Whitriggs Farm, near Denholm, is run by Robert and Lesley Mitchell and their son Stuart, with support from Stuart’s brother, Alistair, during busy periods.

The Mitchells currently farm 442 hectares of mainly semi-permanent and permanent grassland.

**Cattle;** 140 Shorthorn X and AAX, with all calves not required as replacements finished on the farm.

**Sheep;** 1000 Lleyn ewes, tupped with Lleyn, Suffolk and Hampshire.

**Arable;** 28ha of Wheat & Oats fed to cattle.

Management Group; Andrew Tullie (Chair), Robert Catlin, Scott Girvan, Giles Henry, Megan Mabon, Andrew Robinson (Vet) and Jonny Williams

The Borders Monitor Farm is one of nine Monitor Farms recently established across Scotland in a joint initiative by AHDB Cereals & Oilseeds and Quality Meat Scotland (QMS). The aim of the programme is to help improve the productivity, profitability and sustainability of Scottish farm businesses. Over the three years there will be eighteen meetings at Whitriggs where local farmers will be able to input into the future financial and technical management of the two businesses. There will also be the opportunity to investigate innovative new technologies in both the arable and livestock sectors.

The vision the management group are working toward is;

*“Maintaining a profit in a challenging environment”*

Achieved by:
- Learning as a group
- Dealing with succession
- Being open to change
- Making use of what we have
- Finding alternative incomes
- Benchmarking
Cattle

Predominately Shorthorn cross and Angus cross cows running alongside 25 commercially run pure bred Beef Shorthorns

After advice and discussion with Basil Lowman the Mitchells now select heifers on the basis of a 5 point plan.

1. Visual assessment, are there any problems, feet etc.
2. Weight and age, has it grown well, is she too heavy? How heavy will she be when mature?
3. Look at the mother, is she long lasting and rearing strong calves, what weaknesses does she have?
4. Any other on farm information, siblings, docility etc.
5. Sire information, look at sire EBVs in particular calving ease figures. The best calf is worth nothing if it is dead!

Ideally the heifer should be 60-65% of her mature weight at bulling, growing as she calves until reaching mature weight after her 3rd calf. See below. The heifer on the right is currently 303kg and 306 days old.

<table>
<thead>
<tr>
<th>Stage</th>
<th>% of mature weight</th>
<th>Example weight for Whitriggs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulling</td>
<td>60-65%</td>
<td>420-455kg</td>
</tr>
<tr>
<td>1st Calving</td>
<td>85%</td>
<td>595kg</td>
</tr>
<tr>
<td>2nd Calving</td>
<td>95%</td>
<td>665kg</td>
</tr>
<tr>
<td>3rd Calving</td>
<td>100%</td>
<td>700kg</td>
</tr>
</tbody>
</table>

Cows traditionally bulled to start calving in May (Heifers in April). By weighing the calves it demonstrated the benefit of the early calves as the others did not catch up in over a year. There are many potential reasons for this but it encouraged the group to think about tightening calving patters.

Heifer selection

**Calf Weights by Cycle, Weighed Mid-August**

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Weight</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>50</td>
<td>509kg</td>
</tr>
<tr>
<td>2nd</td>
<td>16</td>
<td>474kg</td>
</tr>
<tr>
<td>3rd</td>
<td>4</td>
<td>419kg</td>
</tr>
</tbody>
</table>

Only crudely done but those born in the 2nd & 3rd periods weighed less than 21 days’ worth of growth at 1.45 kg per day and had done less well than expected.

The decision was then taken to look at synchronisation to tighten up calving, both for the benefit of early calves but also form a management point of view to save time and allow greater attention to detail as calving comes on the back of lambing.
AI & Synchronisation

The calving Percentage in first 3 weeks at Whitriggs was 59% of the cows in the shed (not cows to the bull). In 2017, 150 cows went to the bull, with 7 cows and 2 heifers barren. In order to pull some of the later cows forward it was decided to try to synchronise 23 cows and 9 heifers and AI them before turning them out to the bull. Of these 21 cows and all 9 heifers were in calf in first 2 cycles. Semen used was Shorthorn for heifers and “Native Plus” which is a 3 way mix of 2 Angus and a Hereford. The performance of these calves will be monitored.

- 168 cows and heifers went to bull/ai
- 87% scanning (146 in calf)
- 111 calved in first cycle (74% of those in calf, 66% of total to bull)
- 35 2nd cycle (24% of those in calf, 20% of total to bull)

Economics

- Drugs – £25/head
- 2 X vet visits
- AI Cost £8/cow
- Semen Cost £7- £20/Straw
- ~ 50% conception rate at Whitriggs
- Cost Range from £50 -£80 per calf born
- Bull cost estimated at £50-£60 per calf born

Marketing

In the past bullocks have been sold deadweight to Woodheads & ScotBeef at 20-22months old, meaning they were kept over 2 winters. By looking at figures it became clear that this did not seem economic as well as creating more work during the winter months, although they are fed on home grown wheat and fodder, some of the straw bedding is bought in, which is bought in the swath, baled and brought home.

At the suggestion of the group, in 2017 bullock were sold store in September achieving the prices below.

<table>
<thead>
<tr>
<th>Breed</th>
<th>Sold</th>
<th>Sale Price (/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAX x Simx</td>
<td>Private 1st Sept</td>
<td>£1,100 (£2.25/kg)</td>
</tr>
<tr>
<td>BSHx</td>
<td>H&amp;H 7th Sept</td>
<td>£921 (£2.054/kg)</td>
</tr>
</tbody>
</table>

The Mitchells liked having time freed up as well as the benefit to cash flow, however they felt they may have lost out on the uplift in value from finishing them. So the option of intensively finishing the bullocks was looked at.

The group carried out a budget to decide whether to sell in Spring or finished them.

Before making a decision, doing a basic budget on this to estimate whether this is the correct decision. Although it is not possible to have exact figures when working ahead it is still important to look at the potential outcome. Groups independently worked through the figures, the tables shows the average of these
figures. This is skewed partially by the current value of the straw and wheat being higher than normal due to
demand and a potential late spring.

<table>
<thead>
<tr>
<th>Current Value</th>
<th>£890</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost/hd/day to finish</td>
<td>£3.75</td>
</tr>
<tr>
<td>DLWG</td>
<td>1.25kg</td>
</tr>
<tr>
<td>Deadweight price</td>
<td>3.75p/kg</td>
</tr>
<tr>
<td>Margin/hd</td>
<td>(£232)</td>
</tr>
</tbody>
</table>

When sold in March at UA they Averaged just over £910 (£2.23/kg. There is still discussion as to whether this
was the right thing to do and only time will tell in terms of market prices, however with the new enterprise
being established and slow spring the decision has certainly freed up a lot of time and fodder.

Sheep

Over the past two years, lambs born in a compact lambing season starting 20\textsuperscript{th} March
have been sold finished between the following August and January. Lambs are weaned in mid-
August onto grass and clover until late October (depending on grass growth) when those not
yet sold move to winter forage crops. It was felt that although the lambs killed well their growth
seemed slow and the scanning and lambing %

The community group discussed lamb growth and finishing performance and identified a list of factors which
may affect lamb growth rates. These were summarised into seven distinct areas of performance. The group
were asked to record their top and second highest priority for action.

Faster Lamb Finishing Blueprint (for consideration, based on discussion and consultant recommendations)

- Reduce the number of rams
- Use ewe body condition score (BCS) as a measure of suitability of ewe nutrition
- Monitor ewe nutrition against demand
- Plan and monitor grass supply and demand
- Establish whether lambs need mineral or trace element supplementation
- Monitor the need for worming
- Check the efficacy of worm drenches
- Consider weaning lambs from mid-July to manage lambs on the best grazing
- Continue to select lambs to achieve current payment weights and grades (target 20kg DW at U/R, 2-3L)
- Carry out testing for “iceberg diseases” to ensure none of these are the limiting factor.
Maedi Visna

As per standard protocol, 12 older ewes were tested and the results were 10 positives. A mixed age group were tested and 11/12 were found to be positive in the gimmers 5/12 were positive. The project then paid for testing in group member’s flocks and 3/21 were found to have positive tests. Below is a case study of the costs of dealing with MV in a large flock, calculated by SAC vets.

Example Costs of MV 1500 head flock

<table>
<thead>
<tr>
<th>MV infected flock 150% lambing percentage 10% mortality</th>
<th>Typical flock assuming 3% adult mortality and 180% lambing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of income from adult cull</td>
<td>£6000</td>
</tr>
<tr>
<td></td>
<td>£1800</td>
</tr>
<tr>
<td>Carcass disposal</td>
<td>£2250</td>
</tr>
<tr>
<td></td>
<td>£675</td>
</tr>
<tr>
<td>Replacement costs</td>
<td>£16,000</td>
</tr>
<tr>
<td></td>
<td>£5000</td>
</tr>
<tr>
<td>Reduced lamb sales</td>
<td>£20,250</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Total cost</td>
<td>£44,500</td>
</tr>
<tr>
<td></td>
<td>£7475</td>
</tr>
</tbody>
</table>

- Basic costing (based of 2010) and does not take into account labour, reduced lamb growth or treatment costs. Replacement cost per breeding female=£100 per head
- Replacement cost per tup = £500 per head
- Value of lamb sold= £45.00 per head

Potential total cost (vs typical): £37,025 per annum ongoing

After much discussion the flock was split with the “clean” gimmers lambed at Denholm Hill and the “dirty” flock lambed at Whitriggs, not ideal but a way to try and deal with the problem without culling in large numbers. Below are the results of lambing 2018.

<table>
<thead>
<tr>
<th></th>
<th>Dead, or in dead ewe</th>
<th>Died in Shed</th>
<th>Died Outside</th>
<th>Losses, scan to end</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whitriggs</td>
<td>72</td>
<td>86</td>
<td>34</td>
<td>2% (was 9% in ‘17)</td>
</tr>
<tr>
<td>Denholmhill</td>
<td>14</td>
<td>15</td>
<td>3</td>
<td>12%</td>
</tr>
</tbody>
</table>

Other Subjects covered

- Use of teasers
- Pre-tupping checks
- Condition Scoring
- Try out of boluses and trace element injections
- Try out of forage crops.
Benchmarking is important to understand how a business is performing, this can be done either internally where a number of years are compared or externally where there is a comparison between similar businesses. The important thing to remember about benchmarking is that it won’t provide the answers, it merely highlights the areas to ask questions and suggests where improvements can be made. How, why and when they can be made still needs to be considered. Whitriggs have used a number of methods to assess their performance and each have their merits.

**QMS Enterprise costings** give a good guide as to how your enterprises are performing and what others are doing. It is however hard to make decisions based on this as it lacks context, how did the top 33% achieve it? Without knowing the businesses it is hard to learn from it.

**Gross Output Analysis**, is a simple technique where the farm ‘Profit and Loss’ account can be analysed and compared to the norms expected for a mixed arable/livestock farm. All the costs are calculated as a % of the total Gross Output (G.O.). This is a quick guide to the pluses and minuses of the cost structure of the business.

The information is based on experience of the normal cost/output relationships in many farm businesses - it is really a form of simplified comparative analysis.

<table>
<thead>
<tr>
<th>Year</th>
<th>Output</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Variable Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>25</td>
<td>23</td>
<td>20</td>
<td>23</td>
<td>30-40</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Labour/Power &amp; Machinery</td>
<td>41</td>
<td>38</td>
<td>36</td>
<td>38</td>
<td>31</td>
<td>37</td>
<td>30-36</td>
</tr>
<tr>
<td></td>
<td>Property &amp; General</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>11</td>
<td>12</td>
<td>16</td>
<td>4-6</td>
</tr>
<tr>
<td>Gross Profit (before Fixed Charges)</td>
<td>15</td>
<td>28</td>
<td>32</td>
<td>31</td>
<td>41</td>
<td>46</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
“Variable Costs” are all input costs, which vary directly with the size of the enterprise: Feed, Seed, Fert, Spray etc.
“Labour” is all paid labour and does not include family labour or drawings.
“Power” is fuel, electricity, machinery repairs, depreciation, contractors etc.
“Property & General s” are all sundry fixed costs: insurance, telephone office costs etc.
“Gross Profit” is the margin available to cover rent and interest and a Net Profit to provide for living expenses, tax and new investment.
Farmbench

Running alongside each monitor farm is a benchmarking group who share a greater level of detail and figures with each other. The group use FarmBench which has been developed by AHDB to collate their figures.

- Using Management accounts
- “Real-time” where possible
- Farmer driven
- All relevant costs model
- Different systems can be compared
- Potential to use for budgeting
- Not a competition – except against yourself
- 3 meetings per year 2 of which will be on farm

Basis of figures

1. Family Labour allocated at £30k pro rata
   (E.g. Full time =£30k, 1 day per week =£6k)
2. Year runs roughly Nov to Nov, weaning to weaning, harvest to harvest
3. Depreciation based on actual values not tax account figures

Future Meeting Dates

- 22nd August – Evening meeting, looking at Bull Fertility & Arable Costings
- 26th September Visit to Moredun – Places must be booked, please contact Stephen to reserve a place

FACILITATOR CONTACT DETAILS

Stephen Young, 07502 339613 stephen.young@saos.coop
Colin Macphail, 07747 046461 colin@macphailconsulting.co.uk
Fergus Younger 07771 966649 Fergus.younger@saos.coop