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P & L Cook and Partners**



Cairngorm Monitor Farm

**Sheep Meeting held at
Auchdregnie Farm, Tomnavoulin, Glenlivet**
(Kind permission by Messrs Stephen Duncan)

Report on Meeting held Friday 15th February 2008

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SCOTTISH EXECUTIVE

TOP TIPS FROM THIS MEETING

The visit to Auchdregnie reinforced the value of good stockmanship and attention to detail in sheep performance.

It is possible to finish lambs on a hill farm with forage crops. Need to understand costs and market requirements. Flexibility is important in a volatile lamb market.

Clover works and is persistent, even at this altitude and harshness of winter.

The challenge is to simplify our systems and reduce costs. NZ farmers try to go through the winter without starting a tractor. Is that possible in Scotland?

The value of sire referencing schemes will increase in the future. We especially need to select livestock that are good at converting grass /forage, given the high price of concentrates.

The Cairngorm Monitor Farm (Eastfield, Ballater) has no sheep, so this meeting took the group to a sheep enterprise within the Cairngorm Park. The meeting took place on a beautiful crisp sunny day - it had been re-scheduled following the cancellation 2 weeks previous due to snow. 22 attendees took part in the meeting which started at Auchdregnie Farm, then moved on to the Village Hall, Glenlivet.

Meeting Aim: To improve the profitability of hill and upland sheep production.

Programme;

- Auchdregnie Farm. Description of farm and systems. View sheep, pedigree tups, cows & calves and forage crops.
- Lunch. (1.00pm)
- Group Session led by John Vipond, SAC Senior Sheep Specialist
- Discussion on Sheep Market prospects.

1. Description of Auchdregnie Farm

Stephen Duncan welcomed the Group on behalf of his parents. He went on to very ably describe the farm and its main enterprises.

The Duncan's took over the tenancy at Auchdregnie Farm some 9 years ago. It is part of the Glenlivet Estate (Crown Commission)

The farm extends to 845 acres, half of which is in-bye with the remainder hill. The stading is at an elevation of 1,200 feet, fortunately all the farm is south facing and has a good range of buildings.

The main enterprise is a 700 head Blackface flock. Unusually for a hill farm all the lambs are finished on the farm. The best 500 ewes are bred pure to BF tups, with the 200 poorest ewes put to texel tups.

BF Ram enterprise

The farm sells 30 – 40 pure BF shearling tups a year. House approx 60 tups through the winter to keep away from ewes and allow them to be naturally brought on. Poor performers are gradually culled out over the winter. Tups are fed oats, draff, hay and hashed neeps. Some had wire sets on their heads to train their horns away from their heads. Feel they must provide some feeding if they are to sell through the auction ring where comparison with other highly fed tups is visually important. However, want to avoid ad lib concentrate feeding. Prices average around £1,100 although the top price last year was £16,000. Commercial farmers will pay £1,000 per tup. Tups sold at Perth, Stirling & Dingwall. Family have keen interest in pedigree tups which has allowed the main flock to be improved.

There was a good discussion on the value and merits of sire referencing schemes. Recognised move to provide buyers with more information on genetic potential. The Duncans have a system which allows them to see the finished lambs produced by each ram and they are clearly producing what customers want. In the longer term some buyers may want to buy rams with a proven ability to pass on growth and maternal traits. This needs comparison of performance of progeny across a number of flocks and not just within one. Sire reference schemes are already showing major improvements in growth rate and prolificacy (SAC trials on a multi-trait selection index for hill sheep show real financial gains e.g. 0.41 extra lambs per ewe over its first three lambings, and trials on high Estimated Breeding Value terminal sire rams show they can leave an extra £3 per lamb).

Breeding policy.

Normally take 4 crops with cast ewes sold to Ireland. Ewes ear marked to tup and tugged in separate groups. Therefore can link performance and appearance of ewes and lambs directly to sire used.

Culling criteria: 1. conformation, 2. feet, 3. wool and 4. head (last, but important for many buyers)

Tups go out end November for 2 cycles then end Dec put back on to the Hill.

Tups normally cover 30 – 40 BF ewes. Good tups cover 40-60 ewes.

Tups used 3 times. Avoid putting father or grand-father to ewes.

Ewes fed up to $\frac{3}{4}$ lb of concentrate (400g/day of beet pellets) by snacker on a flat rate basis over second half of winter and through to lambing. Feed out on better parts of the hill to save in-bye parks. Molasses also fed throughout this period. Feed in troughs once a day rather than in ball feeders to ensure all ewes receive equal share. Remove gimmers from rest of flock.

Ewes scanned (153%) in March. Normally 25 barren. Will give young ewes a 2nd chance.

Singles fed $\frac{1}{2}$ lb conc and twins $\frac{3}{4}$ lb conc.

Twins also get access to swedes.

Aim for all outdoor lambing with minimal assistance. Have 16 pens inside, but try not to use them.

Lamb Finishing System

Lambs weaned August then go off to a farm in Elgin for the autumn to allow grass to recover for flushing ewes. Some sold fat off this rented grazing with rest brought home to finish on forage crops (kale and swedes). More carried over for finishing at home this year due to poor autumn prices during FMD disruption. Could have been a risky strategy, but recent rise in prices suggests it will work out OK this year.

Fat lambs average 44kg and sold through marts at Forfar, Thainstone and Huntly. Some marts better than others for selling finished BF lambs. Lambs viewed on the visit were a good size for Blackies.

Use of Forage Crops for Finishing.

The group walked across a field to look at the forage kale and swedes and to view the hill where the ewes were being fed. Lambs are started on kale and are tightly strip grazed at an early stage so that they learn to eat the stems. The 3 strand strip fence is powered off the mains electric fencing which covers the farm. Have found this to be effective and reduces work with individual fencers and batteries (though good maintenance of mains fencing network required). Hopper concentrate feeding is introduced later to finish the tail end. The optimal use of forages for finishing was discussed (see John Vipond handout on forage trials at Appendix 1). High cost of concentrates and poor returns from long keep systems means we really want forages which can give high lamb growth rates (up to 300g/day) in the autumn.

Discussed NZ farmers attempts to get through a winter without starting a tractor – only use a pen knife. Innovations include row of individually wrapped silage bales down field which is drilled with kale. Ewes strip graze kale and get a fresh bale of silage with each shift. Ring feeder is rolled over bale, but no tractor work is required. This takes a flock of ewes through the winter with minimal fixed costs and labour and minimises use of grassland which recovers for spring lambing.

Grassland

Three fields are ploughed each year; two for forage crops and one field reseeded with grass. Normally young grass is cut for silage. Cut 80ac silage (1 cut). Spray fields prior to ploughing with glyphosate (Round-up). Don't use a lot of bagged fertiliser (1 cwt/acre of 25:11:11 to grazing), aim to encourage clover. For this time of year and this altitude fields looked surprisingly green – a testament to the power of clover. Use a brush weeder on the Quad bike to control thistles, etc.

Suckler cows.

Have 65 cows, $\frac{3}{4}$'s Limousin put to Limousin bull. Don't want large cows. Were autumn calving, but put back a few months as clashed with tup sales – now calve Nov / Dec. This avoids clash with ram sales and lambing. Sell calves at 10 months old at Thainstone Mart. Heifers sold for breeding. Calves get creep 1 month prior to sale.

Buy-in replacement heifers (8) at 9-month old, keep for year before bulling. Cattle all housed in December into 3 groups. 1 group fed outside on scrapped yard. Well ventilated, open

buildings. Winter feed based on big bale silage and draff. Calve inside – know fairly well all the cows expected calving dates. Run 3 bulls. Have one pure cow (Newhouse of Glamis) to produce own bulls for occasional sale. Cows weaned onto hill. Normally cull cows as 9th calvers unless earlier problems. Have to buy in all straw.

VILLAGE HALL, GLENLIVET

2. Group Session: Review of the Auchdregnie Sheep Enterprise

Following lunch, the meeting was split into four groups to look at specific aspects of Auchdregnie’s sheep enterprise. The following is the Groups’ summary.

Ram Production System

<u>PRO’S</u>	<u>CON’S</u>
<ul style="list-style-type: none"> • Hardiness – bred in hill environment • Strong selection for conformation – better grades than average BF • Breed enthusiast, high standard of husbandry • Gets steady growth through winter (housing and steady feeding) • Develop stronger heads inside • Stops concern of tugging ewes late (housing keeps rams away from ewes) 	<ul style="list-style-type: none"> • Lambing difficulties (if continually select on conformation?) • Tups kept inside all winter (costly, doesn’t show up which are hardy?) • Not part of a Sire Reference scheme (no figures for buyers – buy on look and reputation only)

Discussion

Need to develop and select animals that are good at converting grass / forage (and not expensive concentrates). Conformation doesn’t correlate to higher carcass yields unlike cattle. Experience shows that forced tups (fed a lot of concentrates) can have feet problems (softening due to mild acidosis) and fertility can also be lowered.

If selling naturally reared tups then one option is to sell on farm (avoids comparison in ring with heavily fed and impressive looking competitors), but difficult to set fair price?

Ewe Feeding System

<u>PRO'S</u>	<u>CON'S</u>
<ul style="list-style-type: none"> • Good stockmanship (feeding gimmers separately, can view ewes as feed with snacker) • Utilise 'cheaper' feeds (straights which can be fed by snacker) • Keeps ewes fit (outdoors, reliance on grazing and use of hill) • High quality stock – premium product 	<ul style="list-style-type: none"> • Labour intensive (feed every day for a long period) • Higher fuel costs • Forage crops can be risky (if poor establishment) • Need for protein supplement (for beet pellets and swedes once tops off) • Need to buy-in feed (beet pellets)

Discussion

Important to get the energy / protein balance in diet correct. Beet pellets low in protein. Could boost protein with relatively small quantity of distillers dark grains nearer lambing – don't necessarily need expensive compounds, rolls.

Experience shows that the more the ewes graze the hill, the better it becomes.

With increasing lambing % should we keep less ewes? - aim is to maintain number of lambs/ weight of lamb finished off the farm.

Conclusion; the present system is very good.

Lamb Finishing System

<u>PRO'S</u>	<u>CON'S</u>
<ul style="list-style-type: none"> • Rented autumn grass frees up home for ewe flushing • Flexibility of keeping lambs longer • Allows lambs to be finished – increase farm output • Good stockmanship, knows stock • Future market opportunity to brand Glenlivet Lamb? 	<ul style="list-style-type: none"> • Cost of away grazing and transport • Increased biosecurity risk • Stockmanship on rented grass sacrificed – need someone to check lambs? • Forage crops could be used by other stock e.g. take ewes through winter? • Forage crops very variable with seasons • Need to buy in concentrates (tail end lambs plus ewes) • Need to know costs to determine if worthwhile i.e. costs of forage crops, costs of autumn grazing

Discussion

The Duncan's do their own haulage – protects biosecurity.

Worm lambs when they return home and run through foot bath

Success of this system all depends on the store prices at the back-end

Generally BF lambs not strong store trade unlike cross lambs therefore can add value by finishing.

Forage brassicas – performance depends a lot on weather. Should we therefore try and finish earlier?

Trials on leafy forages for fast finishing and innovative use of chickory mixtures are described in the handout at Appendix 1.

Chickory with plantain has been used as a perennial growth rate booster in the UK and in New Zealand. It reduces worm burdens and provides good lamb growth rates. Especially useful in a system dominated by sheep.

Crossing Poorer BF ewes to Texel

<u>PRO'S</u>	<u>CON'S</u>
<ul style="list-style-type: none">• Worked well in their system• Brought up the average price• Allows more finishing off grass• Eliminates temptation to keep sub-standard ewes breeding pure• Improves lambing vigour	<ul style="list-style-type: none">• Problem with foot rot• Added complexity of system• Focus all on one breed • Information / records not put down – all in their heads! How define worst ewes?

Discussion

Could consider Beltex as an alternative terminal sire - excellent conformation yet easy lambing.

Cost of transport an issue – need to get full loads so invariably leads to overweight lambs.

Opportunity to share part loads with neighbours? Marts act as collection points?

3. SHEEP MARKET OUTLOOK

Peter Cook circulated a handout with key sheep statistics – see appendix 2.

Key points:

- Scottish and UK ewe flock number declining. But only now seeing declining sheepmeat production.
- Although breeding stock declining, lamb production hasn't decreased so much – better individual performance.
- However, unlike Wales, Scotland hills were never severely over stocked so will not expect huge improvement in individual performance as ewe numbers fall.
- Hills suffering biggest reductions (including Glenlivet – see Appendix 2), but now some sporting hills keen to encourage sheep for tick control

- EU ewes declined by over 10% over last ten years.
- Ireland has experienced 20% decline over last 10 yrs (main export competitor)
- NZ ewe flock also falling, now seeing switch from lamb production to dairy. Australia hit by drought, but shifting from wool production to lamb production.

- Threat from Blue Tongue – movement restrictions

- **Conclusion;** sheep markets been poor recently, prospects longer-term look better due to reduced worldwide supply.

Appendix 1. Finishing Lambs Fast on Forages; Brassica Trial Results and Use of Chickory (John Vipond, SAC Senior Sheep Specialist)

1. Forage brassicas for lamb finishing: trial results

Rising cereal prices show outdoor finishing systems on forages have a new role but with rising fertiliser costs we need high yields from low cost palatable forage crops that achieve high lamb growth rates and maximise output /ha of crop. SAC trials supported by Watsons seeds, Advanta and Rumenco give some pointers to varieties and usage.

Five 0.33Ha plots of forage brassicas (kale, rape, stubble turnips, hybrid kale/rape and a rape /turnip mixture) were evaluated in a feeding period from Nov 3rd to December 12th using Blackface X store lambs (32-36Kg). Whilst on the crop lambs had free access to minerals with the correct composition to balance for trace element deficiencies and access to water and an area of grass runback. Prior to slaughter lambs were belly clipped, in the abattoir carcass weight and MLC grade for fatness and conformation were recorded. Estimates of daily gain between two weights measured 30 days apart and carcass daily gains were estimated.

Results

Crops sown	Fresh yield Tons /Ha	Varieties used (crop yield shown by variety)	Preference shown for	Lamb Daily Gain (g/d)	Carc Gain (g/d)	KO %
Forage rapes	40	Hobson (34) Stego (45)	Hobson	185	128	46.7
Stubble turnips	114	Samson (116) Delilah (112)	Samson	209	133	45.4
Hybrids	51	Swift (71) Pulsar (31)	Pulsar	246	143	45.1
Kales	58	Maris Kestral (68) Caledonian (48)	No preference	210	132	45.7
Mixture of Hobson, Stego and Massif turnip	44	Rape +-turnip	Within mix no preference –leaf eaten first	251	135	44.2
sed	na	na	na	24	9.8	0.84
Level of significance	na	na	na	p>0.05	NS	P=0.05

Crop yield for the stubble turnips was exceptional – these were sown around 3 weeks earlier than the normal date. Kale yields were lower than expected- here the crop was sown later in the year than ideal (May) for a full crop. With no replication differences between varieties are unreliable and differences between plots in yield could be different in different years.

The mixture (Hobson/Stego/Massif) and the hybrids gave significantly higher daily gains, kale and stubble turnips were intermediate and rape the poorest. All these growth rates are high for forage brassicas - possibly because lambs were weighed empty at the first weighing and full at the second. Estimates of daily carcass weight failed to reach significance. There were significant crop effects on killing out % reflecting possibly gut fill or other non- carcass components. Because of the high yields and lower seed costs the stubble turnips gave the highest return but the yield was exceptional and there was difficulty in of utilising all of them. When sowing out a forage brassica crop on underperforming pasture it is necessary to account for some of the increase in future grassland performance that will accrue from a reseed. Price movements of finished lamb often heavily influence profitability from lamb finishing, but it is risky to rely on this. This trial shows that over a short finishing period of stable prices good returns are possible with high forage yields and good lamb performance.

2. Chicory and plantain forage mixture for lamb finishing

Low prices for hoggets this spring were a big shock to finishers. Current lamb finisher pellets at £180+/ton are even worse! We need crops that can rapidly finish lambs in a short period – equivalent to putting them inside on barley. And we want to do this early in the autumn while the weather is good and daily gains not affected by bad weather. This way lambs can go away with minimum costs.

Chicory

Not only does a pure stand of chicory finish lambs but also in SAC trials it reduced worm burden by 40% over a short term, so it can save the costs and labour of drenching. It is highly digestible and can be regrazed –look on it as a ‘permanent rape crop’. Typically on highly digestible feeds there can be loose dung and dirty tails to dag out before lambs are sent away. To counteract this we looked at adding plantain as a complimentary forage component that will also regrow after grazing.

Plantain

NZ farmers add an improved variety of Plantain (Ceres Tonic) when sowing out grass. This is done to improve mineral status of sheep, reduce scouring during wet weather and reduce dagging. There are no claims for it to have anthelmintic properties – apparently it slows down food passage in the gut due to mucilage production, reducing scour. Recent trials show it significantly improves liver copper and selenium content. Advantages over perennial ryegrass in dry matter production were also recorded in dry North Island conditions and NZ farmers are encouraged to add 20 % Tonic as a complimentary pasture component to ryegrass pasture mixes to improve mineral balance.

Advanta seeds (www.advantaseeds.co.uk) now import Ceres Tonic plantain – a flexible forage herb with a big fleshy leaf. The brochure (www.pggseeds.com) claims it can support gains of over 200g/day. Working at Auchincruive farm a mixture (90:10) of Grassland Puna 11 chicory and Ceres Tonic plantain was direct drilled on 4th July after Roundup treatment to burn off grass. Costs per acre were estimated as:

Puna 11 Chicory seed £13/Kg @ 3.6kg/ac.	£46
Ceres Tonic Plantain seed £8.50/kg @ 0.36	£3
Contractor charge spraying	£4
Roundup 0.81litre @ £4.71/l	£4
Direct drilling Moore drill	£19
Fertiliser 0.20.30 75kg/ac	£10
Fertiliser 27% CAN 75Kg @£140/t	£11
Total costs per acre	£97

Lamb finishing

On 3rd September 123 lambs, all under 35 Kg were put on a 7 ac. field of the mix and grazed for 28 days. Lambs had a Fec. going to the sward of over 700 epg but were not dosed to save labour and anthelmintic cost. The lambs were not daggy and most produced formed droppings, although early on some were quite runny. Daily gain for a month was 300g/day, which is an excellent rate of growth at this time of year. At the end of the trial all except 5 lambs (which were less than 40 Kg) were finished, 70 weighed 42 Kg and 58 were 40Kg. Thus the field finished around 18 lambs /ac at a cost of £5.50 /lamb. To do the same job on concentrates indoors would have cost £6.50 for feed alone with the additional costs for labour for feeding, dosing and straw probably coming to well over £10/head. In addition the chicory /plantain mix has now recovered from the hard grazing and may finish a further 5-10 lambs /ac or could be used to flush thin wormy ewes. It will be also available next year as a deworming and lamb-finishing crop.

John Vipond and Raymond Crerar

Appendix 2. Sheep Market Outlook

Summary

Positives

- UK, EU, World sheep numbers down
- £ versus Euro. NZ \$ versus other currencies.
- Some signs of demand/consumption improving

Negatives

- Blue Tongue; more movement/ live export restriction?
- Continental demand falling?

1. Scottish and UK Market

	2002	2003	2004	2005	2006	2007	2008	% change
Scottish flock ('000 head)	4,017	3,993	3,985	3,888	3,754	3,628		-10%
Scottish Highlands	1,131	1,103	1,071	1,039	971	916		-19%
UK flock	17,630	17,599	17,630	16,935	16,637	15,825		-10%
<i>Production ('000 tonnes)</i>	<i>301</i>	<i>300</i>	<i>306</i>	<i>331</i>	<i>330</i>	<i>323</i>	<i>304</i>	
<i>Imports</i>	<i>115</i>	<i>127</i>	<i>132</i>	<i>124</i>	<i>129</i>	<i>123</i>	<i>135</i>	
<i>Exports</i>	<i>62</i>	<i>77</i>	<i>74</i>	<i>86</i>	<i>89</i>	<i>65</i>	<i>80</i>	
<i>Consumption</i>	<i>354</i>	<i>350</i>	<i>366</i>	<i>368</i>	<i>372</i>	<i>381</i>	<i>359</i>	

Source; MLC, DEFRA, SAC, HIE

Note numbers down, but not tonnes produced (yet).

2. EU Production (tonnes)

	1995	2006	% Change
EU15	1,134,188	1,028,491	-10%
Ireland	87,600	70,300	-20%
France	147,698	129,149	-13%
Spain	242,057	238,250	-2%
UK	364,750	330,189	-9%

Source; Eurostat

3. New Zealand

	1982	1995	2005
Total Sheep	70.3M	48.8M	39.9M

4. Australia

1980's 180M

Now 91.9M (lowest since 1925)

1988 – 2005 numbers fell 33%, but 29% rise in lamb meat production.

Sharp fall in recent droughts.

5. Trend in Glenlivet Numbers?

2007 SEERAD June census

17,448 ewes

4,566 gimmers

23,925 lambs produced?

46,920 total sheep

Year	Ewes
1998	21,722
1999	22,254
2000	19,914
2001	19,310
2002	18,855
2003	18,834
2004	18,866
2005	18,102
2006	17,539
2007	17,448

20% reduction 1998 to 2007