

Banff & Buchan Monitor Farm Project

Annual Report 2006

Project Managed by

Supporting the
land-based industries
for over a century



Project Funded by



Mike Fettes
Consultant
SAC Farm Business Services
Clifton Road
TURRIFF
Aberdeenshire
AB53 4DY
Mike.fettes@sac.co.uk

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1 Introduction

The Banff and Buchan Monitor farm is one of 7 projects currently running in Scotland. The project is based around a New Zealand concept of sharing ideas and identifying best practice methods to improve the physical and financial performance of farms in a particular area.

The Banff and Buchan Monitor farm is funded by Quality Meat Scotland. Mike Fettes of SAC Turriff acts as project facilitator.

In practice a Monitor Farm is a commercial unit chosen as being representative of the area. This farm is then visited regularly by a Community Group, made up of local farmers, over a three year period. The Community Group led by the facilitator reviews the current farming practices of the Monitor Farm and tries adapting and refining the system to improve the performance of the farm.

1.1 Objectives of the Monitor Farm Project

The aim is to use the Banff and Buchan Monitor Farm as an example for local farmers that will motivate and influence their ideas to:

- Improve the financial and physical performance of their businesses
- Influence their attitudes to change and encourage the uptake of best practice or more efficient farm systems
- Encourage more sharing of ideas and perhaps co-operation
- Encourage farmers to record data, benchmark their performance against the Monitor Farm and identify ways for both to improve performance
- Encourage the development of systems that reduce production costs, improve performance and free up more management time.

These objectives will be achieved by:-

- Influencing the Community Group members at the Monitor Farm meetings
- Influencing other farmers through articles in the farming press
- The use of Monitor Farm Open Days to demonstrate the findings of the Community Group.

1.2 Key personnel involved in the Banff & Buchan Monitor Farm Project

- Monitor farmers Robert and Ethel Chapman and their son Iain
- Monitor farm stockman Angus Michie
- Facilitator Mike Fettes, SAC Consultant based in Turriff
- Monitor Farm Project Co-ordinator – Iain Riddell, SAC Senior Beef and Sheep Consultant
- Specialist Support – Iain Riddell, Ian Pritchard, Sheila Rusbridge, John Weddell, Gavin Hill and Jimmy Hyslop all SAC

- QMS Support – Johnny Mackey and Charlotte Maltin
- Community Group – local farmers who regularly attend meetings

1.3 Selection of Monitor Farm

The Monitor Farm selection was done democratically. An open meeting was held in Turriff in August 2004. At that time Iain Riddell, SAC and Johnny Mackey QMS explained how a Monitor Farm would work and farmers were asked to volunteer or nominate other farmers. A short list of three typical beef/suckler cow producers were picked. Using a selection committee of two local farmers, Johnny Mackey, Iain Riddell and Mike Fettes, R & E Chapman, West Cockmuir was picked after farm visits and interviews.

1.4 Community Group

50+ members, including 40 farmers, farm's vet, farm's business consultant, farm's beef buyer. On average attendances have averaged around 35 for the last two years.

- Sub-groups were formed for grassland, crops, beef and financial. These groups meet when required prior to Community Group meetings and influence the decisions taken by the Community Group and ultimately the Monitor Farmer.

1.5 Format of Meetings

Meetings were held regularly throughout the year avoiding the busy harvest period. Meetings started at the Tophead steading at around 1 pm with tours of stock and fields at both Tophead and neighbouring Quarryhead Farms. At around 3-3.30 pm the meetings moved to a shed at Quarryhead (in the summer months) or to the Heath-hill Hotel, Memsie for further discussion. Teas, coffee and biscuits were provided by Mrs Chapman and Mrs Michie when at the Quarryhead meetings or by the hotel.

The facilitator Mike Fettes plus an SAC specialist led the meetings. The knowledge and experiences of the Community Group members was used when making practical decisions for the Monitor Farmer to adopt.

1.6 Publicity

Features in farming press including Press and Journal, Scottish Farmer and some local paper coverage. As far as possible a small press article was released by the Press and Journal the week prior to each meeting.

Community Group members and QMS received reports of each meeting.

2 Farm Details

West Cockmuir - R & E Chapman

2.1 Location

R & E Chapman is a lowground arable and livestock business. The land comprises the two main units of West Cockmuir and Tophead (which includes the farm of Quarryhead).

Both farms are in the Mormond Hill area of Strichen with the main farm West Cockmuir being approximately 3 miles from Strichen.

2.2 Business Ownership and Structure

The business is a partnership between Robert Chapman, his wife and their son Iain. The land is owned by the business. At present the day to day and overall management of the business is undertaken by Robert Chapman. Cattle manager/stockman, Angus Michie, is in charge of the suckler herd and Iain Chapman, is in control of the arable part of the business.

As well as cattle and arable enterprises the business also has a large poultry business selling egg and point of lay pullets. The Monitor Farm Project is only concerned with the beef and arable enterprises.

2.3 Land

The land farmed by R & E Chapman lies within both less favoured and non-less favoured areas. The less favoured area is at Tophead with West Cockmuir being all non-LFA.

The soil varies from heavy clay on the permanent pasture at Tophead to lighter more arable land at West Cockmuir. Yields vary both with soil type and the growing season.

All the land farmed by R & E Chapman falls within the Moray, Aberdeenshire, Banff and Buchan, Nitrate Vulnerable Zone. The spreading of slurry and poultry manure is restricted at times on sandy or shallow soils.

2.4 Present Policy

Arable

Winter and spring crops are produced on the best arable land, the crops grown at present (2005/06) are:-

	Area Ha
Winter barley	22.23
Winter wheat	50.00
Winter Oilseed Rape	41.64
Spring barley	27.84
Grass (permanent & rotational)	123.20
Trees	4.00

As much of the arable work as possible is done by farm staff. Crop agronomy is undertaken by a local company who also supply chemicals.

Grassland and forage

Around 1200 tonnes of grass pit silage is made annually at Tophead approx 30ha first cut and 16ha second cut using contractors for mowing, chopping but mainly farm staff for the pit and local farmers for carting. All the fertiliser for the silage and grazing comes from the poultry manure produced at West Cockmuir. Robert estimates that he applies 10 T/ha during early spring, with extra applied for second cut silage.

Livestock

Approximately 130 suckler cows are kept, these are mainly spring calving but some autumn calving from slippage. Replacements have been bought in but it is hoped to produce own replacements in the future by the recent introduction of a Simmental bull. Bulls used are 3 Charolais, one Limousin and one Simmental.

Replacements are now all bought in since Robert has decided to concentrate on producing finished cattle.

All calves are taken to slaughter, bulls are kept entire and finished at 12-14 months. Heifers go to grass in spring and finish at around 16-18 months. The cows are fed silage and straw. All the calves are fed a barley beef ration from weaning.

The cows are kept at Tophead and the herd is relatively new. Mr Chapman and his stockman are keen to improve the herds performance and are open to new ideas (ideal for a Monitor Farm).

2.5 Buildings

A new purpose built cattle shed was erected in 2002 at Tophead where there is also a traditional type steading. All the cows and some of the weaned calves are housed at Tophead. The steading at Quarryhead is used for the finishing bulls and heifers plus some grain storage

2.6 Markets

All arable crops are sold through local merchants. Prime cattle go to local abattoirs but most have gone to McIntosh Donald. Replacement heifers are bought through Thainstone Mart or from local farms or dealers.

2.7 Environmental

The business has a Rural Stewardship Scheme undertaking various management options.

Being in a Nitrate Vulnerable Zone and producing a large amount of poultry manure the business is aware of possible pollution problems. However given the rising cost of fertiliser good use of all manure produced will help reduce crop and grass growing costs.

3 First Two Years - Overview and Objectives

At the first Community Group meeting in November 2004 Iain Riddell outlined the overall objectives of the Monitor Farm project. The main points for the Banff and Buchan Monitor Farm were:-

- It is a 3 year project with six Community Group meetings per year
- To achieve maximum benefit group members should attend regularly
- The aim is to improve the overall physical and financial performance of the Monitor Farm through the adoption of best practice by the Community Group

The first year followed the same sequence as other Monitor Farms. The first few meetings were about becoming familiar with the strengths and weaknesses of the current farming system and getting used to the interaction between group members.

The Monitor Farmers Robert, Ethel and Iain Chapman are very progressive and open to ideas which are practical and show potential.

The farm stockman Angus Michie is like minded and keen to improve the system being prepared to tackle, within reason, the ideas put forward by the Community Group. Angus maintains good livestock records and has an eye for detail. It would be difficult for the business to achieve the current level of output without the dedication and commitment shown by Angus.

The farm has good overall resources in terms of available buildings, breeding stock and available machinery. The land is in good heart and fertility is improved through the constant application of poultry manure from the poultry business at West Cockmuir.

Objectives for 2006

At the December 2005 meeting the Community group put forward the following objectives for the coming year.

Health and Fertility

- Blood testing and results or analysis
- Replacement policy decisions
- Benchmarking key areas against national results
- Assess health problems eg fluke and staggers
- Genetics evaluation through EBV's

Financial Analysis

- Cost systems eg heifers short keep versus long keep and bulls versus steers
- Net Margin analysis for enterprises
- Fixed costs analysis

General monitoring and evaluation

- Silage 1 cut or 2, cut later, arable silage
- Feeds for finishing cattle
- Grassland management
- Fertiliser use

Most of these objectives have been met and will be reported on in this document

4 Topics Dealt with and Outcomes

Management of the Cattle Over the Past 12 Months

Background

Throughout 2006 stockman Angus Michie has kept us informed about his routine management of the suckler cows, their calves and the finishing cattle.

The 2005 weaned calves were mainly housed at Quarryhead. All the calves are finished on an ad-lib cereal/protein/mineral balancer mix. During the 2005 calving 11 bull calves were castrated and finished as steers since some in the group felt there may be market pressure to move away from finishing bulls once the export ban was lifted. We monitored the growth rates and carcass results for these steers compared with the bulls and the heifers with the results shown in section 4.3 of this report.

All the spring calving cows were housed at Tophead during the 2005/06 winter. Once calved these cows were turned out and grazed with their calves until weaning in October 2006. The calves were given creep feed in the field commencing in July. The bull calves were offered creep ad-lib from the start whereas the heifers had creep restricted until late September when they too went ad-lib.

From the meetings

At the February meeting Angus told us that calving had just begun. Two cows had calved one with a set of Simmental cross twins. The calving cows all looked well and fit for calving and were being fed 20-25 kg silage and barley straw to appetite plus pre calving minerals. They had not been vaccinated for rota virus. Angus told us that the back-end calves were now eating approximately 1 kg/day creep feed. The 18 back-end calving cows were eating 1 kg/day bruised barley, silage and straw to appetite.

The group discussed how to overcome the possibility of staggers when the spring calvers go to grass. During spring 2005 2 cows were lost however during spring 2006 this was prevented by Angus feeding high magnesium minerals with some barley in the field plus high mag feed buckets. John Weddell informed the group that there were no grass species or varieties, which could be used, to overcome the staggers problem.

At the May meeting Angus gave us a summary of how the calving had gone. He told us that it had been an easy calving with one caesarean where the cow died, 2 calves lost within 48 hours and one over 48 hours, there had been 7 sets of twins. Of the 110 cows calved there were 114 calves. It was agreed that it had been an easy calving year in general. Iain Riddell added that having cows at the correct condition score of around 2.5 helps avoid calving difficulty. Angus told us that he had no cases of scour but that pneumonia had caused some problems with many calves having to be treated before being turned out at the end of April.

Angus informed the group that the bulls went in amongst the cows on the 8th of May and will come out around the 7th of August which is about 13 weeks. Iain Riddell pointed out that if they wanted to tighten up the calving then bulls could come out at 9 weeks, by culling later calving cows and gradually shortening the mating period. The Limousin bull went in with the bulling heifers on the 28th April, a little earlier than the cows, and will be taken out after 9 weeks. Ideally heifer mating should be reduced to a target of 6 weeks to keep subsequent calvings more compact. The heifers will be scanned early since some are 30 months in September so that anything not in calf can be sold as prime.

Cows which have not held to the bull have historically been given a second chance by going into the autumn (September/November) calving group. Given that cows born post August 1996 are now eligible for the food chain and are worth more this may change with any barren spring calving cows replaced with bulling heifers the following year. The back-end calvers are not weaned until September to prevent mastitis occurring during the summer when flies are common.

At the October meeting Angus informed the group that he had lost one cow due to staggers in the last week. Ian Pritchard reported that staggers has been a widespread problem over the last 10 days due to the amount of lush grass and cooler temperatures. He pointed out that cattle outdoors should be offered straw to help prevent the problem of staggers. Apart from one case of staggers Angus has had very few problems over the season. All the calves were vaccinated with Rispoval 4 and wormed in September. Pre weaning the calves were eating 4kg (bulls) and 3kg (heifers) of barley/protein mix. This year all the feeding barley has been propcorned and rolled, it is thought that this has limited coughing in the housed cattle and bloat since the barley is less well ground than previously.

Pregnancy Testing and Fertility

All of the cattle have been pregnancy diagnosed the results are as follows:

Cows	Heifers
112 to bull	27 to bull
100 in calf	25 in calf
10.70% not in calf	7.40% not in calf

This is an improvement on last years results, although it is still a high number of barren cows (over 10%). Historically the herd has had a range of problems causing fertility including mastitis, due to being late calvers and cows that aborted in the previous year.

Robert questioned the group on what he should do with the barren post 1996 cows and does it pay to keep them? - Sjirk Oosterhof's opinion was to feed them until they reached fat to get a better price for them. - Whilst Iain Riddell's view was to sell them now, he stated that an older cow has a higher feed conversion ratio (20:1), resulting in more feed being required to put on a kg of weight – however the market requirements need to be met.

4.1 Suckler herd financial performance

This exercise was completed in January 2006 prior to the Open Day. Results are shown for calves born in 2005 and finished in 2006 (2005) and those born in 2004 and finished in 2005 (2004) for the spring calving herd only.

Results have been compared to QMS survey data for Rearer finisher enterprises - 12 farms with an average suckler herd of 133 cows with calves sold in 2004. This is a reasonably good match to the Monitor Farm.

Financial performance

	Monitor farm		QMS Rearer finishers
	R&E Chapman 2005	R&E Chapman 2004	Average 2004
	£ per cow		
Calf output	757	635	560
Subsidies	38	255	294
less net replacement cost	-44	-41	-58
Output	751	848	796
Purchased concentrate	15	19	89
Homegrown concentrate	113	61	53
Other feed	27	39	26
Forage	37	30	44
Total feed and forage	192	149	212
Vet and med	47	38	22
Bedding	36	31	43
Other costs	36	26	17
Total variable costs	312	244	294
Gross margin	439	604	502
Fixed costs	457	437	422
Net margin	-18	167	80
Net margin less subsidies	-56	-90	-214

Physical performance

Key performance factors	Monitor farm		QMS Rearer finishers
	R&E Chapman 2005	R&E Chapman 2004	Average 2004
Cows barren %	9	9	n/a
Calves born alive %	94	94	90
Calf deaths to weaning %	1	2	2
Calves reared %	93	91	88
Av DLWG to weaning kg/day	1.30	1.20	1.02

	Heifers 2005	Heifers 2004	Bulls 2005	Bulls 2004
Weaning to sale	260 days	319 days	176 days	184 days
Feeding period	335	327	372	367
Carcass weight kg	633	594	654	668
Av sale weight kg	1.23	0.88	1.57	1.65
Mortality %	1	4	1	4
Average price per kg lwt	221 p/kg	205 p/kg	206	200 p/kg

Comment

- R&E Chapman show a lower net margin in 2005 than 2004 - £18 per cow compared to £167 a fall of £149. Calf output increased from £635 to £757 but subsidy payments were £217 less, concentrate costs rose by £56. Fixed costs were £20 higher in 2005. R&E Chapman is showing a lower net margin in 2005 than the sample farm for 2004 -£18 v £80.
- R&E Chapman may differ from these other enterprises by having more animals finished on ad lib cereal diets. Although daily cost of these diets is higher, finishing time is greatly reduced and bedding costs are minimised through having a drier diet.
- Also the Monitor Farm performance has improved with more calves reared in 2005 than 2004 93% v 91% and the Tophead performance is better than for the sample with more calves reared 93% v 88%. Finished carcass weight have increased between the two years and the number of days fed have decreased for both the bulls and the heifers.
- Removing the subsidy payments alters the R&E Chapman net margin to -£56 per cow in 2005 and to -£88 per cow in 2004 as opposed to -£214 per cow for the sample. This is an improvement in Net Margin less subsidies of £32 between the two years for the Monitor Farm indicating that the changes made are improving the business performance. The Net Margin is still however negative and this illustrates the magnitude of the task faced in making beef enterprises pay without subsidy. They figures also show that the Monitor Farms spring calving herd is more efficient than most and already well ahead of the game. The group will seek to make further improvements in the coming year.

4.2 Herd Health and Fertility

During 2005 Sheila Rusbridge outlined the main disease problems the herd is likely to have which are BVD and Johnes and that the best way to combat these was through a suitable Health Scheme. Robert was convinced that this is the way forward for the herd and decided to join a scheme.

In December 2005 Robert had blood samples taken from the suckler cows as part of the health scheme he has joined. Following this at the February meeting the Community Group heard Sheila Rusbridge comment on the test results.

The results seem to imply that Johnes is not a major problem but only further annual tests would confirm this. She thought it best to cull any positive cows after they calve. The alternative was to form a separate herd with the positive animals making sure that there was no cross over of muck etc.. This would only be feasible if future tests indicate that it is a major problem and there were a practical number to form a separate herd. Sheila would like to see all the new bulling heifers tested as well as the new bull.

Robert told the group that he intended testing replacement heifers for Johnes and vaccinating against BVD and Lepto. Of the 20 cows tested for Lepto four have been positive. He will cull all Johnes positive cows post calving.

Group Members Problems

At the October meeting the Community Group discussed different health problems that they were coming across in their own herds, these included, an increase of

husk in mature cattle, Johnes disease, BVD and fluke. Brian Anderson reported that MacIntosh Donald slaughter sheets show if the cattle have had fluke pre-slaughter but don't actually classify if it as active or non-active, he added that if given notice, the vet can actually inform you of this after slaughter. Given the level of concern amongst the group it was agreed that we should invite Sheila Rusbridge to our next meeting to discuss some of these problems further in an attempt to develop best practice.

At the December meeting Sheila Rusbridge outlined the important points in the epidemiology of and the clinical signs of Lungworm. Clinical signs include, occasional to repeated coughing and extension of the head. If the animal is not severely affected then it can recover after treatment although, some animals will relapse with a hypersensitivity reaction when re-exposed to lungworm.

Lungworm can be diagnosed using clinical signs, the grazing history and the time of year, faecal examination (presence of larvae), blood testing or by the use of post mortem examination. Treatment for lungworm includes, anthelmintics and if required, antibiotics.

Prevention strategies for lungworm include:

- Vaccination
- Two doses of live vaccine
- Parasite maintained at low level on pasture
- Suppression
- Regular anthelmintic treatment
- If too effective may prevent development of natural immunity in some calves

Sheila explained to the group that with environmental and climate changes worms are being found at different times of the year e.g. January. It was asked if animals should be routinely wormed as a preventative strategy. Sheila informed the group that it is best to only worm animals when it has been confirmed that a problem exists. Testing should be carried out on dung or blood for the presence of worms. If animals are routinely wormed then problems of resistance may appear.

Sheila also gave the group an update of the Johne's disease status at Tophead. The first herd screen was in January 2006, the results of this were, three antibody positive. The cattle had their annual herd screen in November 2006, where one animal was tested antibody positive. This animal had also tested antibody positive in January 2006. This animal was retained on farm because Robert and Angus thought there had been a mix up with the blood tests as she looked to be in good condition. Now that the second test has come back antibody positive she will be culled.

Sheila also outlined some practical steps to control the disease, including identifying the problem, preventing the spread of the disease and limiting the spread of infection in a herd. Purchasing animals from a herd with a known health status can prevent the disease developing. If replacements are purchased from an unknown source they should be tested. The disease can be controlled in a herd through good hygiene of calving boxes and water troughs and using a test and cull policy. No progeny from infected cows should be retained for breeding.

Herd fertility 2005 bulling and 2006 calving

At the May meeting Iain Riddell presented the herd fertility performance for 2005 as follows based on the 2006 calving

	Number	As a % of cow/heifer mated	Target %
Cows/heifers to bull	134		
Cows/heifers calving	112	85%	95%
Cows/heifers barren	16	12%	5%
Cows/heifers aborting	0	0%	
Cows/heifers mortality (mate – calve)	3	2.2%	
Cows/heifers mortality (calve - wean)	2	1.5%	
Cows in calf but culled	2		
Calves reared	114	85%	94%

Iain commented that Robert could still improve production by reducing the number of barren cows. It will be interesting to see if the figures for 2006 improve given that the herd is testing for Johnes and vaccinating against BVD and leptospirosis. Iain then presented the calving performance for the 2006 calving.

	Number 2006	% per calving		% Target
		2006	2005	
Cows/heifers calving 1 st cycle	58	52%	50%	65%
Cows/heifers calving 2 nd cycle	28	25%	27%	25%
Cows/heifers calving 3 rd cycle	13	12%	7%	7%
Cows/heifers calving 4 th cycle	6	5%	7%	3%
Cows/heifers calving 5 th cycle	7	6%	5%	
Cows/heifers calving later	0	0	4%	
Total Calving	112			

Iain commented that the calving was better in 2006 with more calving in the first cycle and less in the later cycles and none after the 5th cycle. Calving could be tightened more by taking bulls out at 9-10 weeks and since young cows were now worth more it will cost less to replace them with bulling heifers.

4.3 Finishing Cattle

As in 2005 all the calves produced from the suckler cows are being finished on the holding. A real bonus has been the farms weighing crate and Angus has weighed the finishing cattle regularly. Since all finished cattle are sent to McIntosh Donald, having Brian Anderson, their procurement officer, in the Community Group has given the group active feedback on how the cattle are performing from the abattoir end.

Following on from the results from 2005 Robert has decided that all heifers should be finished on an ad-lib cereal/protein mix ration. Some of the smaller heifers were fed a store ration of 3kg barley mix and ad-lib silage from weaning until they weighed approximately 375kg. After that they moved on to the ad-lib cereal diet until finished.

Bulls V Steers and the Yeast Trial

Following discussions in February 2005 11 bull calves were castrated at calving but reared with the bulls. They also continued to be fed the same ad-lib cereal ration from weaning. At the same time a group of 16 bulls and 5 of the steers were fed the ad-lib cereal diet with a yeast additive. Yeast is expected to reduce rumen acidity and encourage higher feed dry matter intake and improve growth rates.

Some scepticism was apparent within the group at the February meeting, since the finishing animals seem to be performing above average anyway but we will keep an open mind and watch the results. Some of the heifers on the ad-lib cereal diet seemed to be getting fat too early. However Sjirk Oosterhof and Brian Anderson agreed that this did not matter and that they will still keep on putting on weight as normal. It was agreed that Robert should not be tempted to put the heifers away too early but let them grow on.

The Results

The average performance figures for the 2005 calves were as follows:-

	Estimated Liveweight at slaughter	Age in days	DLWG	Deadweight price	Daily Output From birth*	Average Value
Bulls	654.03	396.35	1.57 kg	2.06 p/kg	£1.95	£754
<i>Bulls 04</i>	<i>655.88</i>	<i>398.00</i>	<i>1.53 kg</i>	<i>2.00 p/kg</i>	<i>£1.84</i>	<i>£732</i>
Steers	696.41	504.55	1.28 kg	2.22 p/kg	£1.72	£866
Heifers	633.44	482.69	1.23 kg	2.21 p/kg	£1.55	£740
<i>Heifers 04</i>	<i>622.49</i>	<i>473.00</i>	<i>1.22 kg</i>	<i>2.06 p/kg</i>	<i>£1.44</i>	<i>£680</i>

* - Calculated from Total Sale Value divided by age in days

The performance of the bulls from weaning was fairly constant at over 1.5 kg/day while the performance of the steers had tailed off near slaughter from 1.43 kg/day to average 1.28 kg/day from birth to slaughter. The heifer's performance has

remained at a level 1.22 kg/day. It was discussed why the steers performance tailed off it was suggested that they had been kept on too long, or bullying and the possibility of the hot weather affecting them. Mike pointed out that this is what was expected would happen. As these animals get fat they become less efficient at converting feed to liveweight, it takes much more energy to put down fat.

The steers had taken on average 108 days longer to finish compared to the bulls but a greater price was achieved. The steers achieved £111.80 more than the steers. This extra value, however, only equates to £1.04 per day on average and it is unlikely this extra return is enough to cover all variable costs let alone fixed costs during the last 100 days or so finishing time.

Brian Anderson commented that a big advantage for the bulls is that they have better conformation than the steers and heifers. The grades for all the Tophead 2006 slaughtered cattle were used to illustrate this using the –U4L grade as the benchmark. Of all of the slaughtered bulls, 49% had this grade, only 9% of the steers and 12% of the heifers were slaughtered matching the-U4L grade.

Performance Pre and Post Weaning

The performance of the bulls, steers and heifers from birth to weaning and weaning to slaughter was then discussed. This is displayed in the table below.

	Performance to Weaning DLWG (kg/day)	Weaning to Slaughter DLWG (kg/day)
Bulls	1.50	1.64
Steers	1.43	1.18
Heifers	1.22	1.24

There was not much difference in the average performance of the bulls and heifers up to weaning and from weaning to slaughter. However, there was a large difference in the average performance of the steers between the two periods from 1.43kg to 1.18kg/day.

There proved to be no difference in growth rates or performance of the bulls and steers that were fed the yeast additive, although this was thought to be due to various factors including,

- Younger calves being used
- Small batch size (5/6)

The Stranraer monitor farm has trialed yeast with results of 0.77/day LWG compared to the control of 0.70/day LWG – a 10% improvement.

At the October meeting Ian Pritchard highlighted that yeast works by stimulating the rumen by;

- Mopping up oxygen – inhibits bugs
- Maintains pH – reduces acidosis, uses sugar to reduce lactic acid
- Provides bugs with minerals and vitamins
- Boosts protein
- Reduces gas – CO²/methane, reduces energy needed

Ian Pritchard then warned the group of increasing barley prices this winter and to know your cost of production. He outlined the most efficient system maybe to have a longer feeding period with a lower start weight and a higher end weight. As the animal gets heavier the feed conversion trails off. To optimise your system you should weigh the fattening animals regularly to increase the efficiency.

Marketing

At the December meeting Iain Riddell described Q Box. This is a report that is produced by McIntosh Donald for the it's producer club members; this report benchmarks the producers own data against McIntosh Donald data. The information is useful and a range of different variables can be benchmarked. The figures for the steers for the Monitor Farm and the average of all producers using McIntosh Donald are displayed below;

	Steers	
	R & E Chapman	McIntosh Donald
Average Weight	389.05	357.97
Conformation Score	3.45	3.92
Fat Score	4.82	3.96
Age	504.55	754.18
Average value	865.52	773.16
Deadweight Gain	0.77	0.47
Est. Liveweight Gain	1.28	0.78
% cattle with fluke	9.1	15.1

The above data shows that compared to the average the Monitor Farm steers:-

- Are on average heavier (31.08kg),
- have a lower conformation score,
- have a higher fat score,
- are on average 249.63 days younger,
- they have a higher deadweight and liveweight gain
- and finally a lower level of fluke incidence.

This data is useful for producers and could be used for the effective marketing of livestock.

Slaughter Weights – It Pays to Weigh

The weight gains between the bulls and steers highlighted that as the steers got heavier the growth rate of many of them dropped. In some cases the weight gain in the steers fell from around 1.30kg/day to under 1kg/day or less within 3 to 4 weeks. Once performance has started to fall it was agreed that the animals should be slaughtered since more fat will be produced and the carcass will be down graded. The McIntosh Donald Q-box data seems to indicate that the steers produced were fatter than average.

At the December meeting Iain Riddell pointed out that the UK average weight had changed from 317kg to 332kg between 2004 and 2006. The average steer sold to McIntosh Donald was much heavier at 367kg at 757 days. The heavier the animal

the higher the maintenance requirements. The liveweight gain of these heavier animals contains more fat and less lean meat, the problem here being, that fat takes up to four times the energy to produce, than lean meat.

Iain highlighted that the older an animal gets it's overall lifetime gain falls, as does the price (p/kg), and the feed conversion ratio. In addition to this the direct costs increase per kg of liveweight gain. Finishing an animal at 12 months means we could expect a conversion ratio of 5-7:1, feed costs/tonne would be high and feed costs over the animal's lifetime would be low to medium. In comparison to this an animal finished at 30 months would have a feed conversion ratio of 20:1, the feed costs/tonne would be low but the feed costs over the animals lifetime would be high.

A topic for the coming year!

So does weight pay? The daily cost of feeding *ad lib* cereal is higher although the net margin is better, this is due to faster growth rates and shorter finishing periods. From our farm scale trial it has become clear that cattle should be sold before their performance begins to seriously decline. If finishing cattle are weighed regularly near slaughter it is comparatively easy to pick out those animals where performance has fallen to around break-even. However to achieve this a producer must know his costs of production and this is one of our objectives for 2007.

The 2006 calves

At the December meeting performance of the newly weaned bulls and heifers for both 2005 and 2006 were then discussed. The table below illustrates the comparison of the two years data.

	Average Weight (kg)	Average age in Days	Average DLWG (kg) from birth
Bulls			
2006	459	265	1.55
2005	462	272	1.51
Heifers			
2006	353	270	1.16
2005	400	263	1.29

The bulls have been weighed seven days earlier, and are only 3kg lighter on average, resulting in a slightly higher daily liveweight gain in 2006 compare with 2005. The heifers have also proved to be lighter (47kg) but they were slightly older than the comparable 2005 calves, the daily liveweight gain was 0.13kg lower for the 2006 calves. However Mike pointed out that we are not comparing like with like in that only 28 heifers were weighed at this time in 2005 compared with 65 (all the heifer calves) in 2006. It is likely that as we get more weights the averages will be similar.

Cattle Handling System

At the July meeting Jimmy Hyslop SAC beef specialist outlined the major requirements of a suitable cattle handling system. He informed us that :

- The aim is to exploit an animals natural instincts to move forward

- If an animal is stressed by having a bad experience when handled this can reduced feed intake, can lead to impaired immune response and profit can be reduced since animals do not perform as expected.
- Stressed animals prior to slaughter can lead to poor eating quality
- The aim is to eliminate animal and handler injury
- Ideally today we want a one man system
- If an animal can see an exit it will move forward
- Sheeting race sides makes animals head towards an exit easier, also they can't put their head through the race sides
- Non-slip floors make moving easier
- Rubber or wood can reduce gate noise-less banging
- A curved race encourages animals to move towards on exit
- Height, size and slope is important for a loading ramp – watch new transport rules for door angle when loading
- Cattle do not like moving downhill, either flat or a slight inclination is deal
- A gangway for handler outside the race makes recording and inspection tasks easier
- Existing handling systems can be improved without being too expensive

We then split into groups, each group assessed the existing handling system. Using a scoring system of 1-8, good-bad. All the scores were collected and written onto the flip chart, the average results for each assessment was as follows:-

Cattle Handling System Assessment

Area assessed	Average Score
Collecting pens	5+
Forcing pen	3½
Race	6+
Crush	7
Shedding	<1 (cannot shed in the existing set-up)
Loading	4
Cattle Flow	6
Operator Safety	6
Access for vet/or treatment	8?
Suitability for different cattle sizes	5+
Speed of flow	5+
Noise	6+
Distractions for animals	5+
Non-slip floor	6

Overall rating 5-6

The results show that in general it was felt that the handling system was serviceable but could be improved. The main areas to be improved were:-

- Fixed collecting pens
- Forcing pen to prevent handler having to get in beside the animals
- The race could be slightly wider and slightly curved
- A sliding gate is needed at back of crush
- A shedding system could be introduced
- Perhaps a loading ramp away from the cattle shed to improve bio-security
- Sheet race sides
- Reduce gate noise

4.4 Grass Production at Tophead

Background

The Community Group discussed and monitored grass production throughout the 2006 growing season. The grass sub-group comprises

Donald Moir
Iain Taylor
John Penny

This group met several times and gave feedback on their views of how grass was performing.

2006 was a difficult grass growing season. The spring was late and cold followed by a dry hot summer.

At our February meeting John Weddell, SAC grassland specialist commented that he was happy with the grass swards which are mainly ryegrasses with medium to late varieties and should flower in early June. He recognised that this would be a late spring since the T-sum had been late due to the cold wet conditions and grass would be slow to grow. John recommended grazing new grass in the first year to encourage the sward to tiller and close up however perfectly good results have also been achieved by cutting in the first year.

The new grass sward had little clover since it had been sprayed for weeds during the summer. Robert however recognises that it will be difficult to grow clover when so much hens manure was being used with the nitrogen limiting the effect of the clover. John spoke about the new high sugar grass varieties and he was of the opinion that too much emphasis was being put on this. What is required is a mixture of varieties which suit the area and which will be suitable for the management. Timothy he told us was difficult to establish since it was a small seed and if clover was a priority then perhaps the grassland should be rested where possible during the summer for a while.

At the May meeting the community group discussed the height grazing grass should be at various times through the growing season. It is widely accepted that in the spring the ideal height for cattle is 6 – 8 cms increasing to 7-9 cms later on in the season as fields become contaminated with faeces and grass growth slows down. It was agreed by all that this had been a very poor spring for grass growth with cold and wet conditions limiting growth and leading to poaching. Iain discussed how grass less than 6 cms can lead to poor performance during the spring which in turn will affect the whole seasons performance. If grass is scarce it may be wise to graze all or part of a silage field and make an alternative plan for the winter by for example using whole crop silage or feeding a straw/cereal based ration to make up any shortfalls.

John Penny informed the group that his cows had developed iodine deficiency on a whole crop diet and he estimate that the costs were the same as for grass silage. Iain Riddell replied that a suitable mineral mix should always be used since wholecrop may be low in some minerals. He also concluded that the dry matter yield would be higher in wholecrop.

In one of the silage fields Bruce Mackie demonstrated a grass measuring stick followed by a New Zealand electronic measuring device the measurement indicated that the grass was 17 cm long with an estimated yield of 3,086 kg/hectare. The machine would be of most use for dairy cows however the results were of great interest to the group.

Effects of Climate Change

At the July meeting grass growth continued to be a problem John Penny and Donald Moir gave a report on behalf of the grassland sub-group. They explained that grass for grazing was tight this year, after a cold late start to the season grass grew well in June but now the hot dry weather had slowed grass growth down with second cut silage looking poor. Grass at Tophead for grazing was bare and they thought it likely the cows and calves would have to graze some of the grass targeted for second cut silage. It was pointed out that at Tophead there is silage at the back of the pit which is now three years old and perhaps it was time to use this and not worry too much about a second cut this year. Climate change may have to be taken account of in future years.

Donald Moir asked John Weddell about the latest time for spreading N on grass. It has been a long established rule that no nitrogen should be applied after the beginning of August. John pointed out that he thought the date could now be extended to late August with new grass varieties better able to withstand extreme weather. The changing seasons also meant that growth lasts later and cattle are now kept out longer.

John Weddell discussed the nitrogen requirements of grass for silage. He pointed out that in general 2 units of N/acre/day is required to give adequate bulk and ensure growth. Applying 120 units 60 days before expected silage cutting day was a rough rule of thumb. Group members thought that the weather this spring had been too cold for poultry manure to work properly and since it had also been a wet spring the muck probably went on later which just made the problem worse.

Outwintering at Tophead – Effects on Grass

In December Angus told us they were keeping most of the weaned spring calving cows outside on grass or stubbles until after Christmas and longer if possible. Approximately 40 cows had the option to be inside or out. The outwintered cattle were seen to be poaching a little and if the weather became too wet we could expect more damage. These cattle were being fed silage and straw but there was also quite a lot of grass about and it was still growing.

John Weddell informed the group about the deferred grazing plots that SAC is trialing at the moment. There are three plots at different locations including, Bush Estate, Edinburgh, Auchincruive, Ayr and Clashnoir, Glenlivet. There are three aims for the plots including;

- The best shut up date
- Mixture
- Utilisation of the grass

There have been three main shut up dates being, the middle of July, the end of July and the middle of August. At every shut up date 50kg of Nitrogen has been applied to the specific plot. The plots are not grazed, they are cut to find out the quality and yield over the winter period. At the moment there are no real results although it has

been found that the earlier the close up date the more bulk is found in the field. John will keep us informed about the results at a future meeting.

Robert questioned John Weddell about the effect that poaching damage would have on the sward. John informed the group that the ryegrass in the mixture could die off and could be replaced with annual meadow grass. One way to manage this problem would be to re-seed at a half rate every three to four years using a drill on top of the existing grass cover. The best mixture to use would be a perennial and hybrid ryegrass. Clover also struggles to grow in a poached field but again this can be resolved by adding clover into the half rate re-seeding mix.

Environmental Topics

At the meeting in October Paul Chapman SAC spoke about livestock farming and the environment. He was of the opinion that caring for the environment was an important part of a farms best practice even without environmental schemes like the Rural Stewardship Scheme (RSS). He covered some aspects of cross compliance breaches including:

- Having an NVZ plan (largest amounts of offences)
- Not shooting protected species e.g. geese
- Poaching (returning land to good agricultural condition)
- Avoiding over and under grazing of stock
- Protecting semi-natural vegetation (peat bogs in Buchan)
- Protect the landscape (archaeological sites, hedges and unwanted vegetation)

Paul informed the group of the possible new rural development programme outlining the tier structure. With tier 2 likely to be non competitive with a structure like the current Land Management Contract (LMC) menu scheme and tier 3 being competitive at a higher level than the menu scheme and would incorporate such schemes as the RSS, FBDS, forestry schemes etc.

The main drivers for environmental enhancement were also discussed including;

- Financial – recovery of modulation money
- Public relations – good image for farming
- Personal interest
- Marketing of produce - added value branded marketing instead of commodity farming

e.g. White & Wild Milk, RSPB beef & sheep, Jordan's cereals and the LEAF mark

It is hoped that Paul will come back and talk to the group next year once there are new schemes in place.

Improving nitrogen in grass and silage

At the December meeting Alex Sinclair discussed the best use of the poultry slurry, how much should be used and the environmental impact.

Poultry Manure Analysis

	2005	2006
Dry matter	36.4%	17.5%
Total nitrogen	2.08%	1.57%
Total phosphate (P ₂ O ₅)	1.24%	0.72%
Total potash (K ₂ O)	1.07%	0.79%

The manure sampled in 2005 was dry (36.4% dry matter) since it was taken straight out of the hens cages. In practice this manure is transported from the poultry unit to Tophead where it is mixed with rain water in the slurry pit. This is the reason that the 2006 sample proved to be wetter at a dry matter of 17.5%. This slurry is used as a top dressing on both grass and cereals.

Alex told the group that the best time to utilise this slurry would be February/March, at this time Robert will get the most nitrogen out of the slurry, as it will be washed in to the soil. He informed the group that with slurry you get a loss of ammonia into the atmosphere after six hours. In the case of grassland where the slurry is not being ploughed down this equates to a loss of 10% of the available nitrogen. In poached ground conditions the loss of nitrogen is even higher than 10%. This was clearly demonstrated following a trial at Edinburgh where fertiliser was applied to a waterlogged field, this resulted in 80% of this fertiliser nitrogen being lost to the atmosphere. He added that injecting the slurry into the ground would retain a higher amount of the nitrogen in the soil.

Alex was asked if the amount of slurry applied could be increased to aid the protein content in the grass and especially the silage which was consistently giving low protein analysis results. It was calculated that at present Robert is applying approximately 10 tonnes/hectare (4 tonnes/acre). Alex thought that he could use up to 16 tonnes/hectare (6.5 tonnes/acre).

The soil iron and aluminium content was then discussed. Alex told us that if the soil pH is too low (below pH 5.6) then the iron and aluminium starts to dissolve out of soil. For Robert this is not a worry as the limestone in the hen's feed keeps the soil pH at the correct level. Chris Barclay commented that iron and aluminium has an antagonistic affect on copper and could be effecting the fertility of the cattle. Alex questioned how aluminium could be coming in via the hen's slurry. Aluminium comes from silicates, soils and clay of which none are in the hen's feed. There is no aluminium in the limestone and so it was thought that possibly it may come in from soil contamination. It was agree that the poultry feed should be analysed for iron and aluminium.

Nitrogen Effect on Silage Quality

At the December meeting following Alex Sinclair's conclusions about the amount of nitrogen Robert was applying John Weddell discussed the silage analysis results from 2005 and 2006. The table below demonstrates the Tophead values for the two years along with the typical mean of values.

	Tophead 2005	Tophead 2006	Typical Mean
Dry Matter (%)	23.6	31.2	23
PH	4.3	4.0	4.3
D-Value (%)	71	63	64
ME (MJ/kg DM)	11.4	10.0	10.3
Protein (%)	9.9	10.3	10-20
Sugar (%)	9	70	20

The grass mix used is a Murray Duguid mix at 15 kg/acre, composition details are as follows

Grass Seed Mixture (2004)

Kg/acre

1.75	Perennial Ryegrass Int. Premium
1.50	Perennial Ryegrass Int. Aberdart
1.50	Perennial Ryegrass Int. Fornax Tet.
1.50	Perennial Ryegrass Int. Aubisque Tet.
1.50	Perennial Ryegrass L.Foxtrot
1.50	Perennial Ryegrass L.Aberavon
3.00	Perennial Ryegrass L.Sirocco Tet.
1.75	Timothy, Promesse
0.25	Clover White, Action
0.75	Clover White, Aberherald

15.00 kg per acre

John agreed that the protein content of the silage is rather low. This could be because of ;

- A)** Low amount of nitrogen in the grass which could be influenced by
- N fertiliser rates – the hen manure
 - The grass mixture

And

- B)** Weather which would affect
- Uptake, Mineralisation and Utilisation of fertiliser added or in the soil
 - Silage fermentation

And

- C)** Cutting date

The composition of the grass will affect the amount of protein, sugars and minerals that the cells contain. The table below illustrates that the taller and more stemmy a grass is, the lower the protein content is.

Grass Composition (% Dry Matter)

	Short Leafy	Tall Stemmy
Cell Wall (low digestibility)	35	60
Cell Contents	65	40
• Protein	33	7
• Sugars	10	25
• Minerals	22	8

John commented that the grass seed mixture was ideal and well balanced for this type of system. The low protein content in the Tophead silage is likely be due to the nitrogen running out by the time that the silage was cut i.e. the silage was probably cut too late. Any clover would not have made a big impact to the first cut silage as it grows slower in the spring, by the time of the second cut the clover would have made a larger influence to this content.

Conclusion

John informed the group that because of this he felt that it would be appropriate to apply more nitrogen for the first cut. He suggested that 120 kg/ha of nitrogen should be applied to the first cut and 80-100 kg/ha of nitrogen to the second. Given that poultry manure is applied in early spring then probably an extra 125-185 kg / Ha of a 34% nitrogen fertiliser should be applied in April or at least 6 weeks before cutting. He also thought that Robert should consider cutting 7-10 days earlier.

4.5 Arable Crops

Most of the arable crops are grown at West Cockmuir and their performance throughout 2006 was monitored mainly by the crop sub-group consisting:-

Peter Chapman (Chairman)
Iain Chapman
Iain Learmonth (Farm Agronomist)
Elaine Booth

Although the Monitor Farm Project concerns itself primarily with the cattle enterprises, the crop enterprises are providing feed grain and straw. As a result the crops are part of the whole farming system.

A complication for this Monitor Farm compared with other similar units is the amount of poultry manure being used. This manure has a high fertiliser value but also acts as a liming material because of the amount of carbonate in it. The soils at West Cockmuir are of a low manganese status and the poultry manure aggravates this leading to severe manganese deficiency in cereal crops. Most crops receive around 5 kg/ha of manganese sulphate to combat the deficiency problems and as much of the cattle manure as possible goes on to the arable ground. The amount of poultry manure used also reduced the amount of bagged fertiliser required for crops as well as grass. The main fertiliser used for the crops is ammonium nitrate to supply nitrogen.

2005 Winter Crop Trial

A trial was carried out in autumn 2005 to monitor the effect of combine drilling on manganese deficiency. One field of winter wheat was combine drilled with P&K. It is expected that the fertiliser will lower pH slightly allowing the crop to grow away faster.

Findings throughout the season

At the May meeting Iain Learmonth told us that the crops in general were looking better than last year. The trial using a combine drill for some of the winter wheat had been successful with less manganese deficiency seen in these crops and it is likely all winter cereals will be combine drilled in autumn 2006.

Wheat will be tested using a nitrogen testing kit to assess whether or not extra non-organic (bagged) nitrogen should be applied pre-heading. Most of the nitrogen to date has come from slurry and this has still to be analysed. The main problem from using slurry has been scorch.

The crop varieties grown were as follows:-

Winter barley – Pict Blend

Winter wheat – Riband

Spring barley – Golf

Winter Oilseed Rape – Bravo, Mendel, Malpas

Gross margins for the crops were prepared by the crop sub-group and are as follows:-

	<u>WINTER BARLEY</u>	<u>SPRING BARLEY</u>	<u>WINTER WHEAT</u>	<u>WINTER OSR</u>	<u>HEAR OSR</u>
OUTPUT per acre					
Yield	3.47	2.00	4.03	1.52	1.60
Grain Value/T	90.00	90.00	100.00	175.00	175.00
Straw Yield (bales)	10.00	8.00	12.00	0.00	0.00
Straw Value (per bale)	6.00	6.00	4.00	0.00	0.0
2006	372.30	228.00	451.00	266.00	280.00
(2005)	(227.20)	(212.25)	(262.40)	(211.40)	(312.00)
VARIABLE COSTS per acre					
Seed	16.00	9.60	13.00	19.93	26.10
Fertiliser	19.67	7.05	17.90	18.25	11.22
Organic Fert.	8.00	8.00	8.00	8.00	8.00
Sprays	44.00	25.00	48.00	30.50	27.50
Other Crop Expenses	0.00	6.50	3.75	12.50	18.50
2006	87.67	56.15	90.65	89.18	91.32
(2005)	(91.15)	(57.00)	(94.65)	(78.70)	(81.10)
2006 GROSS MARGIN/AC	284.63	171.85	360.35	176.82	188.68
(2005 GROSS MARGIN/AC)	(136.05)	(155.25)	(167.75)	(132.70)	(230.90)
2006 GROSS MARGIN/HA	703.04	424.47	890.06	436.75	466.04
(2005 GROSS MARGIN/HA)	(336.04)	(383.47)	(414.34)	(327.77)	(570.32)
Seed type	Certified	Home Saved	Certified	Certified	Certified
Nitrogen rate/ acre	92 units	35 units	84 units	70 units	37 units
Inorganic P & K	none	none	none	none	none

In 2005 the crop sub-group had used a figure of £8/acre for poultry manure which Hamish Watson and Peter Chapman pointed out that this material had a hassle value and more of a fixed cost in spreading rather than a straight-forward manurial value. Poultry manure also affected manganese because of its lime value.

Conclusions on 2006 Harvest

In December Robert was pleased with the 2006 harvest with winter barley yields being up on the 2005 crop. The wheat showed to have a large range in yield although this is thought to be due to soil type and the previous crop. On the wheat crop Robert trialed spreading slurry, it did scorch the crop but recovered well. The chlorophyll content was analysed and Nitrogen was applied as recommended. Oilseed rape yielded in the conventional fields at 1.5 tonnes/acre. The spring barley crop was the most disappointing of all crops, this was thought to be due to a mixture of the cold late spring and variety used (Golf).

2006 Autumn Sown Crops

Iain Learmonth reported in December that the 2007 winter crops were looking good and all spraying was up to date. Robert is sowing a second wheat this year; this was sown on a light field with no problems of Phosphorus. The variety used for the second wheat has been Cordial. All oilseed rape will be grown as industrial rape.

5 Objectives for 2007

At the December 2006 meeting the Community group put forward the following objectives for the coming year, many are the same as 2006.

Health and Fertility

- Continued analysis of the results from blood testing the cows
- Replacement policy decisions, what breeds would improve efficiency
- Benchmarking key areas against national results
- Continue to assess health problems eg fluke and Johnes
- More use of EBV's to improve performance further

Financial Analysis

- Costs of production for the cows and the finishing cattle
- Net Margin analysis for enterprises
- Marketing information and decisions based on this to improve output

General monitoring and evaluation

- Silage quality monitoring use of fertiliser N, are we making a difference
- Feeds for finishing cattle higher cereal cost may make other feeds attractive
- Grassland management
- Manure and fertiliser use
- Environmental implications of the system and any changes
- Can we use more renewable energy in the system and the cost effects

The group continues to show an interest in benchmarking their own systems against the Monitor Farm figures.

6 Conclusions after the second year – the facilitators view

The second year of the Banff and Buchan Monitor Farm has been as successful as the first.

Our host farmers Robert, Ethel and Iain Chapman have continued to support any ideas put forward by the Community Group, although they do occasionally have to say enough is enough.

A special thanks should be targeted to Angus Michie. He has always delivered what has been asked and has demonstrated his attention to detail through the exceptional performance of his cattle. Angus's wife Katie has helped with teas and coffees and of course shortbread which has helped make our visits more enjoyable.

The meetings of course would not deliver what is expected without a loyal group of farmers to take part in the discussions. Their experiences have added great weight to our decision making at our meetings. We continue to benchmark relevant performance figures between years and between farmers. It is only by these comparisons we can hope to improve performance and find "Best Practice".

SAC specialists are present at each meeting and provide invaluable input to help us make our decisions. Special thanks to Sheila Rusbridge for her veterinary input and John Weddell for sharing his grassland experience. Also to McIntosh Donald for supporting our open days by providing beef for the rolls and Brian Anderson for his knowledge of the current market situation.

QMS staff have also supported us through 2006 and are always available for advice on market changes and consumer preferences. We need to heed this information and improve our market knowledge so that we can produce what our customers demand.

Finally as usual the year ahead will be full of unexpected surprises. I am sure however our Community Group will once again rise to the occasion and share their experiences with us all.