Improving Beef Efficiency
Animal Health and better Grassland Utilisation

The fourth meeting of the Climate Change Focus Farm discussion group at Rumbletonrig looked at the importance of animal health and making the best use of grassland.

Improving livestock efficiency - reducing the carbon footprint

Livestock production is a significant producer of greenhouse gas and is measured as CO2 equivalents per kg of meat output.

Improving meat production efficiency e.g. kg of live meat sold from the same resources employed, will reduce the carbon footprint of the livestock enterprise. Reducing our farm carbon footprint will in turn help to demonstrate the agricultural sector is working to reduce its climate change impact and will also be good for the profitability of the farm business.

At this meeting, visitors to Rumbletonrig looked at animal health and its role in ensuring efficient livestock production with farm vet Robert Anderson from Galedin Livestock Vets and then looked at grassland efficiency with guest farmer speaker Michael Shannon from Thankerton Camp Farm near Biggar.

Compact calving period
Perhaps the most important key performance indicator (KPI).

The industry set key performance targets are very high, with few herds reaching these. That however, does not mean they are not worth trying to reach. How does your herd compare?

<table>
<thead>
<tr>
<th>KPI - Key Figures</th>
<th>Targets</th>
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</thead>
<tbody>
<tr>
<td>Mating Period</td>
<td>&lt; 70 days</td>
</tr>
<tr>
<td>Pregnancy Rate</td>
<td>&gt; 95%</td>
</tr>
<tr>
<td>Abortion Rate</td>
<td>&lt; 2%</td>
</tr>
<tr>
<td>Calving Rate</td>
<td>&gt; 93%</td>
</tr>
<tr>
<td>21 Day Calving Rate</td>
<td>&gt; 65%</td>
</tr>
<tr>
<td>Perinatal Mortality</td>
<td>&lt; 5%</td>
</tr>
<tr>
<td>Calf Death 1 month - Weaning</td>
<td>&lt; 2%</td>
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</tbody>
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Focus Farm meetings are free to attend and all farmers are welcome. Find us on Facebook or follow us on Twitter @SACFarm4Climate, or contact farm facilitator Donald Dunbar on 01835 823 322, email donald.dunbar@sac.co.uk for more information.

Farming for a Better Climate is funded by the Scottish Government as part of the Farm Advisory Service (FAS). The Climate Change Focus Farm programme is supported as part of its Veterinary and Advisory Services (VAS) legacy activities..
First 21-day or 3-week calving period:

- Having a large proportion of your cows calving (above 65%) in this first period is beneficial to overall herd health.
- The calves will have a more compact weaning weight, making selling or further management and feeding easier and more cost effective.
- Disease control and vaccinations - volume of treatment given to each animal is much more uniform allowing for budgeting of treatment.
- Selecting breeding heifer replacements with desirable characteristics is easier because they are all similar age.
- Makes calving workload easier.

How to achieve a tight calving?

A number of factors will help to contribute to a tight calving period

1. **Effective Cow Nutrition** - Meeting body score targets at critical times of the year. Check the details in the table below:

<table>
<thead>
<tr>
<th>When?</th>
<th>Target Condition</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Calving</td>
<td>2.0</td>
<td>Ensure high nutrition to meet milk production and support rising condition score. Prioritise feeding for lean animals to recover condition.</td>
</tr>
<tr>
<td>Mating</td>
<td>2.5</td>
<td>Maintain nutrition to increase condition score</td>
</tr>
<tr>
<td>Weaning</td>
<td>3.0</td>
<td>Build condition from cheap grass. Post weaning group animals by condition score and feed to manage condition score decline to achieve 2.25 for easy calving</td>
</tr>
<tr>
<td>Calving</td>
<td>2.25</td>
<td>Avoid cows being over fat 2 months before calving. Increase energy and protein of ration post calving to build condition</td>
</tr>
</tbody>
</table>

2. **Maintain effective control of diseases that impact on fertility** - BDV, IBR, Johnes, Leptospirosis and Campylobacter will all affect livestock productivity.

3. **Successful integration of heifers**
   - Breed and health status (known source)
   - Bull with breeding figures to suit mating or AI
   - Hit target weights/age at mating (check on pelvic size by vet?)
   - Breed earlier than cow herd
   - Complete vaccination before mating
   - Limit mating period – start as you mean to go on
   - Early PD to confirm in-calf and due date
4. **Fully fertile and efficient bull stud**
   - Test new bulls on arrival and all bulls before mating
   - Regular foot care before mating
   - Judge bull performance in the first 21 days of calving
   - Manage like athletes, feed for fitness and mobility
   - Maintain routine health and vaccinations
   - Be aware of their mental state

5. **Effective calf management and disease control**
   - Colostrum quantity and quality key in preventing a range of calf diseases
   - Late calvers at greatest risk to disease

One item discussed was the increased incidence of coccidiosis. Good quality colostrum will reduce this risk, alternatively feeding Decoxy supplement to cows three weeks before calving (as prescribed by a vet).

Fluke continues to be of concern to many producers. Abattoir reports of fluke damage provide a useful early warning of a problem (need to determine if active fluke or fluke scarring).

**Grassland Utilisation**

Grass remains the farm's cheapest feed and producing more kg of meat from grass reduces the overall cost of production. Maximising production and quality throughout the grazing season is a continual challenge.

Traditional grassland management has been based around set stocking on fields throughout the year. Set stocking can often lead to under utilisation of grass pasture with a significant proportion of field grass going to seed. One way of improving grassland utilisation is to graze the livestock rotationally. The paddock system which is common in the southern hemisphere is gaining popularity in this country. The method involves rotating groups of animals around a set area to maximise the amount of grass produced by the pasture.

**Paddock grazing in Lanarkshire**

Farmer speaker Michael Shannon from Thankerton Camp Farm near Biggar shared his experience with his forage only beef finishing system which he has developed to finish 200 native breed cattle a year. The cattle only graze grass or kale outside and do not receive any concentrate feeding. In Michaels paddock system, stock are moved every day onto fresh pasture, which provides an excellent daily opportunity to check the animals as they move past you.

Michael has found that cattle adapt to the routine quickly and are easy to manage.
Paddock design

A semi-permanent electrified fence splits the field lengthways dividing it into two parts. If the cattle are in the paddock between wire 1 and 2, the following steps are taken to move them in an anti-clockwise direction:

- Wire 2 is wound in approximately 10 m to allow the cattle into the next paddock
- Wire 2 is then reattached to the perimeter fence, closing the paddock
- Wire 1 is wound up and moved and attached to the orange marks in the right of the top section forming the next paddock.

Fencing markers are used to achieve consistent paddock size, subdivisions of 1.5 acres (0.6ha) using 2 single electric wires. One water trough supplies four paddocks, this is achievable by staggering the connection to the central semi-permanent fence.

Grass Rotation

Michael adopts the following grass rotation:

- Field identified for reseed is cut for silage with glyphosate applied pre cutting. Wrapped silage bales remain in the field and kale is sown in June. Cattle graze kale and silage throughout winter.
- Field sown to grass in the spring and cut for silage
- In the following year the field is grazed by sheep to thicken the sward.
- Cattle paddock grazed for the next 4-5 years.

Control of perennial weeds (thistles) is carried out in year two as annual weeds are removed in silage cut and clover is more able to handle the hit of MCPA applied at 1lt/ha.

Nitrogen fertiliser is applied at 50 unitsN/acre (62kgN/ha) 3 times during the growing season. It is applied after the animals have grazed the paddock to give time to be taken up by the growing sward. Depending on field size each paddock is regrazed every 18 to 24 days.

A low cost system with high animal growth

At peak performance, his native breed purchased stores can achieve a live weight gain of 2.75kg day. Stocking rate is set to match grass production growth curve with at 12,000kgs per acre during May-June dropping to 1,000kg/acre July–August and 800kg/acre in the autumn. Grazing season daily live weight gain at grass 1.5kg/day. Worth considering?