

# Borders Monitor Farm Project

## Annual Report 2005

Project Funded by:



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land-based industries  
for over a century



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## 1. Introduction

Borders Monitor farm was the first such project to be set up in Scotland, and is one of two pilot projects commissioned by SEERAD (the other being in Perthshire). SAC won the tender to manage these first two Monitor Farms. This report summarises the second year of the Borders Monitor Farm project, covering the period up to December 2005.

### Objectives of the Monitor Farm Project

Our aim is to use the Monitor Farm as an example that will motivate other farmers to:

- Improve the physical and financial performance of farm businesses, using the whole farm business planning approach adopted on the Monitor Farm.
- Influence farmer's attitudes to change and encourage a more rapid uptake of best practice ideas, by trying these out on the Monitor Farm.
- Encourage farmers to record data, benchmark their performance against others, and identify ways to achieve better performance.
- Encourage farmers to set specific goals, objectives and budgetary targets.
- Encourage the development of systems that reduce production costs, improve physical and financial performance and free up more management time.
- Increase awareness of methods of improving market returns and investigate ways of adding value.

This is achieved by influencing Community Group members through Monitor Farm meetings, and other farmers through articles in publications and the farming press and on farm at the annual Open Day. It has been proven that knowledge transfer is most effective when farmers can see ideas demonstrated on a local farm, managed by one of their peers – "Seeing is believing".

### Funding

This project is funded by SEERAD and Scottish Enterprise Borders with additional funding from Quality Meat Scotland. This funding has been used to cover time spent by the facilitator, specialists and in project co-ordination as well as costs of analytical investigations, travel costs and room hires. Monitor Farmers do not receive any payment as it is expected that they should benefit significantly from the monitoring, data recording and advice received from the Community Group.

### Key personnel involved in the Borders Monitor Farm Project

- Monitor farmers – Rob and Kath Livesey

We are very grateful to Rob and Kath for the brave decision to open up all of their farm details and the considerable work they have put in to small scale trials and providing data

- Facilitator – Iain Riddell, SAC Senior Beef and Sheep Consultant (and Monitor Farm Project Co-ordinator)
- Specialist support from John Vipond, SAC Sheep Specialist and other invited guests

- Vet – Ewan Simpson.
- Members of the Community Group

Especially those involved in the subgroups, the regular attenders, and those who have provided benchmarking figures

## **Community Group**

Community Group – there are 57 names on our address list. Of these 52 would be considered Community Group members, and of these 46 are farmers and 6 are rural professionals including the farms vet, accountant, bank manager and grass seed merchant SAC and QMS staff. Attendances have averaged around 25 with a range of 17 – 34 for meetings held in 2004-05. It is noticeable that the project has attracted many of the younger farmers. We have a hard core of around 20 who attend every meeting with others attending infrequently or reading the reports that are sent out after every meeting.

Farmer led sub groups – cattle, sheep, arable crops, grass and forage, financial and environment/diversification. These groups of 3 – 4 farmers have met infrequently between meetings and have been extremely useful in maintaining continuity and in helping the Monitor farmer with his decisions.

## **Meetings**

Meetings were held on farm at times that suited both the Monitor farmer and the group. Meetings start at 11am with a two hour farm tour, a break for a packed lunch, and more detailed discussion either the sheep house or in winter a warmer meeting room. Meeting dates were as follows.

- 2004 – 2<sup>nd</sup> December
- 2005 – 10<sup>th</sup> February, 19<sup>th</sup> May, 26<sup>th</sup> May, 19<sup>th</sup> July, 18<sup>th</sup> October, 1st December

## **Publicity**

The Borders project has generated a vast amount of useful data that has been presented to farmers as a discussion point through reports, website information, press articles, and by PowerPoint presentations at numerous farmer meetings throughout Scotland and the UK.

Detailed 5 – 6 page reports issued to members after each meeting

QMS website – all reports posted on QMS website from summer 2005.

Open Days – evening on 17<sup>th</sup> February (30 attended) and farm on 26<sup>th</sup> May (42 attended).

Features in farming magazines – 4 Scottish Farmer, 2 Farmers Weekly, 2 Farmers Guardian, 2 Press and Journal, 1 Farmingscotland.com, 1 Scotsman, 1 Southern Reporter, 1 Farm Business.

Articles in SAC newsletters and Sheep and Beef Notes – 8

Talks including Borders MF content – Benefits of benchmarking talk at 13 Land Management Contract Animal Health and Welfare Meetings all around Scotland, British Cattle Veterinary Society, Beef Expo 2005, Winter Fair, Lewis and Uist Cattle Breeders, Tesco Producers Club, RSPB, Suckler Cow Workers Course Ireland, Bank of Scotland Conference, Scottish Enterprise Borders Conference and numerous beef, sheep and

discussion groups around Scotland. There will be few farmers in Scotland that have not had the opportunity to pick up something from Borders Monitor Farm at a meeting or through press articles.

## 2. Farm Details

### General details

The business is managed by Rob and Kath Livesey. They are supported by part time help from one man at busier periods. Two vet students are taken on at lambing time. Contractors are used for ploughing and sowing, silage making, wholecrop silage, agbagging, combining, some baling and muckspreading.

The Liveseys took on the tenancy of the Firth in 1998, with Rob having been previously employed as a farm manager. They also own one adjacent field and an area of seasonally rented grazing as can be seen from the following table.

	<b>Acres</b>	<b>Hectares</b>	<b>LFA status</b>
Tenanted	550	222.7	LFA
Owned	30	12.1	NLFA
Seasonal rents	160	64.8	NLFA
Total	740	299.6	

Since 1998 the Liveseys have been building up stock numbers and the area of land farmed through increasing rented grazing. All of the land at The Firth qualifies for Less Favoured Area payments.

Most of the soils belong to the Ettrick and Minto series that comprise poorly draining soils with high clay content. Fields are prone to poaching in wet weather and housing is essential for most animals over the winter period – cattle mid October to mid April and sheep early January to April.

Limited cattle accommodation at The Firth – 50 cows in traditional steading, stores accommodated on lean to and woodchip corral.

Sheep – large shed used for finishing lambs from September to December and for housing 900 ewes from January to April.

### Sheep enterprise

The sheep enterprise is the largest on the farm, in terms of livestock units and percentage of gross output. In 2005 the flock comprised of 1197 ewes and 246 of the heaviest ewe hogs that were put to the tup. Replacement policy has involved purchasing approx. 150 Scotch Mule ewe hogs and selecting approx. 250 homebred Texel x Mule and Lleyne x Texel x Mule ewe hogs. The main breeds are therefore Scotch Mule, put to Texel tups, and Texel x Mules and Lleyne crosses put to Suffolk tups.

Most of the ewes are housed from early January because outwintering is very difficult on this heavy land farm. Ewes are scanned in late January. In winter 2004 – 05 ewes were fed a mixed ration consisting of grass silage and urea treated cereals plus extra protein in the 3 weeks before lambing. Lambing starts in late March/early April with ewe hogg lambing one week later. The largest proportion of the lambs are sold off grass with a number taken back into the shed for finishing on an ad lib cereal diet.

## Cattle enterprise

The suckler herd was established in 1998, the majority of the cows being Saler, with some Lincoln Reds and Irish Blacks. The majority are now either pure Saler or Saler cross put to two Saler bulls. The primary objective of this programme is to sell breeding females that are sold as first calvers with calves at foot. Most other calves are sold store with a proportion finished in their second winter.

In 2004 – 05 50 cows and 25 heifers were put to the bull. Heifers calve down at 2 years old, with the best retained as replacements and the remainder sold with calves at foot. Heifers not suitable for breeding are finished either off grass or in their second winter. Up to 2003 steer calves were sold store in March at around 11 months old, in 2004 this sale was delayed until July, on the recommendation of the group. In 2005 all of the steers were retained through to finish due to lower store prices.

## Cropping and stocking

The following table shows how the business has expanded over the past five years, with increases in land, cattle and sheep numbers.

	2001	2002	2003	2004	2005
Forage ha	193.2	212.4	217.0	232.0	242.4
Cereals ha	41.9	48.4	41.52	57.7	47.3
Set aside ha	6.7	5.9	25.2	13.5	13.5
Suckler cow premium claims	52	55	66	76	0
Sheep premium claims	1307	1387	1407	1440	0

Hectares of crops grown in the last three years can be seen in the table below.

	Hectares		
	2003	2004	2005
Winter barley	19.00	28.10	20.2
Winter wheat	18.18	29.55	27.1
Spring barley	4.34	0	0
Set aside	25.19	13.52	13.52
Temp/perm grass	217.00	232.00	242.4
Total	283.71	303.2	303.2

## Arable cropping

The arable crops are mainly grown to support the livestock enterprises. For 2004 – 05 these were:

Winter wheat following grass leys – 20.2 ha, Varieties Savannah and Access.

Winter barley as second cereal – 27.1 ha, variety Regina.

12.1 ha of winter wheat were combined early, mixed with fertiliser grade urea prills in the mixer wagon, and stored on a concrete pad, covered with a plastic sheet, next to the silage pit. The resulting 140 tonnes of urea treated cereals were fed to suckler cows, weaned calves, finishing cattle, pregnant ewes and finishing lambs.

The remainder of the wheat and winter barley was combined and dried through on farm using a mobile drier. Yields were estimated at winter barley – 7.4t/ha and winter wheat – 7.4 t/ha. Winter wheat yields were reduced by substantial areas of slug damage in 2005.

All of the straw is baled and used for bedding or feeding the cattle and sheep.

## **Grass and forage**

- Grass silage – 36.4 ha (90 acres) cut once in late June, approximately 800 t of 32% dry matter stored in silage pit. Fertiliser – 437 kg/ha (3.5 cwt/acre) of 20:10:10 fertiliser.
- A flexible approach was taken to the silage area using the silage to buffer target grass heights. In the event surplus grass was produced and a further 20 acres were made into hay.
- Grazing – 194 ha (479 acres). Fertiliser policy – 62.5 kg/ha (50 units/acre) of urea (46-0-0) to 160 ha of best fields in early spring, 62.5 kg/ha (50 units/acre) of ammonium nitrate (34.5-0-0) to some fields if required in mid May, and a similar application of ammonium nitrate if required in August.
- Fibrofos (burnt poultry litter) applied to silage ground and new leys at 625 kg/ha (5 cwt/acre) to provide phosphate and potassium.
- New grass established in set aside fields (grazed after 15<sup>th</sup> September) – recent seed mixtures include higher clover content and high sugar ryegrasses.
- More flexible approach to silage and grazing policy in 2005 following group recommendations with more concentration on maintaining target grass heights.

## **Environment and diversification**

Rural Stewardship Scheme (areas previously in ESA)

Contracting with Racewell Sheep Handler

### **3. Borders project objectives**

#### **3.1 List of objectives – suggested by Monitor Farmers and Community Group**

##### **Long term objectives**

- Retirement with financial security
- Build house on owned land and pay off mortgage by retirement.
- Succession – to build business to accommodate sons, if interested in farming.
- Good quality of life.

##### **Medium term objectives**

- Continuation of the farm lease.
- Increasing sheep numbers by taking on more land?
- Simplifying management to enable more time off.

##### **Specific year 2 objectives**

- Compare performance of high index tups with farms own tups when lambs are sold.
- Repeat enterprise net margin calculations for all beef and sheep enterprises to determine best enterprise mix.
- Use the enterprise margins and accounts information for discussion on farming policy with decoupled subsidies.
- Consider opportunities of Land Management Contracts.

##### **Repeat objectives from year 1**

- Increase income from sale of breeding heifers.
- Increase margins on steers sold store.
- Increase numbers of lambs sold
- Assess tugging policy and scanning percentages.
- Adopt measures to reduce incidence of footrot in sheep house.
- Better grazing management.
- Assessment of performance of the three ewe breeds.
- Faecal egg monitoring to assess effectiveness of anthelmintic policy.
- More flexible approach to grazing and silage areas dictated by grass height.
- Use of new grass and clover seed mixtures.
- Improvement of existing swards.
- Discuss optimum arable area for this livestock farm.
- Full discussion of financial and technical performance within group.
- Discussion on reducing fixed costs.
- Encourage benchmarking of results by group members.

### 3.2 Did we meet our objectives?

Objective	Action	Result
Comparison of high index tupps with normal selections	Conducted small trial from tupping 2005 to lamb sale 2005. Completed	Did not get expected result – helped to identify important EBV traits for The Firth
Net margins for all enterprises to determine best enterprise mix	Produced second set of net margins for cattle sheep and cereal enterprises. Used to fine tune management. Ongoing	Decided to maintain cattle numbers, increase sheep, and slightly increase arable cropping.
Accounts appraisal and business decisions	Analysed 3 <sup>rd</sup> set of accounts with group members getting full detail for discussion. Ongoing	Better understanding of accounts, better basis for decision making for all
Opportunities of Land Management Contracts	Discussed as group at 2 meetings. Monitor Farm signed up to LMC, including Animal Health and Welfare options. Ongoing	Increased awareness of LMC. Majority of members with LMC – 13 out of 28 at meeting opted for Animal Health and Welfare Options
Increase income from breeding heifers	Discussed benefits of health monitoring as sales tool. Ongoing	Firth yet to make decision. Group members now more aware of diseases and minimising risk when buying in.
Increase margin from steers	Calculated that finishing would be better option than store sale	Data to be analysed in 2006.
Improve scanning result	Poorer scan in 2005. Made up checklist of actions to prevent repeat. Ongoing	Checklist of best practice and analysis required helped rule out possible causes.
Reduce incidence of footrot in housed ewes	Repeated successful 2004 policy	Little incidence of footrot in shed
Increase numbers of lambs sold off grass	Flexible approach to grass heights, faecal egg counts	Numbers sold increased from 882 in 2003 to 1083 in 2005
Flexible approach to silage making	Prepared to graze silage fields if grass height fell below critical level	In event surplus of grass so more fields made into hay
Optimise arable crop area	Net margin calculations showed that use of contractors meant that arable crops producing reasonable margins	Still worthwhile to grow own cereals. To be reviewed in 2006 when new shed might allow more stock to be kept.
Reducing fixed costs	Preliminary discussions by subgroup. Financial day for group planned for Jan 2006	More detailed discussions required.
More benchmarking by group members	3 main benchmarking activities – scan to sale of lambs, suckler herd fertility, and beef herd age structure	Scan to sale useful with regard to increasing lambs reared. Good Firth beef fertility an example for others.
Reach maximum number of farmers with Borders Monitor Farm messages	Good attendances at meetings, lot of work in producing press articles, Borders MF data used at numerous talks around Scotland.	High degree of knowledge transfer. Impact of project within and outwith group to be evaluated in 2006.

## 4. Results section

### 4.1 Financial performance

Four years comparison of accounts information

Full disclosure of all financial information has been made to the Community Group and this information has provided the basis of detailed discussion. However one of the rules of the project is that any sensitive information must not be discussed outwith the group. Financial results are therefore presented on a percentage gross output basis for years ending on 30<sup>th</sup> November.

	Percentage of gross output				
	2001	2002	2003	2004	"Target"
Gross output	100	100	100	100	100
Variable costs	37	26	27	23	30-40
Gross margin	63	74	73	77	60-70
Fixed costs	67	55	60	56	45-55
Net profit	-4	19	13	22	>15

#### Comment

2004 was one of the best recent years for The Firth, leaving a profit that was sufficient to cover personal drawing, tax, and reinvestment. Although no two businesses are the same, these figures are representative of a lot of farms in the area. 2001 was a year of low gross output, a combination of low lamb prices and Foot and Mouth restrictions. The most recent three years figures describe a technically efficient business with variable costs under control and a good gross margin. The Firth is also a relatively young business having started up in 1998, and is now benefitting from extra output as stock numbers are increased.

The largest components of fixed costs were power costs (machinery repair, depreciation, fuel and electricity and other minor expenses) and rent payments. The group has discussed the accounts on several occasions and the financial subgroup has made recommendations on machinery replacement policy and other decisions.

### 4.2 Enterprise margin detail

Enterprise gross and net margins were produced for the suckler cow, forward stores and breeding sales, finished cattle and breeding ewes for the production year 2004.

#### Cattle and sheep enterprise margins

Numbers were 75 cows and heifers put to the bull in 2003, 23 steers sold store in July 2004, 25 heifers retained as bulling heifers, 5 bulling heifers sold, and 8 of the poorer end of the cattle finished in their second winter.

Firth enterprise net margins compared to QMS 2004 survey data

	Number	Av net margin	QMS 2004	
			Average	Top third
Suckler cows	73	£75	£78	£108
Stores breeding	56	£60	n/a	n/a
Finishing	8	£15	n/a	n/a
Combined cattle	per cow	£123	£80	n/a
Total sheep	1312	£25	£18	£27

Firth performance has been compared to the closest comparative group in the 2004 QMS Cattle and Sheep Enterprise Profitability in Scotland booklet.

Suckler cows to weaning have been compared to the QMS upland suckler herd group selling calves at weaning. The Firth actually sold 13 first calvers with calves at foot, which should result in a lower calf value but a higher cow sale value.

Combined cattle has been compared to Rearer Finisher Enterprises (although it should be noted that of the 64 calves sold at The Firth 25 heifers were retained for bulling, 22 steers were sold store at 17 months and only 8 of the calves were finished).

The sheep enterprise has been compared to LFA Upland Breeding Flocks.

These comparisons would appear to place the Firth enterprises as average for the suckler cows, above average for the combined cattle enterprises, and top third for the sheep enterprise.

It is often dangerous to draw conclusions from comparisons with group averages. The Firth system is different to most of the sample with almost 20% of the herd sold with calves at foot each year. The Firth also receives lower LFASS payments than other businesses with higher proportions of cattle – Firth average payment was £30. Output and variable cost figures should be fairly precise but fixed costs are allocated on firstly on the percentage of gross output for each enterprise and then on a split of livestock units.

### **Combined net margin**

Enterprise net margins for the suckler cow, store and breeding cattle, finishing cattle, and sheep enterprises were presented and discussed at the May 2005 meeting. These are summarised in the table below. Fixed costs are estimated using percentage gross output and livestock units and vary depending on percentages of gross output in the accounts in different years. Some adjustments were made in apportioning fixed costs especially in the case of contractors charges that could easily be identified in the accounts. The figures in the table below appeared in the 2004 Annual Report but have been revised to include 2004 fixed costs

	Number	Excluding subsidy payments	
		Av net margin	Total margin
Suckler cows	73	-£127.00	-£9,271
Stores breeding	56	£8.50	£476
Finishing	8	-£31.00	-£248
Total cattle			-£9,043
Total sheep	1312	£8.82	£11,567
Combined total			£2,524

The Firth made a healthy net margin from the cattle and sheep enterprises after deduction of fixed costs.

If we remove the headage based subsidy income then the cattle enterprise makes a loss of £9043 and the sheep enterprise a creditable surplus of £11,566. Combining the two leaves a surplus of £2,523.

However if we are estimating how much the enterprises might make in 2005, when direct subsidies are converted into the Single Farm Payment (SFP), we need to add back in LFASS payments, the Scottish Beef Calf Scheme payment, and the modulated SFP.

However there is still a considerable change needed if the beef enterprise is to become profitable with reduced support payments.

Enterprise net margins for 2005 will be calculated early in 2006.

### **Groups comment on net margins**

The following is a summary of the points raised by the group following presentation of these figures at the May 2005 meeting.

Those taking a short term view might suggest that with the sheep making money without subsidies and the cattle losing money, that the cattle should be sold off. However this ignores the following facts:

- Selling the cattle would move all of their fixed costs on to the sheep and arable enterprises.
- On this farm the only potential savings in fixed costs from reducing cattle are a reduction in the area of grass parks that need to be rented and perhaps some casual labour. Machinery, property, general and rent and interest costs would be largely unaffected.
- Net profit would significantly decrease if the cows were sold off.
- Prices for beef and lamb might fluctuate over the next 2-3 years, and cattle prices could increase.
- The cattle offer intangible benefits for the sheep through grazing management and reducing sheep worm egg counts.

We have to take a longer term view and continue to calculate net margins for all enterprises. The challenge at the Firth will be to identify ways of saving costs and increasing output with similar resources.

## **4.3 Sheep enterprise**

### **Gross and net margin per ewe**

1140 ewes and 140 ewe hogs put to the tup in 2003, 1839 lambs sold finished off grass and concentrates and 140 ewe hogs retained for breeding.

	<b>Per ewe and ewe hogg to the tup Firth 2004</b>	<b>Per ewe to the tup Av. QMS 2003</b>
Gross margin	67	59
Fixed costs	38	38
Net margin	29	21
Net margin no subs	8	-1
% lambs reared	151	142

QMS figures are for the average of the 2003 survey of LFA sheep flocks - £5 per ewe has been added to gross margin to allow for LFASS payments. Again care should be taken when comparing individual flock results with averages.

For 2004, ewe hogs were included in numbers put to the tup at The Firth. This would normally have the effect of reducing gross and net margin and percentage lambs reared.

The sheep flock produced an estimated net margin of £38,258 in 2004. Removing subsidies would leave an adjusted net margin of £9,932.

Taking a very short term view, some might recommend reducing the cow herd and increasing the sheep. However, our Monitor Farmers feel that the Firth is already at maximum capacity for ewe numbers. Other factors that will come into play are future prices of beef and lamb (with a certain amount of volatility expected), and the potential increase of cull cow prices after the ending of the OTMS.

### Scanning 2005

Results for 2005 scan expressed as numbers and percentages, and compared to 2004 percentages.

Group	Number	Barren	Singles	Twins	Triplets	Overall
<b>Ewe hoggs</b>	246	44	84	116	2	131%
<b>EH 2005 %</b>		18%	34%	47%	1%	
<b>EH 2004 %</b>	172	15%	53%	31%	1%	117%
<b>Texel gimmers</b>	135	3	49	80	3	161%
<b>Lleyn x ewes</b>	121	8	31	79	3	164%
<b>Tex x ewes</b>	213	18	63	127	5	156%
<b>Mule ewes</b>	700	17	167	465	51	179%
<b>Total ewes</b>	1169	46	310	751	62	171%
<b>Ewes 2005 %</b>		4%	27%	64%	5%	
<b>Ewes 2004 %</b>	1140	2%	19%	68%	12%	190%

The 2005 scan results were disappointing. Ewe scanning percentage dropped from 190% to 171%. Barren ewes were not the problem – these had only increased from 2% to 4%. Twin scans had only reduced from 68% to 64%. The biggest difference was in the number of triplets, plus the reduction in twins, increasing the proportion of single scanned ewes from 19% to 27%.

Was the problem caused by poor conception rates or foetal mortality? There was no evidence of many ewes failing to hold to the tup and barren rates were only slightly higher than for the previous year. Twin rates were slightly lower. The main difference was a large increase in singles and a reduction in triplets. Texel crosses had once again scanned significantly lower than the Mules. Other members scans had been better, with most of these tugging earlier.

The group accepted that the lower scan had happened and made up a checklist of actions to try and prevent a repeat.

- Ewe condition – the group had noted that ewes were in very fit condition in July and through tugging, following a very good grass growing season. Would keeping fitter ewes on barer pasture followed by flushing have helped? MLC research showed that fit ewes (condition score 4) maintained in that condition produced scans similar to ewes in CS3, or those on a rising plane of nutrition. However decided to recommend that fitter ewes be drawn out and slimmed down before flushing for 2005.
- Bad weather at tugging – tugging, from 3rd November, coincided with a spell of wet, cold weather. The Firth is a heavy land farm and soil conditions deteriorated. One suggestion was that very fit ewes might suffer more stress in adverse conditions,

than those in CS3, although we have no evidence to back this up. Not much can be done about the weather, but a change of tupping date could be considered. This was rejected since there were advantages to lambing when more grass was available.

- Liver fluke – this may have been a factor, but not the only factor – ewes had been dosed in September but not at tupping time because they had looked fit. Interestingly the ewe hoggs which were treated for fluke in October had a higher than average scan. Some evidence of fluke was detected in 2 out of 4 dung samples. The vet suggested that the flukicide might be better timed 2 weeks before tupping.
- Tup inspection – the Monitor Farmers already inspect the tups for feet and physical soundness before tupping.
- Blood protein levels, vitamin E and selenium – a number of ewes were blood sampled and levels were found to be satisfactory.
- Cobalt and vitamin B12 – lambs were tested at weaning and no problem was detected.
- Investigate any abortions – there was no evidence of enzootic abortion or toxoplasmosis in the ewe flock. Campylobacter abortion caused several abortions in a group of ewe hoggs.
- Check iodine levels of dead lambs – this was not done since weak lambs were not considered a problem.
- Breed – the lower scan for the Texel cross ewes, and comments from the vet students on the extra assistance these ewes needed after lambing, prompted a decision to stop retaining Texel crosses as replacements. Bought in Mules and Lley cross Mules would be used in future.

Other members scanning experience had been better but in the end the problem at the Firth was probably down to a combination of very fit ewes (estimated at condition score 4), very wet weather during tupping and the fluke challenge.

### **Lambing performance 2005**

Kath Livesey reported that the lambing had gone reasonably well in the shed. The number of lamb deaths was recorded at 139, which was up on the 107 recorded in 2004. No major problems were encountered – there were few issues with water mouth, less joint ill, and fewer lambs that were laid on by ewes. The main problem was campylobacter abortion that affected a significant number of the ewe hoggs 2 weeks prior to lambing.

Lamb performance after turnout – lamb survival was seriously affected by the extreme cold and wet conditions experienced in mid-April and a number of lambs were lost at this stage.

### **Campylobacter abortion in ewe hoggs**

This occurred in The Firth flock 2 weeks before lambing and mainly affected the hoggs. Unlike the cattle version that is primarily spread via the venereal route. Sheep campylobacter is intestinal, transferring to the placenta for the last third of pregnancy. Infection is usually picked up orally from direct contact with abortion material. It can lead to significant numbers of ewes affected, but once it starts in a flock it is normally too late to do anything about treatment. Ewes, which have been challenged, should develop immunity.

Infection is normally picked up from direct contact with abortion material and it is therefore important to isolate ewes with aborted lambs, remove cleansings, and ensure that the pen is thoroughly disinfected. Vaccination is used in New Zealand but not available in the UK and unlikely to be in future. Decided that this was unlikely to be beneficial in any case because of the immunity that the flock should have picked up.

### **Bedmax shavings in lambing pens**

SAC Sheep Specialist John Vipond suggested that The Firth try out Bedmax woodshavings, which are fine shavings from Scots pine and have absorptive and antiseptic properties. These were used in place of straw in all of the lambing pens.

It was decided to use purely Bedmax because a trial comparing Bedmax to straw would have been very difficult at an extremely busy time for the farm staff. Amount used worked out at 1.7 kg per ewe. 15 cm of Bedmax was initially put in the bottom of the pen, which was then topped up with handfuls of shavings in between ewes.

Rob and Kath would consider using Bedmax again because it provided several advantages that included reduced use of antibiotic. Antibiotic was normally used on the triplet lambs and hoggs twin lambs from 10 days after the start of lambing and this year antibiotic use was delayed. The other effect was a reduction in the amount of joint ill. Also noted were fewer lambs laid on by ewes partly because the lambs could move easy on the surface and ewes seemed to spend more time standing on the Bedmax. It was noticeable that the Bedmax dried out well and faster than straw.

There were some downsides – it took longer to top up the pens when compared to throwing in straw. But scattering some shavings on a pen was a lot easier than completely cleaning out pens.

Others experience with Bedmax – another community group member had used 120 bales for his 1,400 ewes (average 1.7 kg/ewe) and was quite pleased with the Bedmax but found that watery mouth developed after the first week and there was no major saving in antibiotic. He also had no obvious reduction in joint ill.

### **Selling more lambs off grass – lamb sales to October**

Compared lamb sales to previous year's performance. One of the original objectives of This Monitor Farm Project was to sell more lamb off grass and have fewer lambs to house.

#### **Lambs sold to mid October**

	<b>2003</b>	<b>2004</b>	<b>2005</b>
<b>Number sold</b>	<b>882</b>	<b>1148</b>	<b>1083</b>
<b>Total weight sold</b>	<b>35597</b>	<b>46029</b>	<b>44996</b>
<b>Av. weight kg/lamb</b>	<b>40.4</b>	<b>40.4</b>	<b>41.5</b>
<b>Av. price per head</b>	<b>45.12</b>	<b>45.7</b>	<b>43.6</b>
<b>Av. pence per kg</b>	<b>111</b>	<b>113</b>	<b>105</b>
<b>Est dwt price @ 45% ko</b>	<b>248</b>	<b>251</b>	<b>233</b>

#### **Pattern of sales to mid October**

	<b>2003</b>	<b>2004</b>	<b>2005</b>
<b>June</b>	<b>32</b>	<b>39</b>	<b>22</b>
<b>July</b>	<b>130</b>	<b>67</b>	<b>79</b>
<b>August</b>	<b>71</b>	<b>303</b>	<b>412</b>
<b>September</b>	<b>417</b>	<b>492</b>	<b>269</b>
<b>October</b>	<b>232</b>	<b>239</b>	<b>301</b>

Comment – lamb numbers increased between 2003 and 2004, and are at similar albeit slightly lower levels for 2005.

2005 sales are similar to 2004 up to October despite poorer weather and grass growth in early summer, and Rob and Kath's decision to hold off selling lambs in September due to low prices. Their target has been to sell lambs at no less than £40/head. This has been achieved by taking lambs to heavier weights – average 41.5 kg v 40.4 kg. Surprisingly the average price is only £2 per head down on 2004 at £43.60. Selling costs of £2.30 per lamb need to be deducted from these figures.

A lot of effort has gone into maintaining correct sward heights to speed up lamb sales in the past 2 years. Lambs have also been offered supplementary urea treated wheat from creep feeders in late summer when grass quality begins to decline.

### Scanning to sale/retention 2005

Table shows numbers scanned, numbers weaned, and numbers sold or retained for breeding as well as percentage losses from scan to sale/transfer. 2005 figures are compared to 2004 results.

Year	2005			2004		
Scanning detail	Number	Scan %	Lambs	Number	Scan %	Lambs
Ewes	1169	171%	1999	1140	190%	2166
Ewe hogs	246	131%	322	172	117%	201
Totals	1415		2321	1312		2367
Est number at weaning			2057			2000
Lambs sold			1842			1845
Lambs retained			149			134
Total sold/retained			1991			1979
Percentage sold/retained (per ewe and e hogg to tup)			141%			151%
% losses scan to sale			14%			16%

### Comment

Percentage of lambs sold or retained for breeding in 2005 dropped by 10% to 141%. Despite this the business managed to produce 12 more lambs, achieved due to increased numbers of ewes and ewe hogs going to the tup in November 2004.

Factors in the lower percentage reared were:

- Increased proportion of ewe hogs put to the tup
- Lower scanning percentage for ewes at 171% (compared to 190% the previous year)
- Loss of a few gimmers lambs due to campylobacter abortion.
- Loss of lambs due to severe weather cold, wet experienced in mid April 2005, when largest numbers of young lambs had been turned out.
- Loss of a significant number of lambs with acidosis when introduced to ad lib cereal diets when housed for finishing.

## High index tups

The Monitor Farmers were given extra funding from the project and QMS to buy high index Texel tups to use on the farms Mule ewes. Rob purchased 2 from the top 10%, and one from the top 25% of the breed at Kelso ram sales, to compare with his normal purchases. One problem with this trial was that EBVs were not known for Rob's normal purchases, which may have been of good genetic merit. The high index tups were assigned ewe groups with ewes marked and their lambs tagged and followed through to sale.

The rams cost an average of £613 compared to The Firths normal cost of £300. Note – it is possible to get good high index tups for £300 – 400.

	Tup 1		Tup 2		Tup 3	
EBV	EBV	Texel breed	EBV	Texel breed	EBV	Texel breed
Scan weight	7.48kg	Top 25%	11.94kg	Top 5%	14.23 kg	Top 5%
Muscle	1.42	Average	5.3	Top 5%	4.37	Top 5%
Fat	-0.1	Average	-0.63	Top 5%	+0.52	Below av.
Lean index	226	Top 25%	329	Top 5%	359	Top 5%

Expectations were that tups 2 and 3 should provide fast lean growth, with better muscle depth and better conformation. Tup 1 might not be much different to Rob's normal choice with most characteristics in the top 25% for the breed. We subsequently found out that one of Rob's tups had the 4 EBV measurements shown above in the top 25% also. EBVs for the two other tups were unknown.

Three mating groups were set up: a control (lambs blue tags) with 150 ewes and 3 of Rob's existing tups, orange tags – tups 1 and 2 with 120 ewes, pink tags – tup 3 with 50 ewes. All rams were put to Scotch Mule ewes. Ewes were colour marked and lambs were tagged at birth with the appropriate colour of tag.

When results for weights, grades and value were collated group members were surprised to see that the high index tups were outperformed by the farms normal purchases. A more positive result had been obtained for a major DEFRA funded study where 8 out of 9 farms experienced significant improvement using high index tups.

The Borders Community group discussed the findings at length and came up with the following comments:

- Rob now knows that he needs to buy tups with good growth figures **and** higher fat figures to meet his objectives of finishing lambs off grass from Scotch Mules.
- When using EBVs it is important to look at individual traits and not just the overall lean index figure. Lean index led Rob to buy tups that were less suitable for his system. One of his neighbours, a Community Group member, has hired in Rob's high index tups this year since they had the correct attributes for crossing with his earlier lambing Suffolk cross ewes.
- Lumbar palpation may not be the best method of selecting lambs for leaner, later maturing types. Our grader selected lambs that were too light, and still at an immature stage, because of deeper muscle depth. Selecting similarly bred types by weight may be better and there will be less risk of overfat lambs from high index rams.
- Members of the Community Group still believe that EBVs are an extremely useful tool for selecting the correct tup, and have enough evidence of this from their own lambs performance.

## **Testing for anthelmintic resistance**

Vet Ewan Simpson suggested that we should test lambs for anthelmintic resistance. Tests have shown that 60% of Scotlands lowground flocks may be resistant to BZ (white drench) wormers and there is some evidence of resistance to the other two groups.

40 lambs were selected and a test of 10 picked at random showed an average faecal egg count of 450 eggs per gramme, indicating that the challenge was sufficiently high to test efficacy of wormer groups. 10 lambs were assigned to each group – control (untreated), benzimidazole (white), levamisole (yellow/clear), and macrocyclic lactone/ivermectin. One bulked sample was tested for each group at different timings outlined below. Lambs were moved on to what was assumed to be “dirty” pasture (previously grazed by sheep) after treatment. Post weaning is accepted as one of the best times to test for resistance given the extra stress that lambs are under.

Results: ten days after worming, control –25 eggs/g, levamisole – 50eggs/g : repeat test, control – 200 eggs/g, levamisole – 50 eggs/g: 14 days after worming – no eggs found for any group including control.

Conclusions. There was considerable variation in results and a drop off in worm egg counts even for the control group. It could be concluded that the tests were inconclusive but also that they did not reveal evidence of resistance to any of the three wormer groups.

It is interesting to note that subsequently the North Argyll Monitor farm undertook a similar test and established evidence of resistance to the white drench group.

High worm egg counts after treatment are not necessarily due to resistance. New Zealand evidence showed that in many cases the poor control was due to failing to provide the correct dose, poor drenching technique or failing keep the sheep off feed overnight before drenching (white and ivermectin types).

## **Tupping policy for ewe lambs**

Rob and Kath Livesey decided to tup their ewe lambs for the first time in 2003 in order to boost lamb output. It has been proven that mating ewe lambs does not affect overall productivity, and in fact might improve lamb survival, since a gimmer that has already reared a lamb is more capable of dealing with twins than one lambing for the first time. However if those mated as ewe lambs need to be given preferential grazing in the subsequent summer if they are to hit target weights for mating as gimmers.

As a rough rule of thumb a ewe lamb should only be put to the tup if it has reached the normal weight of a finished lamb of that breed a month before mating. Rob Livesey runs his lambs through his automated Racewell sheep handler, which quickly drafts out lambs weighing over 38 kg in mid September. Anything lighter is held back from the tup.

A vasectomised tup is first introduced to the ewe lamb group for 11 days and withdrawn for 2 days before the tup is put in. The ewe lamb mating is timed to start one week after tups go in with the main group of ewes, and lasts for only one 21 day cycle. This reduces the risk of difficulties lambing large single lambs from ewe hoggs. Choice of tup is also important and the Liveseys use Lleyn tups which produce lighter lambs that are born easily.

This policy has produced good results for the last 3 years producing extra output without greatly increasing labour requirement. Ewe hoggs have scanned at 117% in 2004 and 131% in 2005.

## Tackling footrot

Footrot is a major problem in many housed sheep flocks. SAC had developed guidelines for best practice ideas to control footrot, funded by SEERAD, which had been tested on a few of farms. The Monitor Farm was considered an ideal venue to confirm the effectiveness of the guidelines and to get control techniques accepted by farmers.

Our Monitor farmers repeated the successful footrot control policy used in 2003 – 04.

Identify ewes requiring treatment in mid December – draft off visibly lame sheep in the race, run rest of flock through footbath with 3% formalin, run through race again (those with scald or mild footrot will usually limp after going through formalin. Repeat again if necessary.

Diagnosing lameness problems – the lame ewes were then individually inspected in the turning crate and inspected for 4 conditions

- Problems between the toes – scald
- Problems between the toes with underrun of the hoof and smelly – footrot
- Problems not due to specific disease – white line disease
- Problems at the top of the coronary band (hoof hair junction at the top of the foot) – CODD.

Where necessary a light trimming was carried out with footrot shears to identify problems and correct major foot abnormalities.

- Chronic footrot – ewes with chronic footrot were given an antibiotic injection, stood in zinc sulphate footbath.
- Severe footrot/swollen feet – antibiotic injection, pared once antibiotic took effect, zinc sulphate foot bath
- Scald – stood in zinc sulphate bath
- White line disease – foot trimming and zinc sulphate footbath.

Most ewes were housed but lame ones were kept in a separate group outside to prevent any spread of infection. Very little evidence of lameness was seen in the sheep house as a consequence.

## Clipping lambs for intensive finishing

Clipping housed lambs which are finished on an intensive cereal diet can improve liveweight gain, increase finishing weight, and price per lamb according to an unreplicated trial conducted at The Firth in 2004.

The table below summarises the 2004 results.

	Average start weight kg	Average sale weight kg	Average days to sale days	Average daily liveweight gain g/day	Average price £
Clipped	32.0	38.8	30	227	£45.16
Unclipped	33.4	37.9	31	146	£42.09

## **Acidosis in ad lib cereal fed lambs**

350 lambs were housed for intensive finishing in autumn/winter 2005. No problems were encountered in the transition from grazing plus creep to housing in 2004, but some major problems were encountered in 2005. Conversations with other farmers has shown that acidosis is having a serious impact on lamb finishing economics on some farms.

The group discussed the transition to ad lib at our December meeting and some suggested that a proprietary concentrate be mixed with the urea treated cereal in the transition to *ad-lib*. Rob explained at that meeting that he was concerned that many of the smaller lambs were eating straw and ignoring the cereal. Given that he had no problems the previous year Rob stuck with urea treated cereals and soya as the concentrate.

Over 30 lambs out of 350 had died, mainly indoors but some outside. Only one lamb had been taken to the vet lab for post mortem and this had shown some evidence of pasteurilla, some incidence of worms, but had a lot of grains in its stomach leading to the conclusion that the main cause was acidosis. Most of the lambs that had died had been from the poorest end, but others had appeared duller than usual after going on to the *ad-lib* feed. Some of the lambs had been offered cereal before being housed but most had been started with *ad-lib* urea treated wheat.

Suggestions from the group to avoid acidosis were:

- Feed a proprietary compound feed from start to finish – will completely eliminate losses (but increase costs).
- Train the lambs to eat by offering cereals to ewes either after lambing or before weaning. This encourages the lambs to copy their mothers behaviour.
- Start with a compound and gradually switch over to urea wheat and soya
- Mix a fibrous feed such as beet pulp in with the cereal.
- Offer a mix of silage and urea cereals to overcome the problem (Rob's solution) although this might lead to slower growth rates than an *ad-lib* cereal diet.
- Start feeding the lambs from troughs, closer to ground level, where the lambs are happier to feed. Position the troughs around the edge of the pen to minimise soiling.
- Allow the lambs extra trough space initially to encourage shyer feeders.

The consensus of the group was that the compound feed offered the best solution, even allowing for the extra cost. SAC's experience with other farmers is that a cereal soya mixture can safely be fed as long as it is built up from 2 feeds to *ad-lib* gradually.

## **4.4 Cattle enterprise**

### **Suckler herd fertility 2005**

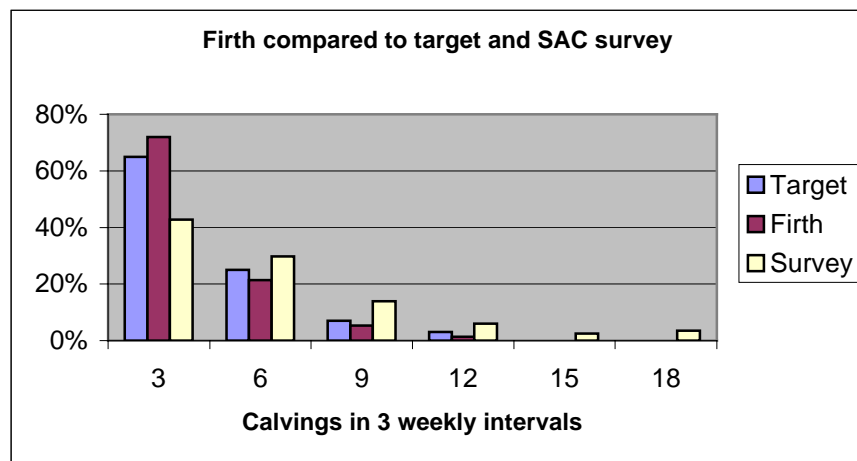
Borders Monitor Farmers Rob and Kath Liveseys spring calving herd achieved 100% cows and heifers PD'd in calf, 98% cows calving, and 93% calves reared in 2005. The rearing percentage is well above the QMS Cattle and Sheep Enterprise Profitability in Scotland survey average of 88% reared for LFA suckler herds.

The herds excellent fertility can be attributed to:

- The breed of cow – the Saler is a breed selected for maternal attributes, which include early sexual maturity (easily able to calve down at 2 years of age), reasonably short gestation periods, relatively low birthweights, and good fertility.
- Efficient foragers – being good converters of roughage, the cows maintain condition even under adverse conditions.
- Good stockmanship and management of cow condition by the Monitor Farmers.

The Liveseys have been able to maintain a tight calving pattern in recent years. In 2005 91% of the cows calved in the first 6 weeks of the calving period, with calving completed in 11 weeks. A tight calving period allows easier management of cattle, better batches of calves for sale, and increases the chances of cows calving within a 365 day interval.

This result is significantly better than for other herds in an SAC survey – see table below.



To achieve tighter calving patterns farmers can:

- Select replacement heifers using maternal characteristics rather than breeding replacements from terminal sires (we already have a number of traditional/maternal breeds to work with and new maternal ebvs will help).
- Use bulls with better calving ease and avoid those with long gestation periods.
- Maintain a satisfactory herd health status
- Manage cow condition to hit targets at key times of the year.
- Limit heifer bulling periods – a 6 week target is sufficient, anything later is likely to be inherently less fertile.

## Benchmarking performance - Calving to weaning

Firth performance compared to target using SAC Fertility Benchmarking Format

	Cows/heifers mated		Target
	Number	%	%
Fertility			
Cows/heifers to bull	76		
Cows/heifers calving	75	98.7%	96%
Cows/heifers barren	0	0.0%	4%
Cows/heifers aborting	0	0.0%	
Cows/heifers mortality (M-C)	0	0.0%	
Calving period weeks	12		12
Replacements	13	17%	<15%
Rearing			
Calves weaned	71	93%	94%
Cow/heifer mortality Calv- Wean	0	0	
	Cows/heifers calving		Target
	Number	%	%
Cows/heifers calving 1st cycle	53	71%	65%
Cows/heifers calving 2nd cycle	15	20%	25%
Cows/heifers calving 3rd cycle	4	5%	7%
Cows/heifers calving 4th cycle	3	4%	3%
Cows/heifers calving 5th cycle	0	0%	
Cows/heifers calving 6th cycle			
Cows/heifers calving later			
Total calving	75	100%	
Twin births	2	3%	
Total born	77		
	Live calves		Target
	Number	%	%
Calving			
Live calves > 3 weeks	73	94.8%	98%
Dead calves < 3 weeks	4	5.2%	2%
Calf mortality 3 weeks to weaned	2	0.0%	2.50%

Notes: 57 cows and 25 heifers to bull

6 culled OTMS, deducted from those put to bull (were all in calf)

100% PD'd in calf

Calves weaned 57 plus 14 heifers/cows sold with calves at foot = 71 calves reared

Calf deaths - 1 premature died after 7 days, 1 lay on, 1 ignored, 1 dead twin

- This level of fertility performance is significantly better than average as described in the previous paragraph.
- 93% calves weaned is just below target of 94%. This has occurred due to higher calf losses than target – 4 within 3 weeks of birth (reasons outlined in notes below table) and another 2 prior to weaning. This is something that could be tackled in future although finding ways to prevent some of these deaths might be difficult.
- Note that the weaning figure includes 13 calves that were sold with their dams in July at 4 months of age.

This is a very useful benchmark that can be completed from basic records and calving book entries. How does your herd compare?

## Calf growth rates

The Firth bought weigh cells for the cattle handling system when they became Monitor Farmers. Weighing the cattle at key times of the year has provided useful information for fine tuning feeding policy and replacement heifer selection.

The table below shows growth rates for the 2004 born calves.

Steers	Weaning	Turnout	July	September
Date	09/12/2004	03/05/2005	15/07/2005	30/09/2005
Av weight kg	305	420	451	574
Av lifetime lwg kg/day	1.12	1.00	0.97	1.00
Av age days	242	386	430	537
Av lwg kg/day period	1.12	0.80	0.70	1.15

Heifers	Weaning	Turnout		August
Date	09/12/2004	03/05/2005	15/07/2005	01/09/2005
Av weight kg	272	365		448
Av lifetime lwg kg/day	0.99	0.86		0.81
Av age days	239	384		507
Av lwg kg/day period	0.99	0.64		0.67

The Monitor Farm group was impressed by the growth rates of these three quarter Saler or pure Saler calves.

Liveweight gains to weaning of 1.12 kg/day for steers, and 0.99 kg/day for heifers are good especially when the calves only receive creep feeding for 3 weeks before weaning, after they are housed. Much of this gain must be produced from cows that are continuing to milk well through lactation.

Steers were away wintered and returned to the Firth in fit condition. They gained 0.8 kg/day, which sounds reasonable. However the steers were fed concentrates right up to turnout which penalised weight gain in early summer, 0.7 kg/day up to July at a time when gains should be at their best. Removing concentrates 6 weeks before turnout helps the rumen adjust to a forage diet and provides compensatory growth in earlier spring at low cost. Gains from July to September were 1.15 kg/day because the steers were trough fed bruised barley from August onwards for finishing.

Heifer calves gained 0.64 kg/day from weaning to turnout. Gains from turnout to August were 0.67 kg/day. All of the heifer calves were put to the bull in June, and these growth rates are sufficient.

Average lifetime liveweight gains of 1.0 kg/day for steers and 0.81 kg/day for heifers to 16 – 17 months of age on forage diets stand comparison with many other herds using continental terminal bulls.

## Successful beef production

Success beef enterprises will in future need to rear close to a target 94% calves weaned and optimise growth rates of their calves. Target growth rate will depend on the finishing system – *ad-lib* cereals, forage based, or a combination of the two.

Group members have been impressed, and to be fair a little surprised, by growth rates of the Firth cattle. They have also been impressed by the cows fertility, still one of the best results for herds surveyed by SAC. The Salers are easily managed, docile, milky maternal types which hold condition well. The Monitor Farm experience would suggest that this is a breed that could be considered when looking for easily managed, more self sufficient cows, in future.

## **Herd health monitoring**

Rob and Kath have sold approximately 14 heifers with calves at foot at the May breeding sale for the past 2 years. The question asked was – is it in their interest to sell stock that have been monitored for BVD and Johne's, and would group members (as potential buyers) value some health assurance if buying in replacements? Since 2004 all breeding stock have been vaccinated for BVD and Leptospirosis.

The question asked was could you add value to sales by monitoring disease in a health scheme? George Caldow of SAC presented the vets viewpoint.

- BVD and Johne's are two most economically important diseases.
- Approximate costs of monitoring – BVD screen 10 calves >9 months of age each year costs around £100, Johne's screening of 75 cows at £6/head annually costs around £450. Total cost to farmer of £450. If sell 14 heifers, testing cost of approximately £40 per head, plus need to charge something extra for profit. Suggested around £60/head.
- Explained that BVD vaccination is not foolproof, need to avoid producing PI's.

Marketing – is there demand for accredited breeding stock?

- More farmers now seeking beef type cows with Johne's accreditation – especially in the North.
- Costs of clearing Johne's affected animals out of a herd are significant (annual testing over several years)
- Some group members would consider buying Rob and Kath's Salers but only if they had accreditation for Johne's. Willing to pay £60/head premium.
- Advantage of buying stock direct from farm – see what the animals turn into, and Firth has big selling point of impressive weight gain figures for calves.
- Should heifer group all be run with terminal type bull? Is this more attractive to buyers?
- Should The Firth sell heifers as bullers, in calf, or with calf at foot? – less risk with first 2 options.

Footnote: another group member has purchased 7 in calf heifers from the Liveseys since this meeting.

## **Sell store or finish?**

The Firth has traditionally sold steers calves store. Before the Monitor Farm project started the Liveseys sold these calves in March, but felt that the price received did not reflect their potential.

In 2004 the store calves were sold in July at approx. 500kg. In 2005 store prices dropped with the finished price in mid summer and the best offer of £1.00/kg was not deemed good enough. A decision was then taken to finish the 23 steers.

Bruised barley was trough fed at grass at up to 5kg/head. The first batch of cattle were sold in October at 244kg dw for £1.90/kg. The remainder were then housed and finished on a concentrate and straw diet.

Did finishing leave a better margin than selling store? Results will be analysed at the February 2006 Community Group Meeting.

## **Rotovirus in calves**

Vet Ewan Simpson explained that the outbreak suffered at The Firth last spring had been unusual since only 9 calves were affected and all recovered. A more typical outbreak would result in more affected, substantial costs in time and treatment, and some deaths. The disease usually strikes calves around 7 days after birth and will spread rapidly from calf to calf. Some group members now vaccinate routinely to avoid a repeat of the cost of previous outbreaks. Those who turned calves out or calved outdoors experienced few problems.

Ewan and group members recommended vaccination. Best done 1 month before calving. Approximate cost £9/cow.

## **Creep feeding**

The subject of creep feeding calves was brought up at the October meeting last year. It was raised again to see whether any of the members would suggest that Rob would benefit from feeding any group of his calves on creep. The general consensus was that the calves do not need to be pushed and are probably receiving enough milk to maintain good gains. Weight records have shown that Rob's cattle achieve 1 – 1.2 kg per day up to weaning, compared to others which are creep fed at 1.2 kg per day, and their liveweight gains to year old and 15 months compare with other herds. It was decided that creep feeding was probably not necessary in this particular situation.

However creep feeding would be recommended for other situations where farmers were trying to put extra weight on to cattle to finish them off grass in the second summer. Creep feeding in this case would provide 20 to 30 kg of reasonably low cost lean growth that could make the difference between selling the cattle off grass and housing in the next year. It was agreed that creep feeding for 3 weeks before housing might be beneficial in reducing the housing and subsequent weaning check and may allow Rob to wean some of his calves earlier.

## **Weaning age for calves**

Debated whether weaning should be brought forward by one month to mid November. The Liveseys main motivation is to wean late to avoid pneumonia. However pneumonia is becoming increasingly common now in January. Other reason for earlier weaning is to improve cow condition, save feeding costs, and feed more to calf direct. After discussion decided "if it ain't broke don't fix it" since performance of cattle is very good over lifetime.

Rob reduces weaning stress by swapping cows from male group to heifer group. Reported that others have weaned cows gradually – first third, second third, third third – which seems to avoid mass calf hysteria caused by abrupt weaning.

Calves have been offered creep in last month – a familiar feed helps reduce weaning check. Calves currently consuming around 1kg/head. Recommended that Rob feeds creep earlier in order that intakes are up to at least 2kg/day before housing.

#### 4.5 Firth feeds and diets

Presented rations for cows and calves based on feed analysis and quantities of feed available. Feed analysis entered where available.

Feed	Tonnes	DM %	ME MJ/kgDM	CP g/kgDM	Est cost/value £
Pit silage	800	32.7	10.7	96	20
Hay	60	84.5	10.0	120	50
Wholecrop wheat	70	55.3	10.4 est	95 est	37
Urea treat. wheat	120	68.6			65
Barley	30				75
Barley straw					40

##### Recommended diets

Finishing steers – currently getting 5kg urea treated cereals in troughs at grass. Most should finish off grass. Housed steers to be gradually built up to ad lib concentrate diet – barley 90%, soya bean meal 10% plus intensive beef mineral.

Weaned calves – steers ad lib pit silage plus 3.1 kg urea wheat for 0.8kg/day gain, *ad-lib* silage plus 2.1 kg urea wheat for 0.6kg/day gain. Diet calculated for 350 kg steer at mid point of winter. Phase out concentrates from 6 weeks before turnout for compensatory growth off grass.

Suckler cows – before weaning *ad-lib* silage plus 1.0 kg urea wheat. After weaning approximately 15 kg pit silage plus 5 kg straw. Cows mostly in good condition at present.

Finishing lambs – *ad-lib* urea treated wheat 95% plus soya bean meal 5% plus intensive lamb mineral. Supplemented by clean straw and water.

Ewes from housing in early Jan – mix of pit silage and cracked wholecrop wheat (50:50 on dry matter basis) supplemented with urea treated cereals in run up to lambing and additional soya bean meal from 2 weeks before lambing to improve colostrum quality.

#### 4.6 Grass and forage issues

##### Timothy Trial (from May meeting)

The group stopped in the field, which had been sown with a seed mixture containing a highish rate of Timothy on one side and no Timothy on the other. It was not easy to visually tell the difference and certainly not as dramatic as in the back end. Gordon Bruce of the Grass and Forage sub-group reported that he had visited the farm in March and put down some exclusion cages. The Timothy sward had definitely given some extra growth, which he estimated to be 15% in early season. This was done fairly roughly in 1ft<sup>2</sup> plots using 3 patches and is probably not a true comparison due to the accuracy of sampling and the differences in seed rate between the Timothy sward and the other sward. The Timothy sward is thicker because it had a higher seed rate due to smaller size of Timothy seeds.

This field had not received any nitrogen and had a reasonable clover content and it was decided that it would be best to hold off nitrogen and maintain grazing pressure to allow the clover to spread.

### **Management of Re-seeds (May meeting)**

We inspected 2 fields that had been reseeded in 2004. Mob stocking the young grass and then resting it was decided to be the best policy. This allowed the clover an opportunity to thicken up and helped tiller the plants.

An area of one of the fields had been sown with a herb mixture that consisted mainly of chicory. These plants have good anthelmintic properties but the problem is that if the sward is regularly grazed they will die out due to competition from the grass. A possible alternative might be to have areas of herbs fenced off at the sides of fields which are accessed infrequently – however this does not sound a very practical proposition.

### **Management of grass in mid summer (July meeting)**

A number of the fields had been recently topped with grass now growing well but height was uneven. A discussion ensued on how this grass would be best managed and how it could have been managed prior to heading. A group member stated that he runs his ewes and lambs in a large mob on a rotational basis, grazing fields fairly bare and then moving on to fresh pasture. This he finds the most effective way to control the grass and to maintain animal liveweight gains. Rob had practised rotational grazing on some fields near Netherraw but thought there would be some practical difficulties in moving sheep on a larger scale in other fields.

### **Late season nitrogen and lamb scour?**

Should nitrogen be applied to provide extra grass in August and September? Rob tends to avoid late nitrogen applications as, in his and others experience, this leads to increased scours in lambs. The Firth generally grows good grass for the month of August but tends to run out of grass in September. It was suggested that if grazing was short, or likely to be short, that 30 odd units per acre of nitrogen be applied to one or two of the late fields before early August to provide a later flush. There is no reason why a field of leaner ewes could not be grazed on this grass before tugging.

### **Making More Use of Clover**

Welsh work has shown that lamb growth rates can be greatly improved by establishing clover swards either red clover or white clover. A sheet was produced that showed the dramatic results of some of these trials and it is certainly something that members of the group and Rob would consider for the future. On a non organic farm, some fields could be managed exclusively for clover without nitrogen applications and others could receive fertiliser applications as and when necessary to provide the correct supply of grass, especially in early season.

## **4.7 Are crops viable on the livestock farm?**

Do cereals have a place on the mainly livestock farm? Are the costs of growing a small area of crop justified, or would it be cheaper and involve less labour to buy in from another farm. This has been a recurring theme at the Firth.

Crop net margins were calculated at the May meeting for cereals harvested in 2004.

27.1 ha of winter barley produced a net margin of £34/ha. Largely due to good yield of 7.1t/ha, malting price £68/t, straw yield 3.6t/ha @ £40/t and no drying charges.

20.2 ha of wheat produced a net margin of -£33/ha. Yields were poorer than normal (7.5t/ha) due to slug damage.

We were surprised by the fact that these margins were close to breakeven. A decision taken to increase winter cereal acreage this autumn. Main drivers are need for straw and homegrown feed. Established 34 ha of winter barley and 18.4 ha of winter wheat for 2006 harvest. This is an issue, which is constantly up for revision.

#### **4.8 Land Management Contracts**

Land Management Contracts (LMC) were discussed at two meetings – in May through a talk by local SAC consultant Donald Dunbar, and in December.

Discussed benefits of Health and Welfare Planning options through LMC at the December meeting. Of the 28 group members present for the morning session 13 had opted to health plan with the vet and 4 had gone for the benchmarking option. The Firth had opted for both.

Discussion ensued about the benefits for farmers and vets. Vet Ewan Simpson stated that farmers would have better information on which to base decisions, and also that vets would gain a better understanding of the farm system. Often vets only see the problems and do not get a full appreciation of the beef or sheep system, which would certainly help problem solving and planning.

#### **4.9 Build a new shed?**

The Liveseys intend to put up a new shed in the near future and have successfully obtained an FBDS grant to help with the costs. Without giving away too many details the group were asked to come up with the uses for this new shed and also some justification for this since they have now got to know the farm over the last two years. Members were divided into three groups and reports are shown below.

Group 1 would have put up a new shed measuring approximately 100' x 40' for cattle housing. This would hold the steers that are currently sold as stores and finish them in addition to the 25 steers, which were away wintered this year. The area vacated by the finishers could then be used for sheep in the second half of winter. Construction would be of a clear span building with feeding around the perimeter. Justification would be an opportunity to hold on to existing stock and fully utilise extra grass and the cereals that are grown on the farm.

Group 2 did not recommend any increase in the numbers of cattle kept but would have put up a small shed to hold the 25 steers which were away wintered last year. They reckoned this would save £1,100 in costs against £1,500 depreciation for the shed, which was reasonably close to break even, and the shed would have other uses. They recommended that it be built on the owned land near the proposed new house at Netherraw. This would be a good asset for the future and it may be that this is a one off opportunity to take advantage of grant of up to 40 or 50%.

Group 3 took a different view in that there was no real justification in their eyes for putting up a shed as this would merely add to costs. One suggestion was that we should look at the existing sheep shed and put in slats for sheep which would allow a lot more to be kept in the same space, particularly if winter shorn – this was the view of a minority of one. They added that if a new shed was built it should be located at The Firth where all the other feed was since this would be much easier for management reasons.

A new shed will be built but at the time of writing the location has not yet been chosen.

#### **4.10 Financial subgroup**

This group met in May to discuss machinery replacement policy and planning for a new house adjacent to The Firth.

A special financial and fixed costs meeting was organised for December 2006.

#### **5.0 Objectives for 2006**

The Monitor Farm project at The Firth is set to finish at the end of September. It is hoped that the Community Group can be maintained and that funding will be provided for another Monitor Farm in the Borders.

Final year objectives were set by the group as follows:

- Increasing numbers of lambs sold at grazing
  - offer creep feeding earlier
- More effective finishing of housed lambs on ad lib diet.
- Benchmarking scanning to sale performance within group
- In depth analysis of Firth accounts
  - more discussion on reduction of fixed costs.
  - Get group members to present their costs as % gross output
  - More benchmarking of group farms
- Enterprise margins and benchmarking
  - calculate costs per kg for production and price per kg at sale
- New Key Performance Indicators for cow efficiency
  - example given was kg calf produced per 100kg cow weight
  - group to benchmark
- Making use of Racewell handler (tied in with other projects?)
  - performance of ewes tuppied/untuppied as hoggs (electronic tags)
  - record more info on ewe performance – breeds – assess female lambs (electronic tags)
  - performance of progeny of New Zealand cross Suffolk lambs
  - weight of lambs at weaning in different groups
  - high clover swards v others
- Steers
  - Breakeven calculations to help with store or finish decision
  - Faster finishing systems
- Trace elements
  - Suggested that analysis could be done and trace element product applied to one field
  - Assess effect on lamb growth using Racewell.