

# GREENSWARD

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



No. 49

2007





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Central Scotland Grassland Societies*

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Front Cover Photograph: Horses at Mid Foulton, Tarbolton, Ayr. July 2006  
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Winners at the SWSGS 2006 Silage Competition night in the Woodland House Hotel, Dumfries, 1 February 2007.  
Silage Judge Jim Brown (centre) flanked by Champion B Harvey (right) and Beef/Sheep winner, R Parker (left)  
Photo: *Solway Press Services, Bob Geddes*

## FOREWORD

*“Nihil est quad magis expedit, quam boves bene curare”*. Marcus Procius Cato (234-149 BC), De agri cultura. (Nothing is more profitable than to take good care of cattle).

Farmers in Scotland have always taken great care of livestock, but the profit element of Cato's quotation has been less certain and ever harder to achieve. However, the reports of farm visits in this issue of 'Greensward' show some remarkable responses to the speed of change in the agricultural scene. An example is the possible diversification into the increasing interest in equestrianism. The potential scope in this direction is looked at in several articles. 'Change is certain' quoted one speaker at the BGS Summer Meeting in 2006, but it is important that imposed changes are for the better and not just for the sake of change. Some things in nature and agriculture do not change or change only very slowly. The long term breeding and selection of plants and animals is an example that does not sit comfortably with the 'instant' mentality of the electronic age.

The meetings and activities of the Central and South West Scotland Societies in 2006-2007 are documented, together with invited contributions.

The two Societies are particularly fortunate with their Chairmen who are thanked for their leadership and guidance. The willing participation of host farmers who open their gates for farm walks is a significant element in the Societies' programmes. Equally, the support of all commercial sponsors and of the indefatigable help from SAC staff are gratefully acknowledged. It is a pleasure once again to express thanks to Lorraine Reid, Farm Business Services at Auchincruive for carrying out the demanding task of compiling this Journal excellently and efficiently. The support work of SWSGS Treasurer, Angela Mitton and CSGS Treasurer Ken Phillips are also importantly recognised. Lastley, staff at the printers: Walker & Connell Ltd are sincerely thanked for their excellent production of the Journal.

G E D TILEY - Journal Editor

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**SOUTH WEST SCOTLAND GRASSLAND SOCIETY  
EXECUTIVE COMMITTEE 2007**

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A Brown, Balker, Stranraer DG9 8RS  
S J Donnelly MBE, SAC FBS, 99 George Street,  
Stranraer DG9 7JP
- Co-opted Member:** D Harvey, Central Scotland Grassland Society, Galloway  
& MacLeod Ltd, King Street, Stonehouse ML9 3LH



**MEET THE CHAIRMAN – SWSGS**  
**Hugh McClymont, SAC, Crichton Royal Farm, Dumfries**



Hugh presently manages SAC's Crichton Royal Farm at Dumfries. This involves 450 cows, split between two units at Acrehead and Crichton. The farm area of 240ha with a further 55ha recently leased on short tenancy extends from below sea level to 45m and consists mainly of sandy loam soils. As well as cows, there are approximately 250 young stock reared on the unit and recent environmental projects introduced to areas of land less suitable for dairying.

Grass is managed for an early turnout, recently late March, and continuing with some groups utilising grass until November. Silage production is the key to the farm's sustainability, aiming for high quality, achieved with 2 contracting teams working simultaneously at each unit. Maize has been grown consistently at Crichton over the last 15 years and its area increases annually. Recently some was harvested for grain. Other crops include spring and winter wheat for Alkalage production.

A native of the Rhins in Wigtownshire, Hugh obtained a Diploma in Agriculture at SAC Auchincruive and then joined the team at Crichton Royal where he progressed through many different roles to Farms Manager. Hugh is married to Christine and have twins, Ben and Lucy. Interests off farm include family quality time, which can involve mountain biking with son Ben and supporting girls' football with daughter Lucy. As well as managing the farm business Hugh actively supports the various personnel undertaking research projects based at Crichton Royal Dairy Research Centre. Hugh is also very active in a dairy farming educational role with many visits from schools and the public on Farm Open Days. His views on the future of grass production and utilisation in South West Scotland are that we can survive but we will all have to adapt our growing techniques to allow for climate change which is happening, and also with the changes in legislation which will affect our fertiliser policies. Grass and other forage crops will continue to be the main constituent in the diets of our very large livestock population here and future farmers will be well placed to embrace all through the support of the Society.

**CENTRAL SCOTLAND GRASSLAND SOCIETY  
EXECUTIVE COMMITTEE 2007**

- Chairman:** J Brown, Gaindykehead, By Airdrie
- Vice-Chairman:** D Lawson, Parklea, Carmunnock, Clarkston
- Past Chairman:** W Bankier, Fernieshaw, Cleland, Motherwell
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G Millar, Gallamuir, Plean  
R Pollock, Bonnyhill, Bonnybridge  
J Currie, Carlinside, Lanark  
A Reid, Glen Farm, Glen Village, Falkirk

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

## **MEET THE CHAIRMAN - CSGS**

**John Brown, Gaindykehead, Airdrie**



John has been farming at Gaindykehead in a family partnership for 20 years. He and his wife Lorna have been married for nine years and have a 3 year old daughter, Yasmin.

Gaindykehead is a 60ha all-grass farm with 48ha rented at Ryden Mains. Until last year they milked 150 dairy Holstein cows and fattened 700 store cattle. Now that the dairy is sold he finishes over 1500 prime beef for the local butcher trade, London butchers and supermarkets.

In his younger days, John was involved in the Young Farmers and with Holstein cattle, which he showed with considerable success. Now he is involved with the local Rotary Club and supporting Lorna with her busy outside-catering business, Country Flavours.

John has seen many changes in the short time he has been farming, including milk de-regulation, followed by a massive reduction in milk production profitability, combined with rising costs which have caused many to leave the industry. He hopes organisations like the CSGS will continue to thrive and generate new ideas to enable grassland farming to move forward.

## SWSGS SPRING FARM VISIT IN KIRKCUDBRIGHT 2006

G E D Tiley

Visit to **Viewfield and Grennan, New Galloway** (By Invitation: **Marcus & Kate Maxwell**) on 23 May 2006

Farm Walk sponsored by **John Watson Seeds Ltd**

On a bracing, not to say, cold windy evening, a large contingent of SWSGS visited the progressive organic sheep enterprise of **Marcus and Kate Maxwell** at Viewfield and Grennan. This farm had received considerable press and media coverage since Marcus had won the 'Farmers' Weekly' Sheep Farmer of the Year award in 2005 and he was in demand to promulgate his low cost, easy-care grass-based system. He had also previously won a Silver Lapwing award for his encouragement of wildlife. Marcus had started with 160ha at Viewfield 18 years previously and found it was necessary to change as he was not making money. Purchase of neighbouring land over the years brought the present total area to 560ha with a further 48ha rented. Development of the EasyCare system now allowed him to enjoy farming and also to give time for family life. The new system had been established with sheep of the Kent Romney breed and imported New Zealand genetics stock, including embryos. This was coupled with a radical breeding programme aimed at selecting out unwanted traits, eg: difficult lambing or mis-mothering.

On the day of the visit, the 2000 NZ Romney ewes were kept on the typical Stewartry rolling fields most of the year, but transferred to lower flat fields 10-14 days before lambing. The flock was inspected twice daily on a quad bike, not dismounting or touching the sheep which would disturb them. The ewes had been bred for high mothering ability and for lambs which retain a rain-repelling oily skin for 3 days. Speneaning was scheduled at 100 days. A novel development was the blood sampling of all sheep (ewes, lambs and rams) to determine their DNA profiles and allow monitoring for genetic strengths and weaknesses. 450 ewe lambs were overwintered on good clean grazing swards on an organic dairy farm at Garlieston. Marcus emphasised that a great deal of care had gone into the development of 'Easy Care!'

The suckler herd was now three-quarters Angus, developed from Angus-Friesian. The 170 cows were wintered on silage plus a little straw, requiring a feed wagon plus the expense of a larger tractor. The cattle had originally been kept to manage the grassland but were now grazed on good grass. All grass received 250kg ha<sup>-1</sup> Gafsa and no N. A good white clover content was maintained. Andrew Best, John Watson Seeds Ltd, explained how this was

boosted each spring by direct drilling grass seeds with clover on 16-20ha including silage ground, using an Aitchison drill, so that the fields were never out of production. The seeds were coated with essential minerals which showed benefits in the following year. A wetland area was managed under the Rural Stewardship Scheme, being ungrazed in summer to benefit wildlife. Groups of walkers and nature visitors were able to visit the farm. In the buildings a new £10,000 New Zealand Racewell electronic sheep race had been installed. An electronic eye scanned the eartag and the machine could be programmed to partition the sheep into 6 different options of characteristics, eg: body weight, age, etc. This made life much easier at handling for inspection, drenching, vaccination or other treatments.

The Society expresses its gratitude to Marcus and Kate for providing tractor transport and for the hospitality of this visit to hear of the forward looking farm policy and novel approach to modern sheep farming.



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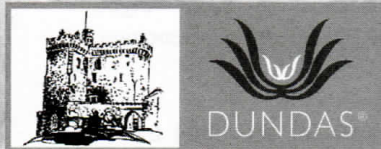
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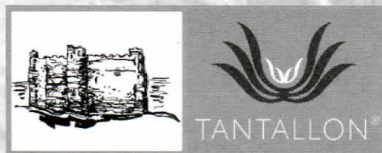
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**CENTRAL SCOTLAND GRASSLAND SOCIETY  
SILAGE COMPETITION 2006**

CSGS Silage Competition Evening, Newhouse Hotel, Newhouse, 8 March 2007

**Silage Judge: Ronald Pollock, Bonnyhill Farm, Bonnybridge.**

Prizes were awarded as follows:

**HF Seeds Cup & 1st Prize**

**For Dairy Silage:**

**2nd Prize**

J P Baird, Nether Affleck, Lesmahagow

J & W Baillie, Hillhead of Covington,

Thankerton, Biggar

**3rd Prize**

W Waugh, North Bankhead, Avonbridge,

Falkirk

**Hamilton Reco Salver for**

**Best Beef & Sheep Silage:**

**2nd Prize:**

R & M Struthers, Collielaw, Carluke

J J Bannatyne, Drumalbin, Carmichael,

Biggar

**Big Bale Prize:**

R & M Struthers, Collielaw, Carluke

Guest speaker was John Heaphy, Advanta Seeds who described Advanta research on new varieties and grass seed mixtures.

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## CENTRAL SCOTLAND GRASSLAND SOCIETY FARM VISITS

2006-2007

D Harvey, Secretary CSGS

**24 February 2006 – Bonnyhill Farm, Bonnybridge, Falkirk** (Courtesy: J. Pollock & Sons). The customary visit to the CSGS 2005 Silage Competition winner at mid-day following a soup and sandwich lunch. Bonnyhill was a dairy enterprise with 310 Holstein cows averaging 8850 litres. Milk was bottled on the farm and sold to retailers, with any excess sold to other processing plants. The cows were fed a TMR ration and all calves reared as dairy replacements or finished for beef. Farm area was 840 ha, of which 380 were cereals, beans and oilseed rape. A partnership of 4 brothers and 16 full time employees ran the farm.

**25 May 2006 – Spring Farm Walks.** Morning visit to **Wood of Auldbar, Brechin** (Courtesy: J Wilson), which is a family farm situated at 150m. Area was 94ha, including 26ha spring barley, 7ha winter wheat, 6ha potatoes, 5ha set aside, 28ha for 2 cuts of silage, the remaining 22ha being grazing ground. There were 100 Holstein cows from which heifer calves were kept for replacements and bulls sold. The afternoon visit was to **Shandford Farm, Fern, By Brechin** (Courtesy: Wm Mather & Son), an upland beef/sheep enterprise on land between 100 and 300m. Shandford itself covered 655ha, with 333ha rented at Glenogil Farm plus a further 920ha rented annually. There were 380 suckler cows, a small pedigree Charolais herd and 1000 mule Texel cross ewes. In addition 2500 Blackface lambs were kept on local estate ground to control ticks and encourage grouse. Cropping was 208ha cereals, 44ha being winter wheat and 164ha spring barley, 12ha swedes for stock feed, 16ha rented out for potatoes, 120ha silage ground, the remainder being grazing land. Three brothers, each with one son, plus a full time tractor- and stock-man worked the farm.

**20 July 2006.** The summer farm walk was an evening visit to **Gallamuir, Plean, Stirling** (Courtesy: Gavin Millar & Son), a mixed farm of 146ha plus 16ha rented. Cropping consisted of 70ha spring barley, 7ha set aside, 0.6ha potatoes, 18ha silage grass and 47ha for grazing. There were 80 Ayrshire/Friesian cows, all heifers being reared on the farm. The 60 beef cattle and progeny from 16 sucklers were taken to finishing. The stock were turned out during the first week in April and housed again in October. 150 store lambs were bought in for fattening.

**16 March 2007 – Nether Affleck, Lanark,** the 2006 Silage Competition winner's farm was the venue for a mid-day farm walk (Courtesy: J P Baird) in March. Nether Affleck was run together with Auchnotroch at Auchenheath, total



farm area: 168ha. Cropping was 64ha for 2 cuts of silage and 24ha winter barley, some for wholecrop, the remainder for grain. There were two dairy units with a total of 290 Holstein cows. All calves were kept, bull calves being sold at 6 months, heifers kept as replacements.

**5 July 2007.** Summer farm walks in Dumfries. In the morning, the visit was to **Newton, Annan Water, Moffat** (Courtesy: J Ryder). This was an extensive beef/sheep enterprise on two farms (Newton and Covehead) totalling 2280ha and rising to over 800m, together with a fish farm, timber yard and garden centre. The whole family were involved plus 5 full time staff. Corehead was an organic farm of 1240ha with only 60ha inbye plus 60ha rented for summer grazing and wintering of 800 hogs. Stock at Newton (1040ha, 240 of which were inbye) consisted of 1500 sheep: 800 pure Blackface, 50 pure Beltex, 25 pure Blue Face Leicester, 250 Blackface crossed to Bluefaced Leicester, 200 Greyface crossed to Beltex, 600 hogs to sell as gimmers and 130 tups (for stock and for sale). Cattle were 450: 25 Simmental, 25 Beef Shorthorn, 20 Limousin, 20 Galloway, 10 Belgian Blue, 60 cross cows to carry embryos, 75 in-calf heifers, 110 young heifers, 75 young bulls, 5 stock bulls. The afternoon visit was to **Hotts, Waterbeck, Lockerbie** (Courtesy: Messrs Hamilton) where there were 200 Holstein cows housed all year, due to climate and area of farm. Area was 172ha, including 68ha of rough grazing. Silage areas were 68ha for first cut, 40ha for second cut, plus a third cut, depending on weather. Crops were 12ha maize, 3ha set aside, 28ha winter wheat, the remaining area for grazing. All youngstock were reared to 1 year old then the bull calves exported. Two brothers with a relief milker and young lad worked the farm.

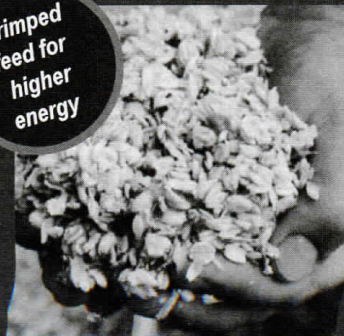
### **SWSGS PRIZES 2006**

The SWSGS **Vice President's Prize** for the best Grassland Student in the 1<sup>st</sup> year Agriculture course at SAC Auchincruive was won by **Claire Convery**, who received her award from SAC Principal, Bill McKelvey, at the November Prizegiving ceremony held in Oswald Hall, Auchincruive in 2006. The SWSGS prize is given in recognition of excellence in the grassland courses at SAC Auchincruive. The Society congratulates Claire and wishes her success in her future studies at Auchincruive.

The **Malcolm Castle Memorial Prize** in the form of a cash token plus trophy was awarded to **Henry Kirk Marshall** for the best dissertation on grassland/livestock in the Honours Degree course at SAC Auchincruive.

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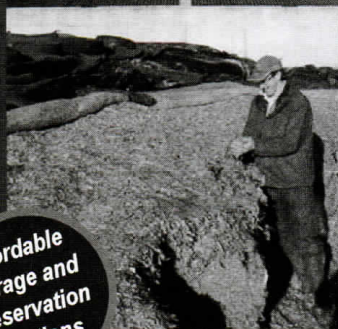


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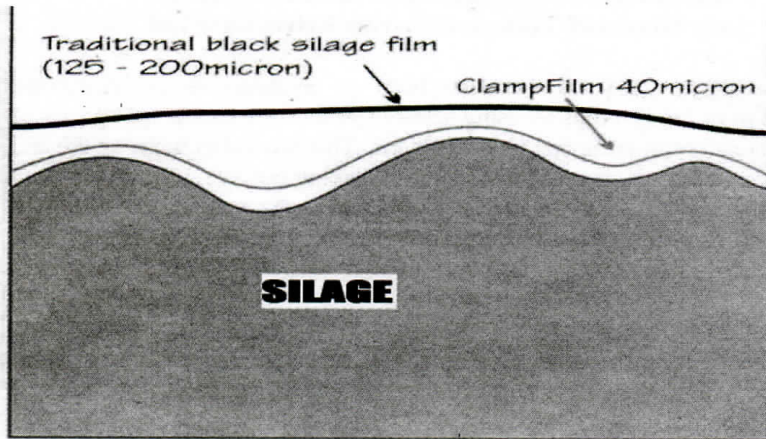
## INNOVATIONS IN SILAGE PRESERVATION

Andy Strzelecki, Technical Director Kelvin Cave Ltd.

For the last 15 to 20 years there has been an emphasis on enhancing the **fermentation** of forage crops by using selected strains of bacteria and species to out-compete naturally-occurring 'wild' bacteria. This has led to focus on the end quality of ensiled feeds, it may have led to us 'taking our eye off the ball' with regards to the actual **preservation** of nutrients during the ensiling process. With increasing costs in production of farm grown feeds, from fertiliser to fuel, it is becoming more important than ever to eliminate waste both in the silo and at feedout.

In rapid creation the silo could create an anaerobic environment in the clamp as quickly as possible, because the majority of the organisms that cause waste and require air to multiply and cause damage. Depriving them of their air supply is our first line of defence. To this end it is normal practice to roll the silage to press the air out of it and to use black plastic side and top sheets suitably weighted down, to envelope it. Firstly, it is rarely possible to roll all the air out of the top layer of the ensiled feed, particularly with higher dry matter material. Secondly, black plastic sheeting is relatively inflexible, and thirdly it can be oxygen permeable. As a result, air can be trapped under the sheet where it 'bridges' uneven areas allowing aerobic spoilage organisms to proliferate, and their respiratory action can draw oxygen through the sheet over considerable periods of time. The result is a layer of composted, rotting material on the top and shoulders of the clamp. In extreme cases more than 10% of the ensiled material can be affected.

There is now an innovative, low cost solution to this problem. 'ClampFilm' is a clear, 40 micron, highly flexible and tough, primary silage sheet with very low oxygen permeability. When spread in direct contact with the top of the ensiled material, it is sucked down as residual air is used up by microbial respiration. Because no further air can be drawn through the sheet the top of the clamp is effectively 'shrink wrapped' within a few minutes. The conventional black plastic (125 micron, 500 gauge) side sheets are then drawn over the top of the ClampFilm, and weighted down with tyres or protective woven silage covers. When used correctly, true anaerobic conditions are achieved extremely quickly, resulting in the elimination of wasted, valuable feed.



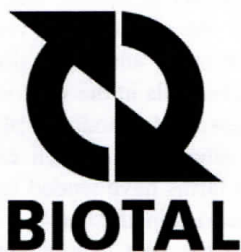
Bacterial fermentation of silage can be a wasteful process, particularly when silage making conditions are less than ideal. Treatment of the crop during harvesting with organic acids (formic, propionic, benzoic), has long been a very reliable way of overcoming some of the problems associated with wet or very dry conditions, soil contamination risks and crops with potentially high buffering capacity (high nitrate content, legume silages, etc). Acids have, however, fallen out of favour because of their corrosive effect on expensive machinery and the unpleasant fumes, with a new, **non-corrosive, low-fuming** format available from Kelvin Cave Ltd.

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**CHANGING CHESHIRE AND THE FUTURE**  
**The British Grassland Society visit to Cheshire 9-12 July 2006**  
**G E D Tiley**

The BGS summer visit to Cheshire was centred on the local agricultural college, Reaseheath, which gave the impression of being a vibrant, progressive educational establishment, with a 5-year £30 million plan for expansion. There were the usual 3 days of farm visits, all but one to dairy units, plus the Alternative 'tourist' programme. Host Vice-President was local farmer Richard Ratcliffe, currently BGS President, and Secretary Bill Pearson from Reaseheath. The principal sponsor was HSBC bank with support from 43 other firms. Guest speaker at the Dinner was Giles Tedstone, who had been the Host Vice-President at the 1982 BGS visit to Cheshire. Cheshire is a relatively small and essentially rural county of 208,000ha, with 70% agricultural land and a population of around 608,000. The geology is mainly boulder clay lying between the hills of North Wales and the Derbyshire Peak District. The clay soils are ideal for grassland and dairying though subject to surface wetness. Areas of red Triassic sandstone occupy approximately one eighth of the county in the centre and east and these are suitable for arable crops and horticulture. Rainfall ranges from 600mm in the shadow of the Welsh hills in the west to over 1000mm in the east. There are abundant trees, hedges, and woodland plantations in the landscape with many SSSIs and wildlife sites. Salt is still extensively mined – 'wich' means an area with salt! Large farms have tended to increase in size while the numbers of smaller units have declined sharply. An introductory talk on Cheshire farming was given on the first evening by David Warrington, NW Farmers Ltd. He emphasised that "change is certain". Many farms were being lost to farming and agricultural output in the UK had fallen from £17-14 billion during the last decade, production from equestrianism now being more than from agriculture. His own company ran the largest feed mill in the country but profit was decreasing. Profit = Volume x Margin – Costs. The business could not stay the same otherwise Profit would decline to 0. Fixed costs in particular had to be reduced compared with output. In dairying he said that gross output compared with costs determined Profit, not the price of milk.

**Reaseheath College Farm, MOET herd and R & D trials**

On the first morning the visit was to the Genus/MOET breeding herd which aimed to establish elite genetics through a controlled unbiased environment without preferential treatment. Uniform high forage diets were fed and the animals were selected across a range of characteristics to be bull mothers. Progeny were tested in 5 countries: USA, Canada, Italy, Australia and UK. A 16 year old cow that had produced 160 tonnes of milk was still there. The 180ha College farm supported the 170 cow MOET herd fed indoors plus 200 followers.

There were 120 breeding sows and a 350 North Country sheep herd was used as a management tool to clean up the pastures. The farm was in a NVZ and solid manure was separated from the slurry for ploughing in, with surpluses exported; the liquid enabled significant savings in P & K fertiliser. The R & D group of 2 farmers, 2 consultants, 2 fertiliser agents and college Farm Manager had been set up by the Cheshire Grassland Society to carry out near-market trials for giving guidance to subscribing farmers. Funding came from a £50 annual subscription augmented by company sponsorship. Unreplicated plots of old and new grass mixtures were regularly sampled to provide immediate information on yields and quality for members of the group. Few differences had been observed in 2006. Low manuring inputs, crop nutrient removal, N levels from slurry with reference to NVZ regulations were also being studied.

### **Talking turkey in a multi-line business**

Free Green Farm, Over Peover, Knutsford (*Garnett family*). In addition to farming a total of 384ha, 196ha owned, the Garnett family contract reared heifers and arable cropped a neighbouring farm; had developed a fishery on lakes within some of the farm blocks; mother Pam and youngest son Andrew ran an engineering business which manufactured AG dispenser bedding machines; and reared 3000 turkeys for Christmas, juggling 7 different breeds hatched at 7 different dates for 7 different markets. On the main farm 500 Holsteins were milked in two units managed on a rotational block grazing system, supplemented by zero grazing from low lying land in autumn. Cow tracks had extended the grazing season by 3 weeks. Fertiliser was saved by utilising the nutrient value of slurry (5:5:30 kg NPK per 4,500 litres) on grass and maize. Using farm machines gave an advantage at silage harvest when contractors were busy. A competition to correctly name the breed of a bull ('White bred Shorthorn') was won by a bank manager! As well as renting out the lakes for fishing, walkers were charged via permits to walk through the woodland.

**Good staff management in an expanding dairy.** Northwood Farm, Siddington, Macclesfield (*R J & J Venables*). Previously a traditional Cheshire farm of dairy and potatoes, the focus now was on maximum milk production from forage, with 320 cows averaging 7,600 litres, approximately half from forage, 1.8t concentrates fed. Grazing was in paddocks with weekly measurements to ensure quality grass. Some paddocks were pre-mowed at lunchtime when sugar contents were high to encourage better utilisation. Maximum labour efficiency was achieved through careful staff management, with meetings once a week so that everyone knew their responsibility. Staff confidence was built up, no one being left in the background – 'delegate not abdicate'! The men had been sent on a learning trip to Ireland.

**Progressive youth building for the future.** Burwardsley Hall Farm, Burwardsley (*A & G Cliff*). On the second day the first visit was to one of Cheshire's progressive young dairy farmers. After looking all over the county Alistair had been lucky to obtain a tenancy of 77ha on the Bolesworth Estate. After starting with a few cows and 2 tractors he now milked 130 cows but aimed to increase eventually to 500. The Estate provided land and buildings but expected a market return with rent linked to milk price. A programme to develop paddocks with tracks, and of weed control and reseeding was underway. Grass heights were monitored, allowing 160 kgDM for every inch (2.5cm) of height.

**Direct sale quality beef from difficult land** Churton Heath Farm, Bruera (*Jim Stratton*). With a 25-year tenancy of 157ha of flat land which was waterlogged in winter, dry and hard in summer, Jim Stratton was aiming to produce superior quality beef for direct sale to local outlets. Half of the Friesian x Limousin cows would be crossed with more traditional breeds (Welsh Black, Hereford, Shorthorn) to produce a smaller 550kg beast and a target of 1200kg meat per ha of grass. Carcasses would be hung for 3½-4 weeks to sell as boxed joints at the farm gate, and also to local hotels and restaurants where there was a demand for local produce. One pub chain did 572 lunches the previous Sunday and sold thousands of beefburgers last year. A more extensive grazing system was envisaged to reduce poaching with a greater use of clover. The rigg-and-furrow (locally called butt and rhine) would benefit if the old horseshoe tiles were jettied out. 400 Canada geese shared the area in winter and the farm, being rich in wildlife, was to be entered into a Higher Level Stewardship scheme. Other diversification would be pork production from Gloucester Old Spot sows, a farm shop and tea room, bed and breakfast in the large house and manufacture of trampolines and outdoor activity toys.

**Maximising milk yields simply from grazed grass.** Bolesworth Hill Farm, Tattenhall (*John Archer and family*). In 1999 major strategic changes were made to this dairy enterprise, identifying elements which made money or lost it. There was a move to block calving to save labour, with cross bred cows (Jersey, Ayrshire) giving hybrid vigour, using extended grazing from February-December, all measures to maximise yields of milk from grazed grass. There were two herds of 300 cows each on a total of 392ha, one spring-, one autumn-calving. The autumn calvers were dried off in June as grass production fell and fed on straw and silage. A whole herd was treated as one cow and everything kept simple. The cows were selected to be aggressive grazers and were not used to being fed in the shed. Grass heights were measured with a platometer. The cows were grazed at 1600kgDM ha<sup>-1</sup>, heifers at 3100 kgha<sup>-1</sup> and dry cows at 3400 kgha<sup>-1</sup>. All machinery had been sold and replaced by use of contractors. If



production fell, swards were overseeded by surface harrowing and Einbock seeder rather than reseeding which meant loss of production. Much effort had been spent on marketing the milk looking for premiums for higher quality. Currently the milk went to Joseph Heler Ltd to manufacture Cheshire cheese, the oldest English cheese dating back to Roman times. Its distinctive flavour was attributed to the salt springs running under the lush Cheshire pastures.

**Silage making and slurry use** Lower Medhurst Green Farm, Congleton (*Stuart & Richard Yarwood*). The Yarwood family had built up the present enterprise of 192 cows on 191ha from the 1920s. Stuart's father had been a pioneer in silage production, utilising cow slurry. A second unit of 191ha carried 135 cows and youngstock. Herd averages were 8,300 litres, almost half from forage. Grazing had changed from strip grazed paddocks to set stocking, moving the cows every 3-4 days. A combination of mixed forages including winter and spring wheat, barley and lupins, supplemented grass. Use of injected slurry was saving £24-30 ha<sup>-1</sup> on bag fertiliser. The Yarwood brothers had won many grassland awards including the Cheshire Society's silage competition.

**A Kiwi farm for maximum efficiency.** Congleton Farm, Davenport (*Barry and Valerie Dale*). A 65ha unit (Hare Lane) had been developed next to Congleton with 200 spring calving dairy cows. A New Zealand parlour, circular collecting yard and feed pad was located in the centre of the farm with tracks and 26 paddocks radiating out. The paddocks were roughly equal in area, each with at least 2 access points for flexibility. The grass was measured weekly with a platometer and grass covers and grazing rotation recorded to assist management. It was hoped that the cows could outwinter on stubble turnips and rape with wholecrop or maize silage..

**Large scale storage fed dairy.** Aston Lower Hall Farm, Worleston, Nantwich (*MJ & MC Thomasson*). A large (460 Holsteins) high yielding herd were largely storage fed using combinations of grass silage with maize, wheat, triticale, lupins and oilseed rape and access to loafing paddocks. Low yielding cows giving less than 25 litres day<sup>-1</sup> were rotationally grazed from April-October. The 175ha of grass were used mainly for silage production from 4 cuts. Red clover was included in one third of the area. The cows were milked through a 60-point rotary parlour, averaging 10,000 litres, 3,000 from forage with 3.6t concentrate fed per cow. Mike Slater, from Terra Nitrogen (UK) gave a warning that high input herds could increase phosphate levels on the farm compared with grazing systems. He calculated that phosphate reserves on Lower Hall farm were increasing by 34-35kg cow<sup>-1</sup> year<sup>-1</sup>.

## **BRITISH GRASSLAND SOCIETY ON THE UP - REFLECTIONS OF A VERY PAST PRESIDENT!**

**Dr George Fisher, Regional Manager, Novus Europe, Cheshire  
President of the British Grassland Society 2005-2006**


"Taking on the Presidency of BGS is a three year commitment to hard work, but you will enjoy it greatly and when it's all over you'll miss it. You have to take the opportunity to give something back, George, and see if you can move it forward a wee bit." These words of wisdom were given to me by Dr John Frame when I took on the role of BGS President Elect in 2004 and, as always with John, they were worth their weight in 'Green Gold'! Personally, I cannot better John's assessment, and on reflection it was a privilege to be in the BGS Presidential Team at a challenging and exciting time. The challenges came in many forms, not least in losing the experience and efforts of Jan Crichton in May 2005. Jan lived and breathed the BGS and her untimely death was a huge loss to the Society in many practical and personal ways. However, I know that Jan would have wanted us to use this, frankly dire, situation as an opportunity for implementing change and improvement; and that is what we did.

At the time of taking on the Presidency in July 2005, the BGS was in financial difficulty and the Council considered all options from closing down and merging with a like organisation, to re-hashing the whole administration and direction and getting the Society back on a firm footing. Thankfully we decided on the latter course and embarked on a modernisation and restructuring of the Society. This involved hard work and commitment by the BGS office and many on Council and throughout the various committees. The important thing was to set up the Society as one would set up a farm business - with firm objectives, targets and direction, and with a set of measurable milestones that could be used to assess progress. We brought in a new Director, Jessica Buss, whose abundant enthusiasm and will to succeed have become infectious. Jess devised a financial improvement plan, which has turned the Society's balance sheet from an annual loss to a reasonable surplus. Without detailing the plethora of policy and administration improvements that Jess applied to get this turn-around, suffice it to say that it worked. Though as a charity, the BGS had to use this surplus to address the objectives of the Society. Jess consulted all the Local Grassland Societies and got a handle on what farming members wished to get from the BGS. This led to many exciting changes and opportunities and the BGS is now in a position to commit funds and time to projects that will positively assist and impact directly on grassland farmers. Examples are co-operation with **EBLEX** on improving silage decisions and therefore returns on beef units (check out [www.silagedecisions.co.uk](http://www.silagedecisions.co.uk) and the BGS website at [www.britishgrassland.com](http://www.britishgrassland.com)). Another example is the current workshops on farming with climate change.

There are many more positive actions in the pipeline and now Jess has a project officer (Rachel Proctor) working with her to help speed up improvements. The excitement comes from a firm direction to put BGS at the forefront of providing farmers with information on how to improve their business through sound management of their 'Green Gold'. BGS is on the up and I hope that the seeds sown by the hard work of many to turn it around will bear fruit, taking BGS ever closer to and making it ever more relevant to the grassland community it seeks to serve.

### POSTHUMOUS POLISH MEDAL FOR JOHN FRAME

In November 2007, one year after John's passing, his wife Nancy received one of the special medals struck for the 100<sup>th</sup> anniversary of Warsaw University's Faculty of Agriculture. This was accompanied by a Certificate of Honour which is copied below. Professor Piotr Stypiński, Head of Grassland in Warsaw and a stalwart in Polish and European Grassland, was the main driving force behind this award.

SGGW  Warsaw Agricultural University  
Faculty of Agriculture and Biology  
Warsaw 11 November 2007 **R**

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**Dear Mrs Frame,**

One year ago dr John Frame, live president of European Grassland Federation, honorable member of Polish Grassland Society, one of the greatest researcher in grassland science passed away. We would like to say that memory of our friend John is still alive. We are very proud that last year he was able to take part in our conference for the occasion of one hundred year anniversary of our Faculty and he presented excellent plenary paper.

On behave of Faculty Staff of Faculty of Agriculture and Biology we would like to inform you that a special medal has been printed on the occasion of our Jubilee. This medal is offered to friends of our Faculty. During a special meeting of Faculty Staff we decided to offer one copy of this medal to dr Frame. He was a great friend of Polish people, he helped us in some scholarships offered to young Polish scientists and first of all he had a great personality. It is also an occasion to thank you for excellent donation. The private collection of dr Frame's grassland books and journals is now very useful for our workers and students in our Faculty. It will be a great honor and our pleasure if you accept this medal given your husband for his efforts for international friendship between nations. His activity and efforts will be never forgotten.

**With personal wishes and very kind regards**

Dean Of Faculty Prof. Jan Labetowicz	Head of Agronomy Department Prof. Andrzej Radecki	Head of Grassland Division Prof. Piotr Stypiński
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## SWSGS EVENING FARM VISIT 2006 – AYRSHIRE

G E D Tiley

Visit to **Mid Foulton, Tarbolton, By Ayr** on 27 July 2006

*(By Invitation: J & M Sommerville)*

On a fine evening during the warm sunny summer of 2006, the Society visited the equestrian enterprise of J & M Sommerville at Mid Foulton, situated in the hinterland of Ayr and Kilmarnock.

Originally rented by his father in 1927, Mid Foulton had been farmed by **Jim Sommerville** as a traditional dairy from 1964 until 1980, when his son Billy married and moved into the farm. A local market opened up for the provision of fodder for horses and the business was built up gradually, based mainly (95%) on the production of haylage for sale. Latterly, some of the buildings have been converted to 14 loose boxes for horse liveries, both rented and self, under the management of **Sheila Thom**. Grazing was made available for horses after haylage and hay cropping, and in rotation with cattle and sheep. One field of permanent pasture was available all year. Fodder was conserved predominantly for haylage, 2 crops in big bales. There was the flexibility to cut for hay in favourable summer weather. In 2006, 9000 bales of hay had been made. It did not pay to grow barley.

The grass must be cut at the flowering stage for haylage, being cut, turned and baled over 2-3 days. A conditioner was not used. Long grass stems were required and the bale must be packed tightly for good preservation. An additive was sometimes used though this did not always agree with the horses. In 2006 a special forage additive SILO-KING imported from USA was used while baling hay, to prevent sweating, heating and the development of dustiness in storage. Haylage bales were stacked outside, on end to allow drainage of rainfall. Damaged bales, previously given away, were now fed to the 40 store cattle. Only cattle FYM (not slurry) was applied to the swards, together with 500 kg ha<sup>-1</sup> 21:21:21 for the first cut and 250 kg for the second. The fields were kept free of docks as the horses disliked these. Every spring 12kg grass seed were harrowed in to maintain a high Italian ryegrass content. The hedges were trimmed by flail in late autumn and some increases in wildlife had been observed.

The Sommervilles found there was an expanding market for horse feed and were looking for areas of grass outside the farm's 47ha to increase haylage production. Sykes Farm, Symington was purchased in 1980 and now housed a very successful retail outlet for the haylage and hay, together with other small animal feeds and products. Straw and haylage were rebaled for sale in small bales.

In the horse livery management, grazing was restricted to half a day to prevent over fatness. Haylage was then offered in the stable plus dry feed, which was reduced in summer, except for competition horses. The haylage could be too rich, especially early in the season and was then replaced by hay. Silage was too wet unless there was straw bedding. Liveries were restricted to 14 so as not to employ labour. Owners mucked out themselves in self-liveries, though standards were variable. An outdoor arena was bedded with silica sand in which dung droppings gradually disappeared, though a perimeter screen was necessary to stop the sand being blown by the wind. An indoor arena would attract very high local council rates.

The Society is very grateful to the Sommerville family and Sheila Thom for the privilege of this visit to see an alternative, highly profitable use of grass.

### **TARFF VALLEY LTD**

#### **New Agri-Country Store at Dumfries**

Tarff Valley Ltd, the well established farmer-owned cooperative which operates throughout southern Scotland, is constructing a new depot at Dumfries. The new depot, which is being built on a greenfield site adjacent to the Dumfries bypass will be very accessible and will incorporate the following facilities:

- Bulk Straights and Blended Feed Collection
- Bagged Feed Store
- An extensively stocked shop providing a range of products to include the following:
  - Animal Health Products
  - Pet Food
  - Building Materials
  - Dairy Spares
  - Grass Seed
  - Clothing, Workwear
  - Footwear
  - Fencing Materials
  - Hardware – Brushes, Shovels etc

## **MANAGING GRASSLAND FOR HORSES**

**Kara Craig, SAC Farm Business Services, Auchincruive, Ayr**

British Grassland Society Workshop, 3 April 2007, held at Warwickshire  
College of Agriculture, Moreton Morrell, Warwick

This was a workshop for farmers, equine owners and business managers sponsored by Dow Agro Sciences and Oliver Seeds. The main aim of the day was to provide important information on managing an equine business whether as a livery yard or in the production of conserved forages for horses. There were 5 main speakers providing valuable knowledge to a large group of farmers, consultants, and equine enthusiasts. Topics discussed during the day included livery client expectations, horse health with particular reference to helminths, grazing management and conserved forage production. Break out discussion groups moved outside to nearby horse fields to look at the management of grass, fencing and machinery at the College and many practical points were raised.

The backdrop for the workshop was the equine unit at Warwickshire College where the main focus is student education. There were 120 horses based on around 40ha and these were managed by the equine students and full time equine staff. The equine unit was part of a large agricultural enterprise based on approximately 400ha where over 200 dairy cows, 650 breeding sheep (commercial and pedigree), 22 suckler cows and a fattening pig unit were managed. In addition, 40ha of maize, 30ha spring barley, 2ha fodder beet and some 150ha of forage were grown. Labour on this unit comprised 1 farm manager, 2 dairymen, 1 beef/sheep stocksman and a part time secretary. All field work for the equine unit was managed by the farm staff which, in the opinion of the farm manager, Richard Price, was the only way to manage the land effectively to a good standard. The experience farmers have in land management and the availability of appropriate machinery are assets and there is scope for farmers to tap into an expanding equine industry by running livery yards or producing conserved forage for a local market.

While the basic principles of grassland management are the same for both horses and farm livestock, important points to note from the day included choice of equine specific grass varieties, reduced use of fertiliser, fencing construction and conserved forage production. A common point of discussion was the damage that horses cause to grass swards and soils which was seen throughout the countryside and could be attributed to overgrazing and inadequate grassland management. This was easily resolvable with advice and help from farmers and agricultural consultants. The BGS is considering holding a similar meeting in Scotland to develop grassland management skills further in farmers, horse owners and managers.

## SWSGS SUMMER FARM VISITS IN DUMFRIES 2006

G E D Tiley

*Visits by SWSGS to **Dalfibble, Parkgate** (By invitation: John Mackie & family) and **Barony College, Parkgate** (By invitation: Principal Russell Marchant and Farm Manager Jeremy Hockin), 24 August 2006*

Visits sponsored by **Fullwood Packo Group**

To the sound of a low flying jet 'plane, an enthusiastic group of SWSGS were welcomed to a morning visit to **Dalfibble**. The Mackie family had been tenants of the Buccleuch Estate from 1898 and the farm was bought by John's grandfather. John was SWSGS and Scottish Silage Champion in 2005 and went on to represent Scotland in the UK National Grassland Management Competition. Land at the farm had been a former flood plain of the River Ae, and was level and easily worked. There were 160ha, 20ha being for wholecrop barley, plus 40ha rented for additional silage. The enterprise aimed for maximum production of milk from paddock grazing and highest quality silage. New developments taking place included conversion of an indoor silage clamp to cubicle housing, resiting the clamp outside, use of woven plastic clamp covers, automatic calf feeder and installation of cow tracks. The rented silage fields were 13 miles distant and involved a £25 ha<sup>-1</sup> additional cost for transport. Cow breeding policy used high type bulls and a 12.5% cull rate. Calving was mainly in July to take advantage of milk price and to make better use of grazed grass. Milk yields were 8,000 litres. The 16/32 Alfa Laval parlour milked cows at 80 hour<sup>-1</sup> with one man. Transponders allowed individual cow recording and high yielders could receive buffer feeds before going to grass. Milk yields were being maximised to reach financial objectives. Alternative forages such as maize, fodder beet and wholecrop had been tried, but were unable to produce sufficient yields. Fodder beet also required a lot of time in washing and chopping. Most of the machinery operations were carried out by farm staff, who were sometimes available for outside work.

A visit to the paddocks showed the newly installed cow tracks, made by scraping away the topsoil, flattening the knowes and placing a layer of fine gravel obtainable on the farm. This was pressed down firmly to give a very solid base on which a purchased bark covering was spread. The cows tended to walk along the soft edges. The paddocks were set stocked by strip grazing using a back fence. The fields were walked twice a week to aim for fresh grass at each grazing. All fields were mowed or topped after the first two grazings to encourage good grass growth for the rest of the season. Fertiliser was applied fortnightly to give 2.5 kgN ha<sup>-1</sup> day<sup>-1</sup>. The silage fields received 115 kgN ha<sup>-1</sup> for first cut, 90 kg for second cut and 60kg for third cut. Slurry was spread by an

umbilical system throughout the spring and summer, each application followed by soil spiking. All grass was harrowed in spring. First cut silage was cut early for high quality with some sacrifice of yield. Every 2 years 20ha were reseeded to late perennial ryegrass following 2 years of barley, allowing control of weeds. Persistent docks were spot treated with Doxstar. The grassland wintered sheep from November-January. As weighting silage clamp covers with tyres may become socially unacceptable, Secure Covers green polyethylene covers were being tried. This resulted in considerable time-saving at sheeting up and were easy to walk over. A new automatic calf feeder was demonstrated by **Mervyn Turkington (Brit Milk)**. This allowed programming of up to six different combinations of milk composition and frequency of feeding by electronic control and associated collar bands on the calves. Output temperature of the milk was controlled at 55°F regardless of ambient temperatures.

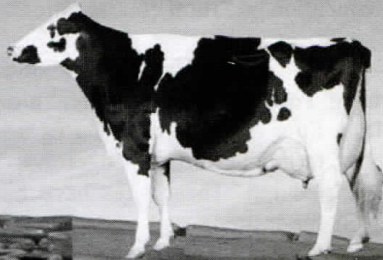
**Barony College.** Following a sandwich lunch at the College refectory, the Society toured the newly constructed Dairy Building at the College Farm, under the guidance of lecturer **Adam Wardrop** and Farm Manager **Jeremy Hockin**. The new Dairy Unit was designed to be the best in Scotland for demonstration and teaching, at the same time being commercially viable. A 42.5% European grant and support from the Funding Council had been received toward the total cost of £1.3million. Milking was scheduled to begin one week after the visit prior to official opening by HRH Princess Anne on 20 September 2006. The Unit comprised a spacious, tall cubicle house, 70m x 30m with accommodation for 260 cows, a 24/24 herringbone parlour alongside a robotic unit for 60 cows, a processing building and a state-of-the-art calf building. The unique combination of a parlour and robot incorporated the latest technology from **Fullwood** and was intended for teaching and potential trial work. In the cubicle house large counterbalanced gate barriers were fitted to control cow movements. A 30cm depth of silicon sand would be used in the cubicles and rubber mats from Poland placed in the wide passageways. The processing unit would be available for short term trials, eg: by MDC for cheese making. The new 4-bay calf building would provide a totally enclosed environment under a negative air pressure achieved by continuous suction and with controlled temperatures. A 2.27 million litre slurry lagoon would be required close to the Dairy Bilding.

Farm Details for Barony College were: area: 220ha; including 158ha mainly temporary grass, 26ha wholecrop barley; 20ha barley for alkalage; 16ha forage maize. Stock: 150 pedigree Holstein averaging 10,200 litres, aiming for 300, plus 150 followers; 20 pure Aberdeen Angus sucklers, plus 35 for finishing; 300 Greyface and Greyface x Texel ewes, 75 red deer. 2.8t concentrate were fed per cow.



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## DUMFRIES AND GALLOWAY FWAG PROJECTS

**Wendy Fenton AIEEM, Farm Conservation Adviser, Dumfries & Galloway FWAG, Kirkgunzeon**

2007 was a momentous year for us as FWAG Scotland became an independently registered company limited by guarantee, with charitable status. FWAG Scotland will continue to provide professional advice on all environmental concerns for Scottish farmers. Steve Hunt stated "there is a need for the public to understand the role of farming and we are strengthening our role in delivering that goal. Farmers have a big role to play in sustainability.....our core values are the environment, education and rural communities."

Over the past few years Dumfries & Galloway FWAG have been running a project '**Working Towards Best Practice**' aiming to demonstrate best practice for farm wildlife. Four demonstration farms were set up in which conservation management for farmland birds, hedgerows, wetlands and sustainable farm drainage was carried out. These sites have been regularly visited by farmers across the region for training and open days and have created a great deal of interest. Work carried out included hedge restoration, tree planting, birds cover crops, pond creation and a constructed wetland site. The wetland and pond were created specifically to deal with mildly contaminated steading runoff. Many more constructed wetlands have now been designed and these are often good ways to deal with slightly dirty water, particularly where tank volume is an issue. It is likely that this will be an option under the new Rural Development Contracts. Surveys were carried out in the Dee/Ken catchment, led by SEPA, to gauge the condition of a range of wetland types and a number of scarce species were discovered. Two very well attended open days were held: one on Cogarth Farm, Crossmichael (by kind permission of Messrs. Nelson) included a tour around the wetlands on the farm, with input from a range of experts in wetland management. The second was held in a hotel, due to foot and mouth complications, and took the form of a virtual farm walk with presentations from a similar range of experts. A Wetlands Management leaflet is currently in production for farmers and landowners and it is hoped that some capital work will take place during 2008. More details are available from the D&G FWAG office.

Another project, '**Linking Sustainable Farming, Tourism and Biodiversity**' works with farms that have diversified into tourist accommodation. A Farm Wildlife Box, full of information on the farm and its wildlife, along with an annotated Farm Trail for visitors staying at or visiting the farm is provided to each farm. The intention is to increase both the enjoyment of a visitors' stay and their understanding of how farming practices help to maintain the countryside. Farms from across the region have joined the project and are of varying sizes and



Members of Dumfries & Galloway FWAG on the Wetlands Open Day at Cogarth, Parton, Castle Douglas (J & A Nelson),  
25 July 2007

enterprise. All are happy for their visitors to walk around a farm trail and are delighted with the information contained in the boxes. Visitors have enjoyed using the boxes; which contain sheets for children, range from farm pictures to colour to crosswords, a list of objects to look out for while on the trail; a book and ID charts help to identify plants or animals plus information sheets. All the farms involved have diversified into farm tourism, some only in 2007 and have found the boxes a great addition to the service they can offer their visitors. Information on the farm enterprise is supplied, in the form of a calendar of the four seasons, to help the visitors make the connection between the food they eat and its source. As was said by one farmer: "This initiative by FWAG will help us promote our policy of using fresh local produce and will assist our visitors to have a better understanding of how and where their beef and lamb comes from. I feel strongly that developing "agri-tourism" at a local level can have a significant benefit in providing the general public with a better understanding of the natural environment from which their food originates, the quality standards applied to rearing animals and ultimately the benefits of sourcing food locally". Along with provision of the boxes, there have been a number of farm walks and biodiversity training days which have been successful in getting the participants together to swap information and experiences and to reinforce how biologically diverse the region's farmland is and how important it is for wildlife. Funding has come from The Scottish Government (Sustainable Action Grant), Scottish Natural Heritage and Leader+ (European funding). If you would like more information on this project please contact D & G FWAG, details below.

2008 will see the launch of the **Rural Development Contracts** and presentations on the scheme were to be made early in the year. There will be many more questions over the coming months but basically this replaces past schemes like the Rural Stewardship Scheme and is a distinct change in concept. More emphasis is now on delivering public benefit, on outcomes rather than prescriptive requirements and on collaborative projects. FWAG will be on hand to guide you through the process of deciding which options will suit your enterprise, who you should choose to work with and how to go about applying for funding. We will be holding open days and work shops, so to find out more contact your local FWAG office:

**Dumfries & Galloway FWAG on 01387 760576**  
**or email: [dumfries.galloway@fwagscotland.org.uk](mailto:dumfries.galloway@fwagscotland.org.uk).**

**Ayrshire & Arran FWAG on 01292 525206**  
**or email: [tommy.loudon@fwagscotland.org.uk](mailto:tommy.loudon@fwagscotland.org.uk)**

**SWSGS SILAGE COMPETITION 2006**  
**Competition Evening of SWSGS, held in Woodland House Hotel,**  
**Newbridge, Dumfries on 1 February 2007**  
**G E D Tiley**

*Sponsored by Trident Feeds, Biotal Ltd, BP Agri Ltd, John Watson Seeds Ltd  
and Volac International*

**Silage Judge: Jim Brown, Gaindykehead, Airdrie**

A short AGM (the Society's 45<sup>th</sup>!) preceded the Competition prizegiving. Chairman Hugh McClymont summarised the Society's activities over the past year and expressed thanks to all host farmers, speakers at the meetings and for the generosity of our sponsors. He encouraged members to inform the Secretary of an email address wherever possible. Looking forward to 2007 he then initiated the evening's programme, beginning with a review of the 2006 silage season by George Jamieson.

**Silage Quality 2006 – George Jamieson, SAC Farm Business Services, Dumfries**

Having previously been a dairy farmer and a SEERAD employee, George had frequently used the SAC Advisory Services. Getting back to basics, as currently advocated by SAC, could help farmers in their business by indicating where costs could be reduced. He felt it was still difficult to encourage Scottish farmers to move forward. Many were quite happy to continue being average. However, in present conditions only the best will survive and it was necessary to strive for higher goals. He noted there had been a great improvement in silage quality in recent years, although there was a wide range in silage analyses (Tables 1 and 2). Many were still poor, the average was mediocre, the best were getting better. A lot of farmers had stopped doing silage and soil analyses. However, it was very important to monitor soil P and K levels regularly, more so at present when P and K levels were increasing, often to excess, due to slurry applications. In the case of P there was a potential risk of pollution. Nutrient budgeting should be carried out, calculating the amounts of N, P and K being applied, especially of N which was often used in excess. It was false economy not to have silage analysed when it would be of benefit to know what it was contributing to feeding by allowing a possible cut in concentrate costs.

**Silage Judge – Jim Brown**

Society Chairman, Hugh McClymont, introduced Jim Brown from Gaindykehead, who was well-known as a dairy farmer and for contributing regular articles to "The Scottish Farmer" over many years. He had recently switched to the beef

**Table 1 - SILAGE COMPETITION 2006 - ANALYSES MEANS****Overall Means - Grass Silages**

<b>Group (Number)</b>	<b>DM (%)</b>	<b>D (%)</b>	<b>CP (%)</b>	<b>ITF (C)</b>	<b>ME</b>	<b>NH<sub>3</sub> (% total N)</b>
All Dairy (76)	31.6	70.4	14.4	104.3	11.3	4.1
Beef/Sheep (11)	31.4	65.1	12.9	96.9	10.4	6.9
Big Bale (7)	40.7	62.6	12.9	96.9	10.1	5.4
<b>Dairy</b>						
Ayr (27)	33.4	70.5	14.5	105.3	11.3	5.1
Dumfries (19)	31.1	70.5	14.5	107.0	11.3	3.4
Kirkcudbright (16)	30.3	70.2	14.8	102.9	11.2	3.9
Wigtown (14)	29.9	70.1	13.7	100.6	11.2	5.8

**Wholecrop, Maize and Alkalage Silages**

<b>Group (Number)</b>	<b>DM (%)</b>	<b>pH</b>	<b>D</b>	<b>CP</b>	<b>Starch</b>	<b>ME</b>
Wholecrop (8)	39.1	4.4	66.0	9.4	5.3	10.6
Maize (8)	31.3	4.0	72.3	8.4	31.8	11.6
Alkalage (5)	78.5	7.1	68.4	11.2	33.5	10.8

industry and developed interests in catering. Jim replied that he had been very pleased to accept the invitation to judge silage in south west Scotland, which he termed "God's own country"! He had previously judged silage here 30 years ago (1977) and had thoroughly enjoyed it. He remembered clearly that the winner then was Alex Irving, Largs and Chairman, Tom McCreath, Garlieston Home Farm. He considered that the local Grassland Societies were of great benefit to farmers, who ought to go outside their march fence to see what they should be doing. Jim reminisced that it was 50 years ago since he first made silage, his father having been a friend of Alec Paterson, the first person to make silage in Scotland. The recipe then was the same as today: "Cut in dry, shift it dry, as quick as you can and roll it hard".

On some of the SWSGS farms he had just visited the analyses figures seemed to be "miles off beam", particularly DM, N and D-values, when looked at in relation to the actual textures and performances. Did the sampling procedures need checking? The 3 Beef/Sheep farms he found very impressive and all very close in marks and all trying to develop their systems to cater for future markets. The easy-care Angus-Hereford cow on one farm might be the way ahead. Among the 9 dairy farms, size and system were the biggest variables, with silages not differing greatly. The 3 winners were all excellent, each with a different set of challenges. The winner – Brian Harvey – had one of the tidiest, best kept and well managed farms he had seen for a long while. Milking was 3 times daily and a balanced ration – very close to perfection! A full list of prizewinners and short leet farms inspected is given in Table 3.

**Tony Simpson**, representing **Trident**, the evening's main sponsor, congratulated all prizewinners. With a shrinking sugar beet crop, Trident had sought a product which could make farm work easier. It had therefore linked up with Thomas & Fontaine Ltd to promote the polyethylene Secure Covers. A Carlisle farmer had commented that these should have been around 20 years ago! Handling tyres is dirty and laborious, with a potential hazard from the wires getting into the feed. In addition, the new EEC Water Directive requires farmers to be officially registered to have tyres on the farm, so Secure Covers gives an opportunity to reduce admin and paper. In mode of operation, the normal black polythene sheet is covered by a Secure Covers polycover which is the densest and heaviest cover on the market. It does not tear if punctured, nor does it fray at the edges, unlike some polycovers which require a hem to stop fraying, and it can be cut with scissors. There is a 7-year warranty, world-wide. In the UK it lasts 12-15 years before UV downgrade and there is a 6-month take-back guarantee. The top of a clamp is curved and a tension across the surface is essential, allowing a 0.5m overlap at the sides. Gravel bags (made of plastic netting) should be used to weight down the edges.

**Table 3 – 2006 Silage Competition – Short Leet Entrants**

<i>Prizes</i>		<b>Marks</b>		
		<i>Analyses</i> (35)	<i>Inspection</i> (65)	<i>Total</i> (100)
	<b>Dairy Class</b>			
1st & SWSGS Rosebowl	B Harvey, Nether Keir, Auldgirth	28.3	65.0	93.3
2 <sup>nd</sup>	B Yates, East Logan, Haugh of Urr	30.5	62.0	92.5
3 <sup>rd</sup>	J McFadzean, Towerhill, Kilmaurs	32.6	59.0	91.6
Michael Milligan Prize	N Rowney, Burnton, Crosshill, Maybole	28.8	60.0	88.8
Best New Entrant	M Boyd, Hillowton, Castle Douglas	32.4	56.0	88.4
	J Walker, Barwinnock, Whauphill, Newton Stewart	25.9	61.0	86.9
	W Gribbon, Waterside, Dumfries	31.1	55.0	86.1
	R Kerr, Merkland Wells, Lochfoot	29.4	56.0	85.4
	M McCreath, Home Farm, Garlieston	27.6	56.0	83.6
	<b>Beef/Sheep Class</b>			
1 <sup>st</sup> & BP Trophy	R Parker, Drumdow, Kirkcolm	25.3	62.0	87.3
	A Nelson, Cogarth, Parton	21.5	63.0	84.5
	C Scott, Bankhead, Dalswinton	21.5	58.0	79.5
	<b>Big Bale Class</b> (on analysis)			
1 <sup>st</sup>	Barony College, Parkgate, Dumfries	21.1	-	-
	<b>Best Silage in County</b> (on analysis)			<i>Analyses (35)</i>
Ayrshire	J McFadzean, Towerhill, Kilmaurs			32.6
Dumfries	W Gribbon, Waterside, Dumfries			31.1
Kirkcudbright	M Boyd, Hillowton, Castle Douglas			32.4
Wigtown	M McCreath, Home Farm, Garlieston			27.6
	<b>Best Wholecrop Silage</b> (on analysis)			<i>Marks</i>
Biotal Prize	M & J G Dunlop, Bishopton, Kirkcudbright			49.3%
	<b>Best Maize Silage</b> (on analysis)			
Nickerson Prize	P Simpson & Sons, Culscadden, Garlieston			58.7%
	<b>Best Alkalage Silage</b> (on analysis)			
Volac Prize	D W Crichton, Rue, Dumfries			47.3%

**Best New Entrant** prize donated by **John Watson Seeds Ltd**

1<sup>st</sup> **Dairy, Beef/Sheep** and **Big Bale** winners also received cash tokens

donated by **BP Agri Ltd**. The prize for the Best Photograph was won by **Andy Best, Castle Douglas**



Table 2 - FREQUENCY DISTRIBUTIONS (%) 2006

	Bale	Beef/ Sheep	A	D	<i>Dairy</i> K	W	All
<b>No of Entries</b>	7	11	27	19	16	14	76
<b><u>D-Value</u></b>							
>75	0	0	7	0	18	0	7
70-75	0	18	41	53	19	36	38
65-70	43	36	44	42	44	50	45
60-65	29	37	8	5	19	14	10
<60	28	9	0	0	0	0	0
<b><u>DM</u></b>							
>40	14	0	15	16	19	0	13
30-40	86	64	48	32	25	57	41
25-30	0	18	33	31	19	29	39
23-25	0	9	0	11	25	0	8
20-23	0	9	4	10	12	14	9
<b><u>CP</u></b>							
>18	0	0	4	0	6	0	3
16-18	0	9	11	11	6	7	9
14-16	29	9	41	58	57	14	43
12-14	29	55	44	31	31	79	45
10-12	28	18	0	0	0	0	0
<10	14	9	0	0	0	0	0
<b><u>ITF (C)</u></b>							
120-125	0	0	4	5	0	0	3
110-120	0	0	19	32	19	0	18
100-110	43	45	44	47	37	50	45
90-100	43	37	33	16	44	43	33
<90	14	18	0	0	0	7	1
<b><u>Ammonia-N</u></b>							
<4	43	18	44	52	56	29	46
4-7	29	37	30	32	25	43	32
7-10	14	18	19	16	6	7	13
10-15	14	18	4	0	13	14	7
15-20	0	9	0	0	0	7	1
>20	0	0	3	0	0	0	1
<b><u>ME</u></b>							
>12	0	0	8	0	25	0	8
11.5-12.0	0	9	15	32	6	36	21
11.0-11.5	14	9	48	42	25	36	49
10.5-11.0	29	27	22	16	25	7	18
10.0-10.5	0	18	7	10	13	21	12
9.0-10.0	43	37	0	0	6	0	1
<9.0	14	0	0	0	0	0	0

Disposal of discarded tyres can be through a Secure Block machine which compresses 100-180 tyres to a 30in x 50in x 60in (75cm x 125cm x 150cm) 1-tonne block and tied with a steel band at a cost of £92 per bale, reduced to £68 if a polycover has been purchased. This was demonstrated at Scotgrass '07.

### **Judge's Farm – Gaindykehead, Airdrie**

Jim Brown, silage Judge, looked back over 50 years of change. On 2 June 1964 he started milking at Gaindykehead with 25 cows, in partnership with the Clydesdale Bank. The Springwells Holstein herd was developed and a photo was shown of 3 home bred cows which had won at both the Highland and Royal Shows in the same year – a unique accolade not achieved previously or since. Since 2001 2.2ha had been under cover, with plans for increasing this. Until this year, the farm had always made the silage themselves with a 5-man team but they had now changed to a contractor. Tyres were still used on the clamps though Jim acknowledged handling tyres was not a pleasant job. Beef was started in 1985 on a second all-grass farm. A local cemetery here was the source of a problem with floral tributes being blown onto the silage field so that a wire detector had to be used when lifting silage. From original slats straw bedding was now preferred. Sheep were grazed from September to late January. Large amounts of slurry (550,000 litres month<sup>-1</sup>) were applied resulting in excellent crops of silage. 1400 animals were marketed to butcher shops in 2006, aiming for 2000 in 2007. Stock was bought in selected from the market ring and fed daily on 7kg silage and 40kg reject potatoes from a local processing plant. All costs were carefully trimmed in an expanding turnover.

Jim had enjoyed farming which he felt was better than being stuck in traffic every day. His family had embarked on a new challenge of corporate catering in the 'Country Flavours' company. This provided high quality hospitality for firms such as Scottish Water and Tarmac as well as family celebrations. Home-produced meat and local foods were used aiming to 'do that little bit better'. Publicity was by word of mouth and profits were set to exceed those from 1.3 million litres of milk within 5 years. Jim also felt strongly that non-farmers should be welcomed onto the farm. He had received an average of 600 visitors annually for the past 20 years until the Foot & Mouth outbreak. He ended by exhorting the audience 'not to be isolated but to get folks onto the farm and look at opportunities'.

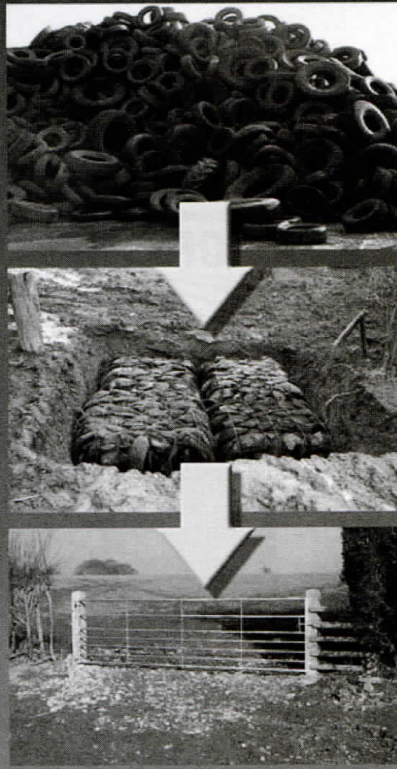
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## SCOTTISH SILAGE COMPETITION 2007

### BGS Scottish Silage Trophy

Dr Ron Harkess, OBE, Perth

The annual silage competition for the British Grassland Society's Scottish Silage Trophy has been won this year by John Sim, Rorandle, Monymusk, Aberdeenshire. The competition is organised by the four local grassland societies and SAC, along with the Scottish representative on the BGS Council: formerly Iain Taylor of Gowanwell, Turriff and currently Michael Shannon of Thankerton. The finalists this year were Willie and John Paul, Kinninmonth, Leslie (East of Scotland Grassland Society), Jim Baird, Nether Affleck (Central Scotland Grassland Society), John Sim, Rorandle (North of Scotland Grassland Society) and Brian Harvey, Nether Keir, Auldgirth (South West Scotland Grassland Society). The overall quality of silage was down on last year which was particularly good for silage, but to reach the final four out of an initial entry of over 150 farms is a considerable achievement. So well done! to the finalists and thanks to everyone who participated.

The finalists were dairy farms apart from Rorandle, a beef unit. Kinninmonth has a herd of 150 Ayrshires with over-wintered ewes on an open site on medium to heavy soils lying to the west. Nether Affleck carries a 140-herd of black and whites on sandy loam soils with a northern aspect and the steading is undergoing further development. Nether Keir is on medium loam facing east and carries an expanding herd of 100 cows, milked three times a day, plus a flock of 70 Texel and Charollais ewes with further ewe lambs bought in and sold on as gimmers. Summer grazing from May to August is limited between 1pm and 9pm each day. Roandle is a north facing unit on clay soils and carries 170 beef cows with spring and autumn born young stock carried through to market weight. These brief farm descriptions illustrate the diversity of the enterprises concerned and in part account for this year's competition being the closest contested championship in the past ten years. Each farm system would have been a worthy winner, each with good quality silage for the system practised and each had efficient feeding systems to make full use of the quality silage available. The final scores were: Rorandle 81, Nether Affleck 80, Kinninmonth 77, Nether Keir 72. Congratulations to John Sim of Rorandle who wins the silver trophy and to Jim Baird of Nether Affleck, the runner-up. Well done! too, to Willie and John Paul at Kinninmonth and Brian Harvey at Nether Keir for their good scores in this closely fought competition.

**Personal Footnote:** I have had much pleasure from my involvement with the BGS Scottish Silage Championship over the years and especially as the judge for the last 12 years. The welcome and hospitality received from so many farm businesses over the years has been most rewarding and much appreciated – sorry you could not all be winners!

**NOTES FROM THE ISLE OF MAN 2006-2007**  
**Caroline L Perry, Secretary, Manx Grassland Society**

**19 July 2006** Farm Walk to **Ballateron Moar Farm, Ballaugh** (*Courtesy: Edgar & Barry Cowin*). Most of the 100ha farm was in temporary leys for grazing and silage, sown to Red Circle and Silver Circle mixtures (Nickerson) respectively. There were 12ha maize, 6ha winter barley, 5ha triticale wholecrop and 6ha Spark winter wheat, the grain contracted to Laxey Glen Mills. 104 Holsteins were milked in new automatic units, aiming to increase to around 145 cows. AI, selected for improved traits, was used on the best cows, the remaining cows plus heifers put to Blonde d'Aquitaine. Slurry was spread when weather permitted during the winter, on grazing land to the end of January, on silage ground to late February; then on maize fields with FYM up to planting and on silage aftermaths in June. In addition, grazing land received 192kg ha<sup>-1</sup> early bite in February, 250kg ha<sup>-1</sup> 34.5%N in March and in May. Silage ground received 442kg ha<sup>-1</sup> Multicut with sulphur; maize received a 250kg ha<sup>-1</sup> diammonium phosphate starter at planting.

**12 January 2007.** The Annual presentation of awards for the Manx Society's competitions was held at the King Edward Bay Country Club, Onchan. Silage Judge was Stuart Yarwood, from Congleton, Cheshire (see BGS Summer Visit, p 23) and his wife, Steph, presented the prizes. Silage winner was Derek Cain, Glendoune, Port St Mary ( 85 cows), with Andrew & Sue Sanders, Ballalough, West Baldwin ( 400 cows), runners-up. Prizes were also awarded in 13 other big bale, hay, maize, wholecrop and management classes.

**13 February 2007.** Dr George Fisher, past president of the BGS, gave a talk on farm life in Eastern Europe. He stressed that British and Manx dairy farmers had huge opportunities with the advantage of growing grass cheaply compared with countries that had long winters.

**6 March 2007** Visits to **Ballavarry** and **Ballabane Farms, Andreas**, both made up of two-farm units. **Ballavarry** (*Courtesy: Tim & Mary Johnston*) was a 158ha tenanted dairy enterprise of 190 Holstein cows with a new Fullwood 16/32 parlour and cubicle housing incorporating mattresses and sawdust bedding. Rainfall was 750mm (30in). Grazing grass (40ha) was mainly Red Circle medium-long term leys. Silage (40ha) consisted of young leys, two thirds being a 2-year Italian and red clover mixture, all big baled. Feeding was TMR, grass maize and wholecrop silage with pellets. Slurry applied all year using a 10,000 litre Joskin disc injector. **Ballabane** (*Courtesy: Sandra & Allan Jones*) was part of a 2-farm beef/sheep business, totalling 152ha. Having sandy soils, Ballabane allowed earlier turnout from the 120 suckler herd housed there. Heifers were also finished here, the bulls

finished entire at Leodest farm. The latter is on heavy clay well suited to grass production and provided the bulk of the 2000 silage bales. 12ha triticale were also grown for wholecrop. 170 sheep provided early lambs, helped control weeds and led to more efficient grass management. A lunch time meeting between the farm walks elected Ashley Kinvig, dairy farmer at Ballakissack, as the new Society Chairman.

**31 March 2007.** **Ian Quayle** gave a slide show of Manx Grassland Society events 2005-2006 at **Ballakilly Farm, Lonan** (Courtesy: Sue & Stephen Goody).

**19-20 June 2007. Manx Society visit to Northern Ireland.** A dozen members of the Manx Grassland Society paid a 2-day visit to 3 farms plus Greenmount College in Northern Ireland: **Narrow Water Castle, Warrenpoint, Co Down** (Courtesy: *Marcus & Lisa Hall*), a 130-suckler beef farm on 120ha, with a recently opened farm shop. Outdoor pigs have just been started to supply the shop. **Glastry Farm, Kirkcubbin, Newtownards** (Courtesy: *Will, Cynthia & Gareth Taylor*). 220 Holstein-Friesians on 64ha and 48ha rented on the Ards Peninsula, with 22ha maize giving an integral part of the dairy ration. Will has been tireless in trying to promote the agricultural industry and is setting up an ice-cream and diet retail business. **Carse Hall, Limavady** (Courtesy: *Thomas Craig & family*) Winner of the UK National Grassland Management Competition in 2006 and SWSGS Silage Judge in 2005, Tom farms in partnership with father and brother on 177ha reclaimed land near Lough Foyle, some below sea level. 150 Holsteins have lucerne, wholecrop and crimped cereals in their diet. Extensive tree and hedge planting has taken place. At **Greenmount College, the Farm Development Centre** with 180 dairy cows, 200 ewes and 30ha crops, the **Livestock Development Centre**, with 50 sucklers, 200 finishers plus 110 sucklers and 1100 ewes on a 1000ha hill farm and the **Organic Unit** – 36ha lowland, 25 sucklers, 75 ewes and 4ha crops, were seen.

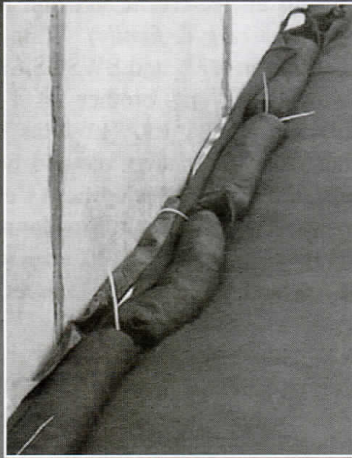
**17 July 2007. Ballakissack, Santon** (Courtesy: *Ashley & Sandra Kinvig*) has 130 cows on 80ha of free draining land. The herd has been upgraded through bulls selected from Canada, USA and Europe and produce frequent winners at local shows. Milk yields were approaching 10,000 litres. Slurry is now spread through an umbilical system in winter onto silage ground, which gives 3 cuts from 20 May onwards, after a light February grazing. Grazing fields are top-dressed regularly through the summer after urea in December/early January ready for turnout in late February. Grazing lasts until mid-November; silage buffer is fed at the start and finish of the season. Calves are reared at a second farm, Ballaglonney, where there is a small suckler herd and 40 Blackface ewes.

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## The simple way to save silage



**“MY FUTURE FARMING”**  
**Panel Evening of SWSGS – Kirkcudbright 2007**

**Marcus Maxwell, Viewfield, New Galloway**  
**Sam Carlisle, Nether Dargavel, Dumfries**  
**Ronnie Wilson, Mayfield, Castle Douglas**

At Urr Valley Country House Hotel, Castle Douglas on 1 March 2007

*Meeting sponsored by **Horizon-Finney-Lock Seeds Ltd** in association with **AF Pickles & Son, Ayr***

The 3 members of the Panel, with respectively Sheep, Beef and Dairy enterprises in South West Scotland, gave their views on the Farming Future as they saw it.

**Marcus Maxwell** ran a large scale (2000-ewe) sheep enterprise with an easy-care approach, plus Angus cross sucklers under an organic system on 572 ha in New Galloway (see Farm Visit, p 10). He had been declared Farmers Weekly Sheep Farmer of the Year in 2005 and had also won a Silver Lapwing award for his encouragement of wildlife. In a brief summary, he wanted to identify ‘where we are and where we wanted to be’. Trying to learn from New Zealand which had lost their subsidies 1984-1986, he felt we should try to stand on our own feet and not be reliant on subsidies. He advocated respect for those who sell our produce – ‘the people who keep us in business’.

Marcus had started over 20 years ago and had gradually built up stock numbers to the present 2000 ewes, 500-600 hogs and 180 sucklers, with the aim to make life as easy as possible – ‘Let the sheep look after sheep!’ He believed that New Zealand genetics was the way ahead and that there was a place for organic farming. His ultimate aim was to be a ram breeder, selling around the UK and see how the flocks develop and grow. Rams (and bulls) would be sold privately not through live markets.

**Sam Carlisle** thought he could be regarded as an ‘Irish white settler’ who had chosen Dumfries for farming because it was near main centres and had a rainfall less than his former Northern Ireland farm. He had moved to Nether Dargavel in 2002. Farm area was 200ha, but two thirds was on sand which allowed outside wintering but was prone to grazing shortages in summer. Stock were 250 black Irish sucklers replaced by 35-40 heifers bought from Ireland each year. The breed was hardy, produced a good calf for up to 8 calvings and looked after itself. Calving was divided between spring and autumn. All calves plus 400-500 bought-

in stores were finished annually. A small flock of 150 Texels together with 400 store lambs in 2006 help to control ragwort and docks. Adequate silage was essential and one cut of grass was made in mid-June for maximum yield. Two crops of maize were taken from 24ha and the stubble area used for outwintering. Barley (30ha) was also grown. Looking to the future, a switch to more calving in the spring was envisaged.

**Ronnie Wilson.** For 35 years the main motivation was to ‘follow the money’ eg: 1) Milk price – changed contracts three times since deregulation; 2) Subsidy maximisation – leasing in quota. Options for the future that were considered but rejected: 1) Organic farming: it is a market not a solution, and could be considered a lifestyle choice, giving up the science of the past 50 years with uncertainty that you would make any more money. Organic farming will work better on an arable farm where you could grow your own grain, but it is not an option in this area. 2) Diversification: return on investment was very doubtful; 3) Selling land for development: this appeared to be the best option, if possible.

In commercial farming it had been more of the same for the past 10 years. To go forward it was often beneficial to look back. The last 10 years had been spent laying concrete rather than buying land and he had to get more stock to derive the same income. Silage was the key to the whole enterprise.

	Area (ha)	Cows	Silage Area	Milk Price (p litre <sup>-1</sup> )
10 years ago	320	410	320	26.8
5 years ago	400	570	560	22.1
2007	488	900-1000	900	19.2
	some rented			

The milk cheque had increased 43% in 5 years, 88% in 10 although milk output had increased 165%. The 10-year increase in turnover was 71%, profit increase 72%. Beef cattle were also fattened. “If you stand still you will go back”.

Topics in the discussion included environmental problems of increased slurry: NVZ and prevention of diffuse pollution may restrict dates of application which may not always synchronise with suitable weather. Less N being used, also lime for bedding cows which reduced the smell from slurry. Farmers’ markets were niche outlets not suitable for everyone and only a small proportion of produce could be sold.

Use of vaccines varied: Marcus had closed flocks and believed they should be challenged; Sam had no pneumonia because stock were kept outside; Ronnie vaccinated against *Salmonella*, BVD and *leptospirosis*.

For **pasture repair** Marcus direct drilled 16-20ha every year with the Aitchison to boost grass, and spread white clover with an Einbock in July. Sam did full reseeds with mid-late perennial ryegrass after spring barley in a 2 years maize/2-3 years barley/4-5 years grass rotation. Ronnie also did full reseeds after ploughing in FYM on 20-32ha after 2<sup>nd</sup> cut silage every year with 36kg ha<sup>-1</sup> diploid and late tetraploid perennial ryegrass, without clover which would be killed by dock sprays.

In conclusion, the future was seen by Marcus as either increase farm area and stock numbers or he could retire and pursue sports. Sam wanted to keep going the way he was and see more of his family. Ronnie felt family was the motivation and wanted his two sons to enjoy farming in the same way as he had.

Our main sponsors for the evening – **Horizon-Finney-Lock Seeds** generously donated 3 prizes for the evening's Free Prize Draw: 2ha Triumph Prolific grass mixture, 1.2ha Triumph Red Clover cutting ley and a bottle of whisky. These prizes were won respectively by: Marcus Maxwell, John McGarva and Stewart Bryson.

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## **GRASSLAND MANAGEMENT FOR HORSES**

**Kara Craig, Agricultural Consultant, SAC Farm Business Services, Ayr**

The UK equine population is in excess of 1 million horses and ponies all of which require accommodation, grazing, exercising areas and conserved forage. There is an ideal opportunity for farmers to diversify or utilise empty buildings for horses and provide a livery service to the equine industry. Furthermore there is the possibility of financial support for farmers to diversify into viable non agricultural enterprises such as livery yards or haylage production.

### **Livery Yards**

Farmers have extensive knowledge in managing livestock and grassland. So what extra knowledge is required to run a livery business? In the initial business planning stages it is vital to assess how many stables could be provided within the infrastructure of the farm steading. Stable area should be at least 3.6m by 3.6m and passages between rows of stables should be at least 5m. The number of stables constructed must be considered in relation to grassland and storage availability. Horses come with their own extensive wardrobe (including tack, rugs, mucking out tools, etc) as well as trailers and/or lorries so that adequate secure storage space is required as well as secure parking.

### **Horse Pastures**

The minimum standard recommended area of grassland for a horse is 1-2 acres (0.4-0.8ha), however a larger area will help to reduce damage to pastures through overgrazing and poaching and up to 4 acres (1.6ha) per horse would be preferable. Grazing can be provided as individual paddocks for one or two horses or as larger fields for horses to run as herds. It is preferred that horses are grazed in a group on good quality swards. Ensuring plenty of land per animal will provide more space and lead to less poaching and bullying. Overstocking results in poor swards and horses will congregate around gateways and fence lines with a risk of poaching and bullying.

Horse owners generally have limited knowledge of grassland management therefore farmers have an opportunity to make use of their more extensive knowledge and experience in managing grassland. However there are important differences between horses and farm livestock. Grass swards for intensive agriculture are too lush for horses. Ryegrasses are ideal for grazing farm livestock where live weight gain is important but horses cannot cope with the high levels of sugar which cause many problems including obesity, laminitis and gut ulcers. Fibre is essential for feeding horses and grass swards should contain a broad spectrum of plants, grasses and herbs, including timothy, creeping red fescue, smooth stalked meadowgrass, cocksfoot, chicory and dandelion. The right mix of species and adequate area per horse will

result in a better grazed field reducing the development of 'roughs' and 'lawns'. As in any grass swards, weeds should be eliminated and those especially harmful to horses include docks, ragwort and buttercup. Horse pastures made up of wildflower species are best fertilised with well composted agricultural manure. Bagged N fertiliser should be limited as this only encourages ryegrasses and horses do not respond well to high levels of nitrogen.

Pastures that are used predominantly for horses will require good care to prevent overgrazing, poaching and weed infestation. The basis of a good pasture stems from good soil structure which is affected greatly by overgrazing and poaching. Horses can readily damage the soil and this can be prevented somewhat by reducing the stocking rate. In addition mechanical intervention can be greatly beneficial to repair damaged land. Harrowing will remove dead grasses, level out poached areas and help to spread out dung. From a worm management perspective this is better done on a hot day so as to kill off any larvae and worms in the faeces. Aeration is a good tool to encourage better plant root systems and improve soil structure. Rolling will level out poached areas but care is necessary not to encourage soil compaction which will already be a problem from poaching.

Horses turned out during winter conditions can also damage grass fields: hoof marks, plant disease and winter kill of grass plants lead to more open grass swards. Reseeding horse paddocks is not often a choice for keepers of horses due to the lack of alternative grassland for grazing. Overseeding is a good alternative that will help patch up badly damaged fields and provide a dense palatable sward to contribute to horse nutrition. An application of a low N, high P and K fertiliser will help with root development and overall sward development. About 250kg ha<sup>-1</sup> is adequate.

### **Fencing**

Fencing and gates are an integral part of the grazing system and should be checked for suitability and safety. Rylock sheep fencing is not practical for horses. However when mixed grazing is practised, rylock fencing can be incorporated along with electric fencing. In any case, electric fencing is a preferred choice for horses. Damage to fencing can be considerable and similarly damage to horses from fencing is very common. Permanent electric fencing is a good long term investment.

### **Additional Facilities**

Provision of a well drained all weather riding arena is also an important feature of any livery yard.. This should be a minimum of 20m by 40m. Floodlighting would be an added bonus, and other amenities are important. Lighting, running water (hot and cold), electrics, toilets and notice boards are considered essential at livery yards. In addition the aesthetic appeal of a livery premises is also something to consider to complete the whole package.

## Horse Health

Horse health in a livery yard can be compromised through many factors. Lack of ventilation in the stables and worm burden from pastures are common causes of ill health. The grass sward plays a significant part in the life cycle of worms and for this reason a routine worming programme should be developed for livery yards when many different horses graze together. However, drugs must not be relied on as resistance to some types of wormers is becoming more common. Good pasture management will help to prevent the build-up of infection on the sward. Management features include mixed grazing with cattle and sheep (“bio-hoovers”), picking up dung daily and harrowing on hot days. Reducing worm burden can also be effectively managed by preventing overgrazing and poaching. A reduction in pasture quality will have a stressful effect on horses providing conditions more favourable to worm infestation.

## Conserved Forage

Forage is an essential part of the equine diet coming in many forms, including chaffs, hay and haylage. There is great opportunity for farmers to maximise business from the equine market by growing grass to produce forage for horses. The equine market for conserved forage extends throughout the year due to increasing numbers of competition and pleasure horses being stabled all year round. The local market should be assessed to see what customers require and although small bales are more traditional due to their ease of management there is a demand for big bales. Large round or square bales are seen to be more economical and less laborious for bigger equine units that have the machinery to cope with them.

A horse's diet is measured on the basis that a horse will eat 1-2% of its bodyweight, of which the majority of the diet should be forage based. Forage for most horses is generally fed *ad lib* for maintenance requirements and supplemented with concentrate feeds to provide energy for higher levels of work. However, concentrates are expensive and in general the workload of most pleasure horses in the winter is limited due to lack of light and bad weather. Therefore these horses should perform fairly well on forage alone if its quality is good. As in livestock farming, higher energy, palatable forage has a significant influence on the amount of concentrates bought-in to supplement performance therefore the demand for good quality forage is high and farmers can capitalise on this. Growing haylage should be second nature to farmers but some thought should go into the grass varieties used and what you will get out of the field in the long term. It is also important to know how long the ley should last and to choose the seeds accordingly for a good quality long term sward. The species yield and disease resistance are also factors to be considered. Product quality is affected by several factors including N use, crop yield, weather and species selection. It is important to look at all these when planning. Fertiliser applications should

generally be reduced to 50-75% of normal recommendations for agricultural grassland. Over fertilising affects forage quality including dry matter and it is vital to assess soil fertility regularly to ensure best nutrient practice.

New leys and winter swards are best managed with sheep. This will aid tillering in the first instance as well as helping to ensure that there is no old herbage carrying disease over to the spring. When producing haylage, it is often better to sow a larger acreage rather than going for the highest yield out of one crop. High fertiliser levels result in tall dense crops which may lodge. Heavy crops are also difficult to dry for haylage and hay and this could have an effect on the palatability and quality of the end product.

Grass species selection should be based on yield, persistence, energy density, protein, DM, ability to grow a second cut and ease of establishment. Fermentation is the key to good haylage and good sugar levels are required so that grass choice will have an affect on this also. Haylage is made from Italian ryegrass while hay is generally produced from timothy and cocksfoot varieties.

There are many factors for farmers to consider when thinking of diversifying into horses. Farms are generally ideal for horses due to availability of existing buildings, grassland and experienced land managers. Provision of grassland for horses has some differences to grass that is grown for agricultural livestock with particular emphasis on species selection. However the basic principles are the same. Farmers have great skills in getting the best out of grassland and with a demand for good quality hay and haylage throughout the year this is a great opportunity for farmers to diversify into a viable non-agricultural business.

**“THE GRASS IS ALWAYS GREENER”**  
**Producing young horses for racing in Ireland**  
**Claire Convery, Troon, Ayrshire**

If it's natural, quality grass you're after, Ireland rates highly; thanks to a simple mix of limestone-rich fields and above average rainfall. Ireland is a renowned producer of superior quality thoroughbred yearlings, from predominantly pasture based diets. If you don't have the luck of the Irish with soil type, climate and sward quality, what key grazing management practices can you implement to improve the forage based diet for the growing horse?

Young horses are highly selective grazers leaving some of the sward ungrazed or used as a latrine area. Established, older swards predominantly mixed with timothy, red fescue and cocksfoot are most suited, as these will be highly nutritious, palatable, provide excellent root anchorage and have prolific growth. High white clover levels should be avoided because the high nitrogen content causes kidney problems in foals and upsets their calcium balance. Nitrogen fertiliser is the most controversial of all the fertilisers for equine grazing. Too little an application results in poor sward growth, whilst too much results in luscious growth and severe problems with bone fusions, colic and growth checks in the growing horse. It is best practice to apply a split application (spring/autumn) of organic fertiliser at a rate of 20kg N, 10kg P and 10kg K ha<sup>-1</sup>. Rolling, harrowing and topping should all be carried out at the correct times, to ensure optimum sward growth, whilst minimizing reproductive growth and removing flowering heads before energy and protein levels of the grass decline sharply. It is important to note the unique difference from cattle and sheep in the role of grass for production. It is used not to fatten or finish the young horse, rather to build muscle definition and bone density. Optimum strengths of bone and muscle result in high performance levels of the adult race horse, and grass is the main building block for these factors.

So is the grass greener in Ireland? Maybe, but UK race horse breeders also enjoy a challenge and are always striving to match their quality and surpass the Irish by producing the next Derby winner on a grass fed diet!

**RHASS GOLD MEDAL FOR CLAIRE**

**Claire Convery**, 2006 winner of the SWSGS Vice-President's Prize, was awarded the prestigious **Royal Highland Agricultural Society of Scotland (RHASS) Gold Medal** for top HND in Agriculture marks overall in the whole of SAC in 2007. Claire received the award at the SAC Graduation Ceremony in Glasgow University, July 2007.

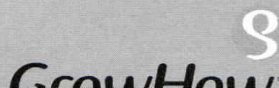


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**HIGH VALUE GRASSLAND**  
**Providing biodiversity, a clean environment and premium products**  
**G E D Tiley**

A meeting of the British Grassland Society, British Ecological Society and the British Society of Animal Sciences, **17-19 April 2007** at Keele University, Staffordshire

This was a conference of ecologists, farmers, and grassland/animal researchers which attempted to highlight and reconcile the needs of the environment with those of commercial farming in the current context of changing global markets and public concerns. There were 28 main papers and 41 posters presented to some 150 delegates. DEFRA, NFU, Natural England and the Stapledon Memorial Trust sponsored the meeting. As a result of climate change, there was a need to develop grassland systems which mitigate greenhouse gas emissions and for farmers to adapt crop and livestock systems to changes in seasonal growth patterns. In the face of declining incomes, farmers were being asked to protect the soil, water, air and natural habitats whilst competing in challenging world markets.

The presentations were divided into 4 main sessions:

- 1 What the public wants.** M Hamell from the European Commission emphasised the difficulties of linking environmental policy to agriculture and felt that agriculture does need to be constrained by environmental legislation. Future policy issues would focus on competitive agriculture, environmental improvement and quality of rural life, water, climate change, high nature value farming and soil. Other papers stressed that land managers would need to liaise better with those who benefit from their activities and price mechanisms should encourage rewards for appropriate grassland management. Grassland can also produce benefits such as higher CLA from grazed grass and ecosystem benefits such as soil conservation or other natural balance effects.
  
- 2 What farmers can deliver.** Health giving properties of fresh air, clean water, healthy soil, landscape, attractive countryside, enhanced bird life and plant variety were some of the benefits delivered by farmers, sometimes voluntarily or as part of their business. In the Environmental Stewardship scheme in England there had been an enthusiastic uptake of options for the restoration of species-rich grassland. Wholecrop cereals were favourable to birds. Other papers demonstrated how slurry management and use could be improved and N losses from grassland reduced.

- 3 **The detail of delivery.** A trial scheme in Germany was set up to market biodiversity goods from production systems where the primary aim of grassland management was increased biodiversity. A paper from IGER explored how grassland management and different grass species might influence the fatty acid content and quality of meat, much as alpine pastures on the continent affect the flavour and quality of cheese. Issues of nitrogen deposition from the atmosphere, effects of the ratio of fungal: bacterial biomass in soils on grassland diversity, management of upland hay meadows, phosphorus balance in farms, water management in wet grasslands and meat production from salt marshes were also discussed.
  
- 4 **Grasping the opportunities.** It was recognised that there had been a rapid deterioration in the UK's food and drink trade in recent years, and that there was a need to build a more integrated and collaborative approach between farming and the food industry, in order to compete on the global market. An example of such co-operation was given from The Cumberland Dairy Ltd, Carlisle, who, after careful market research and development, were now seeing increasing sales of their product – Cumbrian cheese and home-made yoghurts. An example of an organic sheep farm in Sussex was described which aims to farm largely to maintain its wildlife interest through environmentally sympathetic farming within an Environmental Scheme.

In a summing up paper, Professor Chris Pollock, former director of IGER, made the following points regarding scientific policy: Where is the Rolls-Royce of British Farming? We need niche, high quality, high value systems to give impetus to the whole farming sector. Farming must prepare for the future when there will be increased competition for land and water for energy production and urban development. Future research should be directed towards: delivering ecosystem services from the land; more co-operation among research providers; involve the beneficiaries of research in co-ordinating the means of innovation delivery to the industry, eg: Levy boards. In conclusion, agricultural scientists will have to commit wholeheartedly to engagement and dialogue with the public, politicians and non-government organisations. An overriding impression from the conference was of the importance of environmental support grants in leading the way to improved nature conservation.

**A full text of the conference proceedings can be seen in:** High Value Grassland. Occasional Symposium No38 of the British Grassland Society, 2007, edited by Hopkins, J J, Duncan, A J, McCracken, D I, Peel S and Tallowin, J R B.

## SWSGS SPRING FARM VISITS IN AYRSHIRE – 2007

G E D Tiley

Visits to Auchinbay, Ochiltree (By Invitation: David Morton & family) and Auchlin, Ochiltree (By Invitation: John Craig & family) on 8 May 2007

Visits sponsored by **Galloway & MacLeod Ltd**

The morning visit was to **Auchinbay**, a tidy well-managed dairy farm which had won David Morton the Young Dairy Farmer of the Year award in 2002. After 20 years in the farm the cow herd had increased from an original 70 to 210 with 170 followers and 40 stores. The farm area of 164ha (64ha rented) was all grass, except for 8ha wholecrop and 18ha barley. An additional 32ha had just been purchased at nearby Tarbolton, and this required reseeding and fencing. Most of the fields grew tetraploid mixtures because silage mixtures were too open. White clover was abundant and few docks were seen. Grazing was kept as tight as possible in early spring to encourage later season growth. First year grass was sprayed for docks which together with N applications, reduced clover content in the second year. Reseeding took place annually after barley in mid-September. Sheep were wintered until 1 April; cow turnout had been 10 April this year.

The silage was cut by the farm then chopped and lifted by contractor. For the last 5 years the crop was shaken but resultant quality had been inconsistent. Additive was no longer used after finding only a marginal benefit several years ago. First cut was due to be made after Ayr Show in the second week of May, aiming for 25% DM. Pre-cutting grass samples indicated that all free N had been utilised but sugars were low even though sampling took place in sunshine. Two silage pits had been converted to provide more cubicles and a new earth wall clamp constructed outside with an asphalt floor. A smaller clamp would provide storage space for feeds. The 8/16 parlour had been installed 20 years ago. Yields were 9,200 litres and cow numbers would not be increased as this would require more labour. Night milking began at 01.00 by a contract dairyman who then went to a second farm for morning milking, after which he attended his 30-bitch kennels before carrying out a normal day's work at Townhead. His sleep requirement was a maximum of 4 hours!

Environmental improvements under a Rural Stewardship Scheme (now 4<sup>th</sup> year) included: game crop, wetland, fenced margins on the River Lugar, extended hedgerows which were cut every 3-4 years and fenced woodland now with many bluebells. The calf shed was fitted with blower ventilation and there was little pneumonia. Belgian Blue cross calves were preferred, being hand fed, then batched before turning out.

**Auchlin.** The afternoon visit took the Society to Auchlin, a 280ha beef/sheep unit on difficult soil, all permanent grass, with 40ha cut once for silage. Some land had been lost and some exchanged in the adjacent open cast coal working. A portion of the hill had been drained where the cows could be put out in October. Stock consisted of 185 Friesian and Angus cross sucklers mostly of Irish origin and put to Charolais bulls. The herd was split into 120 spring calvers the rest calving in summer. The calves were sold October/November and March, respectively, the latter overwintering indoors. Winter feeding was with a feed wagon, plus straw through a straw blower, plus minerals, there being a copper deficiency on the farm. The buildings included calving pens with spare accommodation if required, though the cows went out soon after calving. Sheep numbers had been reduced from 800 to 450 cross ewes, now shepherded by contract. An additional 28ha were rented for sheep grazing. FYM was spread from the midden in mid July by contractor all in one day. Fertiliser use was being reduced; 187kg ha<sup>-1</sup> 27/5/5 being applied in the spring followed by 500kg ha<sup>-1</sup> 21/8/11 for the silage ground. McGill & Smith (now L S Smellie & Sons Ltd) were boosting some of the swards by direct drilling a hybrid, intermediate and tetraploid ryegrass mixture. Ploughing was not possible due to frequent stones. Patches of woodland and hedgerows had been planted and improved.

The Society wishes to thank David Morton and John Craig and their families for the privilege of these visits and for their warm hospitality.

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**NEW OPPORTUNITIES USING OLD TECHNOLOGIES?**  
**Malcolm Graham Nutritionist /Consultant, CMD Agribusiness, Welshpool,**  
**Powys in association with Alan Sayle Associates, Gisburn, Lancs**

We can all sense a rapid seismic shift in the markets for farm produce and the cost structures of dairy and other ruminant production systems. The “Corn vs Horn” balance is changing and unstable. Of course increases in milk price and, hopefully as 2008 progresses, beef and lamb prices are welcome. However increases in key input prices are a cause of concern, particularly so with regard to feed, fertiliser and fuel. A recent case study for a client in Wales on a 1000 ewe operation showed that the costs of production, all other things being equal, and on a dead weight basis, will increase as follows: Feed 15.6p kg<sup>-1</sup>, Fertiliser 3.7p kg<sup>-1</sup>, Fuel 6.9p kg<sup>-1</sup> a total increase of 26.2p kg<sup>-1</sup> - a 17.5% increase. The challenge for all farmers and their advisers is to move our farm businesses ahead without low cost purchased feed ingredients as the default solution. Most of my farm work in UK and abroad is with intensive dairy producers and, feed has been so cheap in the last 5 years or so that it has been highly cost effective to treat forage as a carrier and feed whatever was required to achieve the necessary health and performance of the herd. We are now entering a new era and what we produce from our own resources on the farm will become substantially more important for the bottom line and with regard to the environmental impact of our farming operations. For some farms the primary focus will be on utilisation of grazed grass and seasonal production. However national trends would suggest that this is a minority approach as yields per cow steadily increase each year by between 150 and 200 litres. Inevitably this will require the use of high quality conserved forages and farm-grown feeds to balance the most cost effective feed ingredients and co-products available through the supply trade. A welcome return to mixed farming?

I have been working with Alan Sayle Associates on the further development of technologies that were invented and pioneered by Alan over several decades. This includes work in the UK (mainly at Harper Adams University College), Australia and experience in USA and the Middle East. If we are to deliver cost effective performance we must produce forages and farm feeds that

- Preserve the maximum amount of nutrients, so either no or minimal field wilting and fermentation should occur.
- Stabilise the material so there is no mould or heating right to the point of feeding.
- Eliminate or reduce acid load on the rumen for optimum health and performance.
- Provide structural fibre in a digestible and palatable form.
- Maximise starch and sugar levels from home grown sources because starch and sugar forms of energy are important for performance, but are currently increasing most in price.

- Protect protein quality so as to reduce the costly requirement of feeding extra purchased protein.
- Will be stored in simple storage and require no further processing prior to feed out or mixing in to diets.

The Alkalage process is well known and the application of high protein, part urea pellets to a processed, mature grain crop allows the preservation of every part of a cereal crop from the crimped grain through high cut material to the whole crop. Grain is processed either through the forager or crimping machine. Maximum starch yields are obtained, feed quality of straw, if harvested, is enhanced and the resulting material has crude protein levels increased to between 14% and 17%. The material has an alkaline pH and actively buffers rumen conditions to enhance digestion and health. Alkalage technology is very flexible and on-farm application can improve animal health and performance whilst increasing production from home grown resources, thus combating increases and volatility in the price of purchased feed. In UK & Ireland grain and high cut Alkalage feeds are currently costing around £80 to £95 per tonne for high starch, 16% protein feeds compared to compound feeds approaching £200 per tonne. Reports on animal health and performance are good. For intensive production high density 18% to 20% protein, fully mineralised materials can be mixed using 70% to 80% home grown Alkalage materials, suitable for feeding to ewes, calves, lambs and in parlour at a cost of £110 to £130 per tonne. The starch contribution from Alkalage whole crop wheat can be the equivalent of 2-3kg of wheat grain. So, as well as enhanced rumen performance, yield and health, there is an opportunity with Alkalage to either reduce concentrate purchases and/or make better use of high fibre medium density distillery and biofuel co-products.

In conclusion it is clear that for most ruminant livestock farmers there is a substantial opportunity, and economic necessity, to increase utilisation of home grown materials. This starts with grazed grass but also encompasses better preservation of green forages, including grass, and exploiting the use of cereal crops. Many technologies are available to allow the creative and forward thinking farmer to achieve this with little or no capital investment and these have never been so cost effective to use.

‘Oxylage’ is also being developed as a means of preserving green forages – particularly grass – without fermentation in order to preserve the sugar and prevent protein degradation. It also stabilises the crop in the clamp right through to feed out, and will be the subject of a future article. ‘Oxylage’ is not a product; it is the name we have copyrighted for the preserved crop.

## SCOTGRASS 2007

### G E D Tiley

Held at SAC Crichton Royal Farm, Dumfries on 15 May 2007  
Courtesy: SAC Dairy Research Centre, Acrehead

The 2007 Scotgrass event was held on the Acrehead Unit at SAC's Crichton Royal Farm, Dumfries. On an exceptionally fine day, a very large turnout of visitors had the opportunity to view the latest grass conservation machinery in both static displays and working demonstrations. In addition there were over 50 stands of grass- and livestock-related products with a full representation of company personnel. The 24 working machinery demonstrations were spread over 9 fields and provided a unique opportunity for farmers and contractors to assess performance relative to their own requirements.

The impression of ever larger machines was unavoidable but there are continued improvements in design, performance and efficiency. One innovation noted was the Green Star Guidance Systems using GPS (Global Positioning Satellite) equipment to guide tractors and machinery in accurate straight lines without markers in open fields. Applicable to both arable and grassland farming, the system reduces overlaps, fuel use and inputs and permits higher operating speeds. Another device works like a SatNav and enables selected areas of the field to receive increased/reduced rates of spray or fertiliser. The systems are marketed by John Deere ([www.johndeere.co.uk](http://www.johndeere.co.uk)). Scotgrass was organised by SAC and the Agricultural Engineers Association (AEA), with Ecosyl Products Ltd the major sponsor and support from The Scottish Farmer. The programme booklet highlighted very timely advice on how to make the best silage at lowest costs and is a useful source of information.

### SWSGS PRIZES 2007

The SWSGS **Vice President's Prize** for the best Grassland Student in the 1st year Agriculture course at SAC Auchincruive was won by **Graham McCarter**, from Beith, who received his award from SAC Principal, Bill McKelvey, at the November Prizegiving ceremony held in Oswald Hall, Auchincruive in 2007. The SWSGS prize is given in recognition of excellence in the grassland courses at SAC Auchincruive. The Society congratulates Graham and wishes him success in his future studies at Auchincruive.

The **Malcolm Castle Memorial Prize** in the form of a cash token plus trophy was awarded to **Alison McKenzie**, from Paisley, for the best dissertation on grassland/livestock in the Honours Degree course at SAC Auchincruive.



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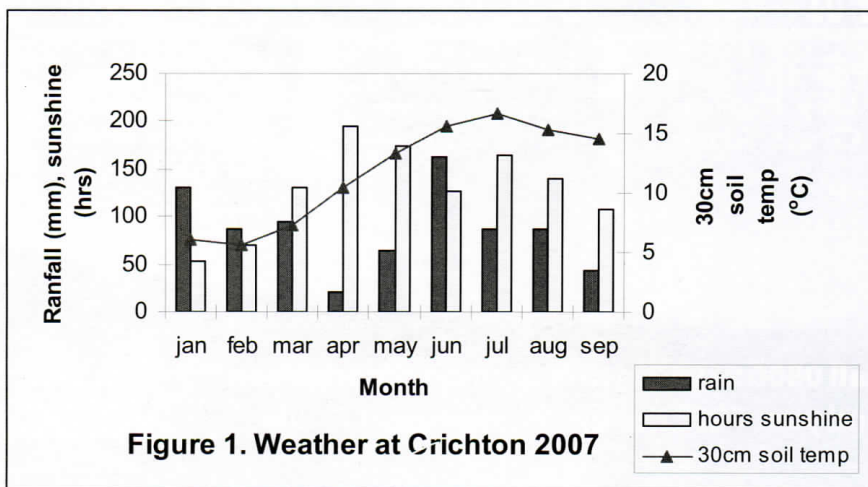
**MAIZE 2007 – NOTES FROM CRICHTON ROYAL FARM**  
**Jennifer Bell and Hugh McClymont, Crichton Royal Farm, Dumfries**

Having grown some grain maize for the last two years, this year all the maize grown at SAC Crichton Royal Farm was for forage. Nearly 40 ha were sown (Table 1). The fields sown in mid-May followed a cut of grass silage.

**Table 1. Area of maize sown at Crichton Royal Farm in 2007**

Sowing date	Field	Variety	Area (ha)
16 April 07	Lochbank Back	Agreement (plastic)	6.0
19 April 07	Netherwood Cottage	Revolver + Poncho	5.2
27 April 07	Rosebank Front	Various	6.5
14 May 07	Trohoughton (a)	Potter	5.2
15 May 07	Trohoughton (b)	Bowling + Gaucho	9.0
14 May 07	Netherwood Bank	Bowling	5.9
<b>Total</b>			<b>37.8</b>

Rainfall, hours of sunshine and temperature of the soil for the growing season are shown in Figure 1. Although April had the greatest number of sunshine hours, before much of our maize was drilled, the soil temperature held up well, into September.



Some of the maize was harvested early, to avoid a break in feeding maize silage, which is a required part of the ration for the Langhill herd of dairy cows at Crichton. The bulk of the crop, however, was cut in late October. Table 2 gives the yields, fresh and dry, per field and per ha.

**Table 2. Maize harvest details**

<b>Field</b>	<b>Harvest date</b>	<b>Yield (t FW)</b>	<b>Yield (t FW/ha)</b>	<b>Dry Matter (%)</b>	<b>DM Yield (t/ha)</b>
Lochbank Back	26.9.07	288	48.0	19.8	9.5
Netherwood Cottage	25.10.07	242	46.5	25.9	12.1
Rosebank Front	25.10.07	231	35.5	26.6	9.4
Trohoughton (a)	25.10.07	192	36.9	22.2	8.2
Trohoughton (b)	26.10.07	209	23.2	22.3	5.2
Netherwood Bank	26.10.07	154	26.1	22.2	5.8
<b>Total</b>		<b>1316</b>	<b>34.8</b>		

### **BGS NATIONAL GRASSLAND MANAGEMENT COMPETITION 2006**

#### **Sponsored by *DLF Trifolium* and *Kemira GrowHow***

The winner of the 2006 BGS National Grassland Management Competition was Tom Craig, Ballykelly, Northern Ireland, who was SWSGS Silage Judge in 2004. He received the Kemira crystal trophy plus a cheque for £500. Tom farms 180ha reclaimed low lying sandy loam with a high pH at the edge of Lough Foyle. He is able to grow lucerne and sustain high milk production (9,300 litres, 3,600 litres from forage). There have been extensive environmental works (hedge and tree planting with ponds) which are intrinsically linked to every day farming.

### **BGS MEETINGS IN 2008**

**Milking Grass for Profit** – Spring Farm Visit 2 April 2008 at Mouswald Grange, Mouswald, Dumfries (*R Kirkwood*). This is one of a series of countrywide farm visits run by the BGS in association with RABDF and MDC, with the aim of demonstrating how to obtain maximum profitable production from grass. Other meetings arranged include **14-16 July BGS Summer Meeting** to be held in the Netherlands.

## THE LAST WORD - STOP WASTING SILAGE!

**Gerard Thomas, Thomas & Fontaine Ltd, Craven Arms, Shropshire**

Don't think the job of making quality silage is finished after you've grown and harvested the crop. Attention to detail during filling and sheeting the silage clamp is vitally important for maximising feed value and minimising silage waste.

The greatest problem to overcome is **aerobic deterioration** of the silage during storage and feeding. This problem needs to be addressed as soon as the chopped forage is unloaded at the silage clamp. It is essential to exclude air as quickly as possible to promote rapid fermentation and prevent the growth of aerobic microorganisms. The key to successfully getting rid of air from the silage is packing density. Densely packed silage will be more stable when it is fed out because air will not be able to penetrate beyond the face. Loosely packed silage, in comparison will be unstable because air will penetrate beyond the face allowing aerobic microorganisms to breakdown silage nutrients and produce heat.

However, with forage harvesting equipment getting bigger and more efficient, forage now often arrives at the clamp too quickly to allow adequate consolidation. In these circumstances it is worth spreading forage as thinly as possible, preferably 15cm and using 2 tractors to roll the pit.

Prior to harvesting make sure that you have enough storage space and remember that **side sheets are essential** for preventing aerobic deterioration. Avoid the dangerous practice of stacking silage high above the sidewalls where it cannot be effectively consolidated. As soon as the silage is consolidated, cover with a clean, high quality sheet. Use Secure Covers and Secure Gravel Bags to keep the sheet in close contact to the silage surface. The Secure Gravel Bags not only hold the Secure Cover in place but also create an effective seal by concentrating weight on the shoulders at the junction of the side wall and silage sheet. This stops air and water getting into the silage and prevents spoilage. During storage Secure Covers also help reduce bird damage to the silage sheet.

Maintaining correct face management during feed out is essential to minimise silage waste. Use a block cutter and do not disturb the face during silage removal. Try and match the size of the silage pit to the number of cows to be fed and the time of year when feeding. Aim to feed through the silage at a rate of 30cm/day in winter, double that in summer.

It seems obvious but by paying attention to detail you can save a lot of expensive silage you would otherwise waste.

**WEATHER DATA FOR 2006**  
**SAC AUCHINCUIVE (55°29'N 4°34'W) Alt 45m**

<i>Month</i>	<b>Mean Air Temp</b> °C		<b>Mean Soil</b> <b>Temp °C</b>	<b>Rainfall</b>		<b>Sunshine</b>
	<i>Max</i>	<i>Min</i>	<i>At 30 cm</i>	<i>Total (mm)</i>	<i>No of Days</i>	<i>Total Hours*</i>
January	7.4	2.1	5.3	65.2	19	44.4
February*	7.9	1.4	4.9	29.8	14	80.5
March	7.6	1.6	4.8	70.8	19	85.6
April	11.0	3.8	7.9	57.0	19	165.9
May	15.0	6.6	11.0	48.0	16	186.0
June	18.1	10.0	14.0	49.8	8	199.3
July	21.8	12.2	16.3	31.8	15	216.7
August	17.9	11.1	15.6	105.0	19	151.1
September	18.2	11.1	14.9	105.2	24	116.6
October	15.0	8.8	12.7	93.2	27	76.2
November	10.6	5.4	9.1	238.2	26	46.8
December	8.8	4.2	7.3	143.6	25	25.8
<b>Means/ Totals</b>	<b>13.3</b>	<b>6.5</b>	<b>10.3</b>	<b>1037.6</b>	<b>231</b>	<b>1394.9</b>

Max air temperature: 30.7<sup>0</sup> on 19 July. Min air temperature: -6.2<sup>0</sup> on 4 March.  
 Last frost: 10 April 2006. First frost: 1 November 2006.

\* RNAS Prestwick.

**WEATHER DATA FOR 2006**  
**SAC CRICHTON ROYAL FARM (55<sup>0</sup>3'N 3<sup>0</sup>35'W) Alt 65m**

<i>Month</i>	<i>Mean Air Temp</i> °C		<i>Mean Soil</i> <i>Temp °C</i>	<i>Rainfall</i>		<i>Sunshine</i>
	<i>Max</i>	<i>Min</i>	<i>At 30 cm</i>	<i>Total</i> <i>(mm)</i>	<i>No of</i> <i>Days</i>	<i>Total</i> <i>Hours</i>
January	6.6	1.5	4.5	59.7	14	40.1
February	7.2	1.8	4.6	43.2	10	73.7
March	7.4	1.0	4.5	154.4	16	88.1
April	11.8	4.3	8.7	57.7	19	179.9
May	14.3	6.1	12.1	124.5	22	172.1
June	19.0	10.5	15.6	37.4	11	170.3
July	21.9	12.1	16.8	62.1	11	225.1
August	19.3	11.4	16.9	59.1	16	148.7
September	18.4	11.9	15.9	124.1	22	132.5
October	15.0	8.5	13.2	156.7	24	100.4
November	10.8	5.4	9.0	228.1	22	65.0
December	8.2	3.5	6.8	163.1	22	49.0
<b>Means/ Totals</b>	<b>13.3</b>	<b>6.5</b>	<b>10.7</b>	<b>1270.1</b>	<b>209</b>	<b>1444.9</b>

Max air temperature: 30.7<sup>0</sup> on 18 July. Min air temperature: -6.3<sup>0</sup> on 3 March.  
 Last frost: 4 April./23March 2006. First frost: 3 November 2006.

Apart from fine hot spells in early June and in July, 2006 had very frequent dull, moist or wet breezy weather, punctuated only occasionally with fine days. This was accompanied by frosts early in the year and occasional gales. May was wet. Autumn was mild with high rainfall, especially in November and December. Only slight frosts returned in December, the year ending with fierce gales, showers, hail and thunder.

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

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