	*Total (100)*
	Dairy Class			
1st & SWSGS Rosebowl	F Nicholson, Newhouse, Dumfries	28.7	58.0	86.7
2nd	D Yates, Meikle Firthhead, Haugh of Urr	29.3	57.0	86.3
3rd	J J B Dunlop, Bishopton, Kirkcudbright	30.6	52.0	82.6
	J Rome, Ingleston, Irongray	33.8	48.0	81.8
	W & A Watson, Muir, Mauchline	31.1	49.0	80.1
Best New Entrant	F Murdoch, High Park, Coylton	30.1	49.0	79.1
	J McAuslan, SRUC Auchincruive, Ayr	29.4	48.0	77.4
	D Watson, Byeloch, Mouswald	28.8	46.0	74.8
	J Watson, High Mark, Leswalt	27.0	47.0	74.0
	Beef/Sheep Class			
1st & BP Trophy	D Biggar, Grange, Castle Douglas	27.4	46.0	73.4
2nd	M Campbell, Glenstockadale Several, Portpatrick	11.6	58.0	69.6
3rd	L Hair, Drumbreddan, Ardwell	10.5	58.0	68.5
	A Prentice, Hermitage, Haugh of Urr	24.3	44.0	68.2
	S I Carlisle & Co, Nether Dargavel, Dumfries	23.3	44.0	67.3
	Big Bale Class (on analysis)			
1st	W & A Watson, Muir, Mauchline	28.2	-	-
	Best Silage in County (on analysis)			*Analyses (35)*
Ayrshire	W & A Watson, Muir, Mauchline			31.1
Dumfries	D C Kirkpatrick, Stepends, Moniaive			31.4
Kirkcudbright	J Rome, Ingleston, Irongray			33.8
Wigtown	M McCreath, Garlieston, Newton Stewart			28.8
	Best Wholecrop Silage (on analysis)			*Marks*
Biotal Prize	D C Kirkpatrick, Stepends, Moniaive			53.2
	Best Maize Silage (on analysis)			
Nickerson Prize	D C Kirkpatrick, Stepends, Moniaive			58.7
	Contractors Class			
Limagrain Cup	D Laird, Carbello, Cumnock			

Best New Entrant prize donated by **John Watson Seeds Ltd**. **Best Wholecrop Silage** prize by **Biotal Ltd** and **Best Maize Silage** prize by **Nickerson (UK) Ltd**. **The Best Photograph** prize was won by **Wallace Welsh, Warnockland, Fenwick**

Ian Whiteford, Hilltarvit Mains, Cupar

Silage Judge, Ian Whiteford, briefly described farming on his arable/beef-sheep farm in Fife. Ian's grandfather came originally from Newton Mearns in 1932. Ian now farms in partnership with wife, Margaret, and son John. 2012 had given practically twice (1320mm, 52in) the normal (686mm, 27in) rainfall. Hilltarvit lies on the side of the Howe of Fife. Total area farmed is c.600ha, of which 400ha are croppable, 200ha grassland, all within 4 miles (6.5km) of the homestead. 260ha are owned, the remainder contracted, leased or share-farmed. Current cropping is 80ha winter wheat, 80ha winter barley, 80ha oilseed rape. A further 160ha spring barley is intended, but wet conditions may prevent some land from cropping. Potatoes have been grown and vining peas are to be tried. Winter crops are so far behind that yield prospects are not good. 250 tonnes of the winter barley harvest are treated with propcorn and stored for winter feed. Spring barley provides grain with a high N content.

Grassland. Silage 1st cut is taken from 56ha. 2nd cut from 28ha using own equipment. There are approximately 80ha of permanent pasture plus 24ha of short term leys in an arable rotation. Stocking is with 200 sucklers, Holstein x Angus and Limousin crossed with a Simmental bull. These produce the best cow for putting to Charolais. 120 are autumn calved in October/November, the remainder in spring, to spread the load for staffing. The sheep flock of 580 North of England ewes are put to Suffolk and Texel for lambing in late March. Recent (2013) scanning of 510 ewes predicted 1040 lambs from which 900 might be sold. Clean grazing is practised and dosing not normally required. However, the wet season of 2012 had led to a heavy liver fluke infestations in both sheep and cattle. One treatment resulted in cattle deaths. The use of straw and carting of FYM has been very time-consuming and not always better compared with a slurry system.

The recent participation of Hilltarvit as a QMS grassland development farm resulted in benefits by sharing ideas and self criticism and was 'one of the best things ever done'.

SWSGS VICE-PRESIDENTS PRIZE 2012

The Society's Vice-Presidents' Prize for the best 2nd year student in Grassland subjects in 2012 was awarded to **David Sloan**, from Kirktonfield Farm, Kirkton, Dumfries. The award, a cash token, was presented by SRUC Principal R Webb at the SRUC Prize Giving Ceremony, held in the Ayr Riverside Campus of the University of the West of Scotland on 14 November 2012.

The Society extends its warmest congratulations to David for this award, and expresses Best Wishes for his future career.

GRASS WILL HELP FUTURE SUSTAINABLE FOOD PRODUCTION

David Sloan, 3rd Year Agriculture, SRUC, Craigie Campus, Ayr

If there's one thing I'll take from my three years of study at SRUC (SAC), it's the message that we were frequently reminded of in nearly all modules – "**global food production must double by 2050 to meet the demands of an escalating population**".

Looking at this challenge from the perspective of a dairy farmer it probably isn't that substantial. Providing the price was right I'm sure dairy farmers globally could turn the tap on. However when the question of sustainability is raised, turning on the tap no longer seems so straightforward. It is easy to feed high genetic cows highly nutritious diets but is it sustainable? A variety of cereals and beans etc are used in rations for high yielding dairy cows. However humans can utilise the energy from cereals and beans almost as easily as a cow can. What humans cannot easily use for energy is grass! Ruminants are efficient energy converters from food we cannot use to food we can, in the form of meat and milk. So theoretically, milk and meat produced from grass make the best use of resources and free up valuable arable land for the production of food to feed the population.

Obviously with any technological advances in agriculture over the next forty to fifty years it is impossible to tell exactly where the industry is headed. The point I am trying to make, is that after studying at SRUC (SAC) and attending various farm visits and the 2nd year study tour, there was chance to learn about a variety of different management systems. It is my opinion that in an agricultural industry becoming ever more intensive there is still a lot to be said for extensive systems. Personally at the farm at home the cows have always been out in the summer but we are now trying to make better use of grassland through the use of electric fences to control grazing and improve management. This simple piece of equipment has had visible benefits and we hope to continue seeing results. I think there is a lot to be said for doing things the same but better and it is not always necessary to make significant management changes especially when it comes to intensification.

JUDGING THE SCOTTISH SILAGE COMPETITION 2013

J A Brown, Gaindykehead, Airdrie

Farmer's View

If you want to see parts of Scotland you have not been to before, get the job of judging the finals of Scotland's Grassland Society's Silage Competition. It is the second year in succession that I have taken on this challenging task of selecting the winner from the final four from each area, ie: South West, Central, East and North of Scotland. This time I have covered some 750 miles to Dumfries in the South, Biggar in Central, East Lothian and Buckie up in Morayshire, and it has taken me about a month to fit them all in. This year I had three dairy farms and one beef, the latter being one year grass which was a break crop in an arable rotation. Two of the dairy farms had just completed new or extensions to their facilities, with the help of SRDP and the stock on the third were straw bedded in buildings that had been in operation for some time. One factor that was common to all was a cutting date of around 25th May. All did some form of wilting, the highest dry matter being 44%, with absolutely no secondary fermentation. Side sheeting, cling film sheet on top, covering of the traditional black plastic sheets and these new green nets with gravel bags or tyres on the sides and joints, completely eliminate any waste.

Sorting out these top four excellent competitors, similar to last year, was never going to be an easy task. It was down to detail; how well the silage face was managed; how well the silage was utilised in the diet and how important a part it played in the **cost** of the diet, especially with today's extremely high cost of the other ingredients in the total feed rations which are devastating all margins this winter.

The winner of Scotland's Silage Competition this year was **F & R Nicholson, Newhouse Farms Ltd, Newhouse, Dumfries** (dairy farm, South West Scotland Grassland Society), and the runner up: **Alex King & Son, Wolfstar, Ormiston, East Lothian** (beef farm, East of Scotland Grassland Society). Newhouse is awarded the British Grassland Society Silage Trophy while Wolfstar receives the Dr Ron Harkess Silage Trophy.

Third place went to J Shand, Chapelford, Clochan, Buckie (dairy farm, North of Scotland Grassland Society) and fourth place to W Baillie, Hillhead, Thankerton, Biggar (dairy farm, Central Scotland Grassland Society).

Marks given (analysis + inspection) were: Newhouse 89 (34 + 55); Wolfstar 86.5 (32.5 + 54); Chapelford 79.7 (31.7 + 48); Hillhead 75 (30 + 45).

With acknowledgement to 'The Scottish Farmer'.

Winners of the 2013 Scotland Silage Competition, Fraser (centre) and Raymond (right) Nicholson, Newhouse Farms Ltd, receive the Scottish Silage Trophy from John Marshall, former Chairman SWSGS, at SWSGS farm walk at Muirhouse, Holywood, Dumfries, 30 May 2013. (*Photo: Bob Geddes, Solway Press Services)*

REPAIRING DAMAGED SWARDS AT OATRIDGE

Rhidian Jones, Sheep & Beef Specialist, SAC Consulting, Crichton Royal Farm, Dumfries

Following a successful soil management event held at SRUC's Oatridge campus, West Lothian, in January, further studies on rectifying worn out grassland at the college farm will be conducted this year.

Peter Scott, Head of Agriculture at SRUC Oatridge concluded that "After the horrendous wet summer and winter of 2012, it has quickly become apparent that a lot of work would be necessary to rectify the grass swards and grow enough material to fill the empty silage pits. Close inspection of these swards showed that only 70 to 80 % of their potential yield was likely in 2013".

Johnny Watson (Watson Seeds) commented "There is an unprecedented amount of sward damage across the country as a result of the terrible weather conditions in the last two years. Abnormally low soil temperatures this spring have resulted in grass growth being a good month slower than average. With grass production under so much pressure on many livestock farms, the opportunity to help improve grass and clover performance through this demonstration at Oatridge in conjunction with the SRUC is welcomed".

Three separate projects have been designed to provide the college farm with high yields of quality grazing and of silage within a short timescale. Seeds for the projects have been provided by **Watson Seeds**.

Project 1 involves three 7 acre (2.8ha) blocks of a 2-3 year mix designed to provide high yields of high quality silage plus lamb finishing in the autumn. Two blocks will incorporate red clover to raise protein levels. One of these will include Aber Claret red clover which has increased persistence. (see p38)

Project 2 is a 9 acre (3.6ha) field which has been sown with three "*one year wonder*" mixtures designed to give very high yields of silage for one year. The mixtures are; 100% Westerwolds Ryegrass; 75% Westerwolds and 25% annual clover blend; and 35% Westerwolds, 40% Italian and 25% annual clover blend.

Project 3 will compare two methods of overseeding to renew swards damaged by poaching and with many bare patches. Methods will be (i) an Einbock spring tine cultivator with pneumatic seeder attached and (ii) an Erth Agriseeder. One field will be sown with a shorter term mix for silage and grazing while a second field will have a longer term grazing mixture. A small area of each field will be left untreated for comparative purposes.

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All cutting mixtures will be monitored for yield, by cutting and drying samples, and for silage quality together with number of grazing days in the autumn. The grazing mixtures will be compared by using exclusion cages and calculation of grazing days.

The projects will form part of an educational resource where students help to gather data on production and quality and will also give a Knowledge Exchange opportunity, since many of the problems facing the Oatridge college farm are similar on many other farms this year. This year there are many farmers who are short of grass for grazing and for silage making. First cut silage will be later leading in turn to later second cuts and aftermath grazing. This work will not only benefit the college farm but also provide knowledge to others on the crops and options that are available. Visits to the farm by groups of farmers interested in what we are doing will be welcomed. Contact 07919 691 841 or Rhidian.jones@sac.co.uk .

SRUC acknowledges the support for this project given by Watson Seeds and by Scottish Government funding, as part of the Success Through Knowledge campaign, and thanks Dales Agri Sales for the loan of the Agriseeder.

WATER AND LIVESTOCK

Adrian Jones, formerly SAC Consulting, Auchincruive

The protection of water quality in all surface watercourses is included within the scope of GENERAL BINDING RULES (GBRs). A list and description of all GBRs **and** required actions can be found on the Scottish Environmental Protection Agency (SEPA) website. Financial penalties may be incurred where it is considered that GBRs are not being applied.

When stock have access to a watercourse **or** adjacent area for drinking, loafing, or crossing, there is recognised risk of contamination. The disturbance and poaching of 'ground', which may include the streambed, stream bank and/or adjacent field or track surface, can cause erosion loss of soil into the water. Faeces from stock will also affect water quality. Possible remedial actions include the fencing of vulnerable lengths of the watercourse where frequent access is occurring. This may require additional measures such as protected crossings (e.g. bridging) and provision of alternative water systems for stock drinking, at a suitable site away from the watercourse.

Alternative drinking water systems must provide an adequate water supply for the stock type and numbers. Systems should be simple, robust and as reliable as possible, for any specific site and circumstances. All alternatives should be considered, including: mains supply, piped gravity system from surface water (abstraction) and pumped system (e.g. electric or stock operated pump) from surface or ground water (abstraction). The use of a private abstracted supply may not only depend on water availability, but also on capital and operational cost. For example, where there is a higher water demand, it may be cost effective to consider a private water supply with, in some cases, appropriate treatment, registration or licensing. Where there is a lower requirement for water volume and, if available, a mains supply might be a more reliable and cost effective option.

Authorisation of an abstraction depends on the daily volume required. At present, a low volume of abstraction ($<10 m^3\ day^{-1}$) is covered by a GBR and does not require registration or licensing with SEPA, but higher volumes do. Refer to the SEPA website for specific requirements. Guidelines for acceptable 'off stream' abstraction systems are available. Daily drinking requirements are calculated based on stock type, age and numbers. For example, RSPCA values for cattle indicate $4.5 l\ kg^{-1}\ day^{-1}$.

In summary – consider places where stock frequently access in or close to watercourses. Prevent water pollution from soil and faeces by exclusion. This may require fencing parts and providing 'bridged' crossings. Select reliable, robust and cost effective systems for alternative provision of field drinking water.

Contact: Adrian@amjonesconsulting.co.uk Tel.: 07759 072851.

MAIZE AT CRICHTON 2012
Jennifer Flockhart & Hugh McClymont

Crichton Royal Farm is the site of the SRUC Dairy Research Centre. We have a total of around 500 dairy cows, divided between the Crichton steading and the Acrehead unit, and rear all our own replacements. The farmland rises from the banks of the River Nith at sea level, westwards up to about 40m above this. Soils on the farm are mostly sandy loams. Our experience of growing forage maize started in the early 1990s, with an area of 8ha sown, but now standing at 65ha. The crop is now an integral part of our dairy rations, fed to cows in different experiments as well as those milked commercially.

Maize is a tropical plant sensitive to heat, and we are fortunate to have a relatively mild local climate compared to the rest of Scotland. The following graph shows some of the weather measurements taken during the growing and harvesting season in 2012.

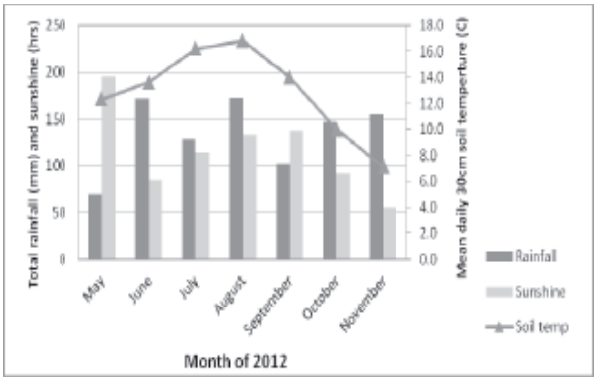

Figure 1. Rainfall, hours of sunshine and soil temperatures from May to November 2012.

The 2012 season was unusually cool and wet with reduced sunshine. Any maize conventionally sown was very poor, and the great advantage of sowing under plastic was very clear. For example, var. Kentaurus, sown 4 April under plastic at 94,000 seeds ha^{-1}, yielded 37.5t ha^{-1} fresh weight, 10.7t ha^{-1} DM at 28.5% DM. In variety demonstration plots sown 29 April at 99,000 seeds ha^{-1} under Samco Green plastic, yields ranged from 27.9t ha^{-1} FW (7.6t ha^{-1} DM, 27.4% DM) var. Nancis to 59.7t ha^{-1} FW (15.2t ha^{-1} DM, 25.5% DM) var. Marco. Most varieties yielded 31-38t ha^{-1} FW, 10-12.5t ha^{-1} DM, 23-28% DM.

The varieties sown were: Acumen, Agreement, Ambition, Arena, Ballade, Dominator, Fieldstar, Glory, Marco, Nancis, Yukon.

PRO 90 THE CONCENTRATE ENERGY TRIGGER FOR DAIRY COWS AND CALVES

Peter Jefferis, Realistic Agri, Telford, Shropshire

Pro 90 in its different forms, when fed as part of a structured feed programme, is a highly cost effective product, especially so where the farmer is looking to successfully manage a high forage feeding system. At calving, cows suffer from a severe drop in blood glucose which depresses appetite and affects liver function. A cow yielding 30 litres a day needs 2000g of glucose per day. The most she can obtain from food and its resultant metabolism is 1300g. The balance drawn from tissue reserves.

Pro 90

1 Stimulates overall dry matter intake, principally forage, hence increased energy and protein supply.
2 Enables efficient and importantly, safe metabolisation of body fat reserves for milk synthesis, without the formation of ketone bodies in the liver, or high betahydroxybutyrate levels in the blood.
3 Gave an average 5.7% response in lactation yield in the UK and Northern Europe. This is primarily due to greater persistency of yield in mid/late lactation.
4 Largely controls clinical and most importantly the largely undetected sub-clinical Ketosis, with consequent reduction in yield.
5 Improves vitamin absorption because vitamin solubility is enhanced with fat based products like propylene glycol. Furthermore, microbial activity in the rumen is improved in relation to fibre digestion, ie: more efficient use of grass/silage.
6 Gives positive benefits in terms of fertility and conception due to the complete and efficient conversion of fat reserves. Where fat mobilisation is incomplete, interference with the reproductive cycle is frequently apparent.
7 Components rapidly convert blood glucose, which in turn stimulates production of growth hormone, which it is well established has a direct benefit of increasing milk yield.
8 Due to the removal of stress factors as indicated above, produces general wellbeing and herd health.

Feeding

Pro 90 dairy is available in liquid and meal form, and is recommended to be fed for six weeks post calving.

liquid at 0.15 litre/cow/day
or meal at 0.5kg/cow/day

Alternatively, Pro 90 Dairy can be fed at 0.10 litre/cow/day for the first 100 days of lactation.

Dry Cows

This group should be fed Pro 90 Dairy for two to three weeks pre calving at half rate. Feeding at this level will stimulate liver function, enhance forage intakes and prepare the cow for lactation. Pro 90 can also have a dramatic effect on fertility.

Control Group				
No of Cows	**No of Services**	**Heat**	**First Service**	**Conception**
17	2.24	59.6	62.4	109
Trial Group				
14	1.37	43.8	58.5	88.4

Trial group fed Pro 90 required 0.67 fewer services (29.9%) and conceived 21.1 days earlier than control. Blood B-BH Butyrates were 1.295 n the control group and 0.963 in the Trial Group. This can relate to returns of £70-94 per cow.

Realistic Agri Tel: 01952 433644; Fax: 01952 433805; Mob: 07860 821261
Email: peter@realisticagri.com
The Old Chapel House, Madeley Road, Ironbridge, Telford, Shropshire TF8 7QZ

LEATHERJACKET THREAT IN 2013

Leatherjacket populations in Spring 2013 are reported to be EXTREMELY HIGH from the annual SRUC Survey. The average counts are the 4th highest since 1975, and all grassland including permanent areas, are at risk. The threat is exacerbated by the cold, late spring which has held back grass growth. When the grubs start eating, the proportion of damaged: undamaged roots will be greater, resulting in a correspondingly greater reduction in yields – which could amount to 0.5 to 1t DM. Any spraying done at soil temperatures below 5°C will be ineffective. Prior sampling is desirable to check whether leatherjacket populations are high enough to merit treatment. For help contact: davy.mccracken@sruc.ac.uk.

IMPROVING UNPRODUCTIVE SWARDS – VIDEO

David Long, Development Manager, Barenbrug UK Ltd

Last summer was a washout for farmers from across the UK and Ireland, with many starting 2013 with unhealthy, damaged and unproductive grassland. To help farmers improve and prepare their swards for this year's growing season, specialist grass seed breeder Barenbrug has produced an informative video offering guidance on how to identify an unproductive sward and rectify the problem. The four-minute video, which can be viewed by visiting **www.youtube.com/watch?v=o4e_m3EecLU,** shows farmers how to identify common problems like stress, disease incidence and compacted soil structure, and offers guidance on how to restore a sward to productivity.

To get the best out of their swards in 2013, farmers must correct the problems in their grass fields, otherwise they will end up with lower yields and another expensive winter of buying-in feed to replace lost production. Most grass swards are suffering from the combined effects of the continual rainfall and damage caused by the need to feed stock. Fields are looking an unhealthy shade of yellowy-green; a firm indicator of severe stress. This stress has two main sources – soil structure and disease – which will have a detrimental effect on production and persistency, and allow the sward to fill up with weed grasses.

Soil structure is much more of a problem. The weight of water that has fallen this year combined with the weight of harvesting equipment and grazing animals has created shallow 'pans' in many grass fields. The effect is to restrict root growth to the top 10cms, and also to stop slurry and rainfall penetrating the soil. This means the roots are growing in a wet sludge, while beneath the compaction the soil is dry. In a normal, healthy soil structure, the grass roots will penetrate over 30cms and the structure will be kept open by worms, allowing slurry and rainfall to penetrate. But, by restricting root growth to the top 10cms, the plant's access to nutrients is limited, reducing growth and favouring the growth of shallow-rooted species like meadow grass.

Disease and, specifically, *Drechslera* leaf spot is caused by the wet conditions combined with varietal susceptibility. As well as reducing the feed value and palatability of the plant, *Drechslera* weakens the plant, reducing persistency and making it more susceptible to winter kill. Grazing the sward will remove the diseased leaves, promoting healthy re-growth.

The video provides practical tips on how to restore productivity through successful renovation and overseeding. We hope farmers will find the video useful as they prepare for the 2013 growing season.

SODDEN LAND SOLUTIONS PINPOINTED
Andrew Blake
Notes from a recent Soil & Water Management Centre Workshop held at Lackham College, Wiltshire, January 2013

Too little attention to the soil is partly to blame for sodden land across much of the country. There is no magic product to spread on fields to overcome widespread waterlogging problems. However, while near record rainfall was clearly a factor, there are plenty of **steps growers could take** in the short, medium and long term to ease future field operations.

When fields appear saturated, underneath they're probably not, unless they're in high ground-water areas. Elsewhere it's mostly a top problem caused by a nearly impermeable layer of soil near the surface with the water sitting above – technically a 'perched' rather than a true water table. The surface may be flooded but the soil is only at field capacity underneath.

How quickly surface water naturally filters down depends on several factors, the crucial one being the condition of the soil near the surface. In many cases the soil pores in the top 15cm are too small because the ground has been tilled too much and/or it's been run over too much. Old permanent pasture could readily absorb a typical 4-5mm hr^{-1} of rain, but clean, tilled bare ground is barely able to cope with peak rainfall rates.

The effect of compaction caused by wheels is particularly noticeable. In a recent trial water filtered through unmarked soil at 20mm hr^{-1}, a single pass reduced that to under 6mm/hr, and after two passes it was down to less than 2mm/hr. Short term advice given included: study old drainage plans, walk ditches, clear blockages and make sure the drain outfalls are fully functioning. Pipe drains might need jetting. For surface ponding, mini-moling could be used working as shallow as possible (30-45cm) which doesn't need high power. An expander should not be used. An alternative is to dig a ditch or plough a single furrow to create a groove to take the water away. In extreme cases it might be worth drilling holes to help surface water penetrate or even digging soak-aways. Sacrificing a small area could be beneficial in the long term.

Broadcasting seed via quad-bike, or if necessary by hand, could help by establishing a covering of plants to "pump out water" once the surface layers have dried thus enabling the soil profile to dry out at depth – otherwise it will remain at or close to field capacity for most of the season.

In the medium term, growers with perched water tables on clay soils should plan to mole drain them to connect to the backfill above field drains next May/June – if

necessary through standing crops, and think about subsoiling damaged areas after harvest.

Long term options to avoid waterlogged fields, apart from improving overall field drainage systems, included installing grass waterways, grading low spots on flat land, and raising soil organic matter levels. More immediately, wider use of low ground pressure tyres which added only £1 ha^{-1} to the costs of running a tractor over its lifetime, would pay dividends.

However, given the advent of GPS more growers should consider adopting controlled traffic farming to avoid compaction penalties, the key is that in the non-trafficked areas rainfall infiltration rates are about 400% higher.

Drainage allows you to get onto the land when you want rather than when the water dictates, but the main point is that it increases yields. The heyday of UK land drainage was in Victorian times, when the equivalent of £12billion was spent on it between 1850 and 1880. Even after the Second World War 2m hectares were drained through grant-aided schemes. But after the withdrawal of grants in the mid-1980s the area drained each year dropped dramatically .

Tread Lightly and as Little as Possible

Displaying a picture of a traction engine, Harper Adams University senior lecturer David White said: "Our ancestors knew something – keep off the soil. If a tillage operation isn't going to be of benefit, don't do it."

It was important to ballast tractors correctly to achieve the "sweet spot" wheel slip figure of 8-15%. This would provide optimum traction with minimal soil damage. All implements had critical working depths. Never work deeper than you need to. As a rule of thumb, if you double the depth you quadruple the force needed to pull it. The critical depth for tined cultivators was six times the tine width. Backward facing tines, surprisingly, needed more pulling than those inclined forward at the same depth. So consider lifting them out if the going's difficult – they just add to the draft need. Worn tines, like worn blades on a forage harvester, were false economy.

Tyre pressures when field working should be reduced to the lowest recommended by the manufacturer for a given load. Compaction **at depth was hard to undo**, so growers should avoid creating it by keeping vehicles with high tyre pressures off their fields.

Reproduced with acknowledgement to 'Farmers Weekly'.

WILL CHANGING WEATHER PATTERNS REQUIRE NEW FORAGE OPTIONS?

Growing and harvesting conditions in the 2012 forage season hit dairy margins hard, but was it a one off blip to be withstood or indicative of a longer term trend which requires a fundamental reassessment of forage production?

Improving forage security in the light of recent adverse weather and changing climate trends will be the key focus of the UK's third **National Forage Conference** to be held at The Easterbrook Hall, The Crichton, Bankend Road, Dumfries on **Thursday 12th September**. Sponsored once again by forage inoculant and animal nutrition manufacturer **Biotal Ltd**, the conference will run from 9.30 a.m. – 5.00 p.m. and includes lunch. The programme will explore how dealing with changing weather conditions might impact on forage options and the nutritional management required to maximise margins based on new forage systems.

The conference aims to help farmers gain a better understanding of how a developing climate might impact on current forage production systems and identify what the alternatives might be. Producing sufficient quality forage is just the start however and how to increase utilisation in multi-forage systems will be explored.

A panel of leading speakers from the UK and other leading milk-producing countries will discuss topics including how the UK's climate is changing, forage options to reduce the risk of poor quality forage, the profitability of multi-forage diets and improving rumen efficiency and forage utilisation.

The UK is well placed to produce high quality forages but it is important that the systems adopted and crops grown reduce the risk and economic consequences of climate related crop failures. This will offer an outstanding opportunity to hear the latest thinking on forage production and utilisation and to learn practical ideas which can be implemented back on the farm.

Cost will be £10 (incl VAT) for farmers and £100 (incl VAT) for trade delegates. For further details or to register call Biotal on 02920 547 050 or register online at *www.biotal.co.uk*. For further information contact: Roy Eastlake; ☎ : (+44) 07733-100199; *email; reastlake@biotal.com*

WEATHER DATA FOR 2012
SAC AUCHINCRUIVE (55^{O}29'N 4^{O}34'W) Alt 45m

	Mean Air Temp ^{O}C		Mean Soil Temp ^{o}C	Rainfall		Sunshine
Month	***Max***	***Min***	***At 10 cm***	***Total (mm)***	***No of Days***	***Total Hours****
January	7.7	2.8	4.9	98.8	23	38.2
February	8.2	3.6	4.8	56.2	19	38.9
March	12.1	4.9	6.9	31.2	11	126.9
April	10.7	2.7	7.3	37.2	21	135.4
May	15.1	6.0	10.5	60.2	13	233.3
June	16.1	9.2	13.4	129.0	14	114.5
July	17.3	10.9	14.8	107.4	19	117.1
August	19.1	11.4	14.9	98.0	22	147.6
September	15.0	9.3	12.3	103.2	26	98.7
October	11.6	4.5	8.7	134.8	23	88.9
November	9.0	3.5	7.0	113.2	27	53.4
December	7.2	1.3	4.4	144.0	27	36.3
Means/ Totals	**12.4**	**5.8**	**9.2**	**1113.2**	**245**	**1229.2**

Max air temperature: 27.0^{0} on 25 May. Min air temperature: -4.6^{0} on 11 December. Last frost: 7 May 2012. First frost: 7 October 2012.

* RNAS Prestwick.

WEATHER DATA FOR 2012
SAC CRICHTON ROYAL FARM (55^{O}3'N 3^{O}35'W) Alt 65m

	Mean Air Temp ^{O}C		Mean Soil Temp ^{o}C	Rainfall		Sunshine
Month	***Max***	***Min***	***At 30 cm***	***Total (mm)***	***No of Days***	***Total Hours***
January	7.4	2.3	4.3	89.4	19	49.1
February	7.6	2.2	4.2	50.9	13	41.0
March	12.7	4.9	8.2	24.9	9	134.8
April	11.0	3.2	9.2	62.6	16	116.3
May	15.9	6.4	12.3	69.6	14	195.1
June	15.6	8.6	13.6	171.6	18	85.2
July	17.9	11.2	16.2	128.4	25	113.9
August	19.0	12.0	16.8	172.2	22	133.2
September	16.1	8.9	14.0	101.8	21	137.2
October	12.0	4.6	10.0	146.8	19	92.2
November	8.9	3.6	7.1	154.7	24	54.8
December	7.0	1.7	3.5	185.1	22	32.9
Means/ Totals	**12.6**	**5.8**	**10.0**	**1358.0**	**222**	**1185.7**

Max air temperature: 25.8^{0} on 25 May. Min air temperature: -5.2^{0} on 2 February. Last frost: 7 May 2012. First frost: 22 September 2012.

After early gales and a little frost, the winter was very mild and dull ahead of an abonormally hot and sunny spell at the end of March. Then, apart from warm spells in May and August, the remainder of the year was remarkably cool, sunless and wet. Rainfall was particularly heavy in the last three months, especially in the Dumfries area, and punctuated by hard frost in late November/early December.

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

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