



FARMER LED, FARMER DRIVEN

BANFF & BUCHAN WINTER MEET
JANUARY 2024
SMALL CHANGES, BIG IMPACT



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There's a daunting challenge to farmers, including those the North-East of Scotland where new exciting ideas on managing livestock emerge weekly.

However, over the last year, the Monitor Farm Programme at Bruce Irvine's Sauchentree Farm, near Fraserburgh, has focused on small gradual changes to farm practices, which are relatively easy to adopt.

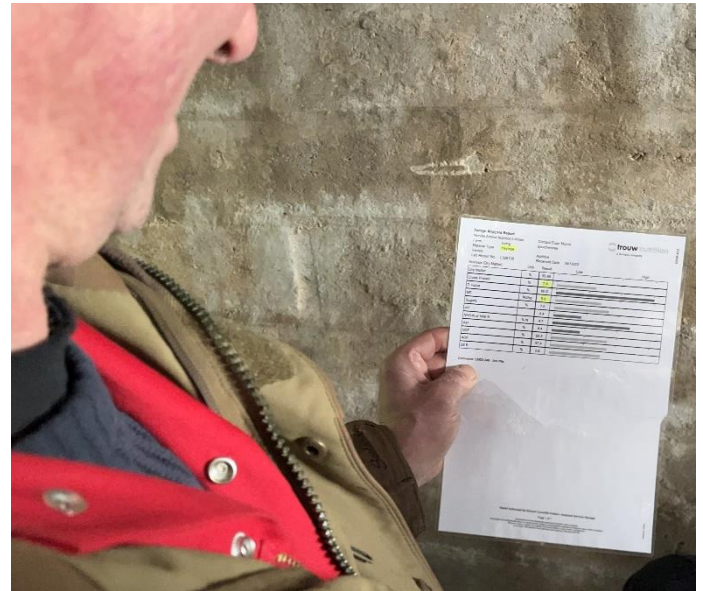
This winter Open Meeting, delivered by members of the Banff & Buchan Monitor Farm Management Group, focused on these changes around winter feed, particularly for heavily pregnant ewes and cattle.

Contributions from Norvite, Buchan Vets, Andrew Ward Smith and Bruce Irvine himself demonstrated that already good practice can be improved further with small tweaks to feeding, forage rationing and mineral supplementation.

Like all good practice, decisions should be underpinned by good data – feed rations help Bruce target resources and blood results indicate potential mineral supplementation.

Excellent health practices at lambing have cut lamb mortality significantly and resulted in more good clean lambs being sold in 2023.

More regular weighing and body condition scoring of cattle will emphasise the importance of small changes that have big impacts on profitability and productivity at Sauchentree.



Preparing for Lambing – David McClelland, Technical Director, Norvite



Bonnyton Pit

DM 38%, ME 11mj, CP 11.3%

Red Clover silage

DM 20%, ME 11.8mj, CP 16.4%

Energy Requirements

A 70kg Sauchentree ewe with twins, outwintered, will require **17 Megajoules (MJ)** of Energy daily.

Bruce's silage, if dried delivers 11MJ per kilogramme (kg) so $17/11 = 1.55\text{kg DM}$

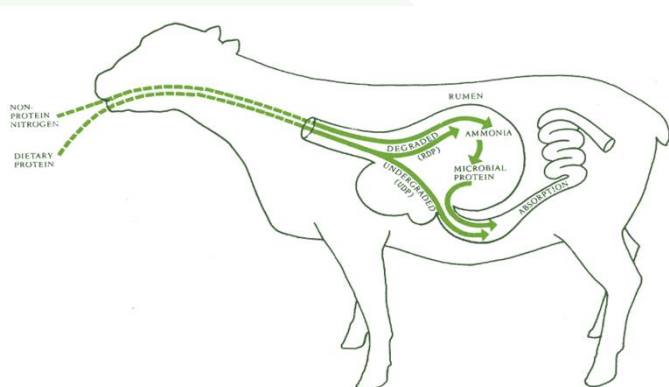
Bonnyton's dry matter (DM) is 38%DM

So the energy requirement is delivered in **4.1kg of fresh silage.**

In contrast, the Red Clover DM is 20%DM and a ewe would have to eat 7.75kg daily to meet its energy requirements !!

Protein

- Protein helps feed the gut microbes which in turn feeds the ewe and lamb



Lower protein forage diets can be supplemented by high quality protein e.g. Soya @ 100g/lamb carried/day

Making this happen

Feed presentation is crucial

Think about accessibility and feed space
You could go for 150mm for TMR or even as wide as 450mm. Look for bullying or animals shy to come to the feed.

A TMR can be a success by mixing protein and minerals thoroughly into the forage. However, it is costly against adding onto the top of the feed. Always consider wastage (which can be 10-15%) when calculating rations.

For the pregnant ewe is feeding twice weekly enough or is forage quality lost? Is feeding daily too demanding?
Compromises such as alternative days can work

Recommendations

Focus on Forage

Feed ewes quality silage (high D value, ME11+!)

Note moisture content as DM intake is critical

With good silage, potentially all energy requirement can come from forage!

Supplementary feed

Look to supply high quality protein 50g/lamb MOS (mannan-oligosaccharides) can be a bonus for colostrum quality & Vit E (min 100mg/hd/d)

Feed routine

Save fuel money – don't mix

Save time – supplement x3 per week

Forage Feeding Potential - The Main Points: Andrew Ward Smith, Management Group Member

Andrew highlighted the need to calculate three main areas of livestock farming.

1. The real cost of farm feed
2. Farm production potential
 - Kg meat sold/Kg DM grown
3. Baseline measurements
 - Current and potential stock capacity

Then the challenge is to work out the best use of feed

Andrew presented several forage analyses (by Norvite) from Bruce's winter feeds, showing significant variation in dry matter (20%-38%) and protein content (11-16%) with generally high energy values (11+MJ/Kg).

The variation probably makes detailed rationing for optimum performance a challenge and nutrition planning is one of the small changes that can improve livestock performance, as demonstrated at the Strathspey Monitor Farm.

Available Feed vs Feed Demand

Poppy Frater, SRUC, has discussed grazing practices with Bruce. Andrew showed a typical grass supply and demand graph (see right), which shows, for typical North-east Scotland farms, the times where stock demand exceeds available grass, until grass growth takes off during the late spring and mid-summer months.

FARMAX, a software programme, used by the Deeside Monitor Farmer allows accurate predictions of forage availability, if the farmer's prepared to measure grass growth regularly, with the predictions becoming more accurate as data are gathered each year.

The third bit in the equations is the stock capacity of the farm, where calculations on stock units for both sheep and cattle allows a calculation of feed demand over the year.

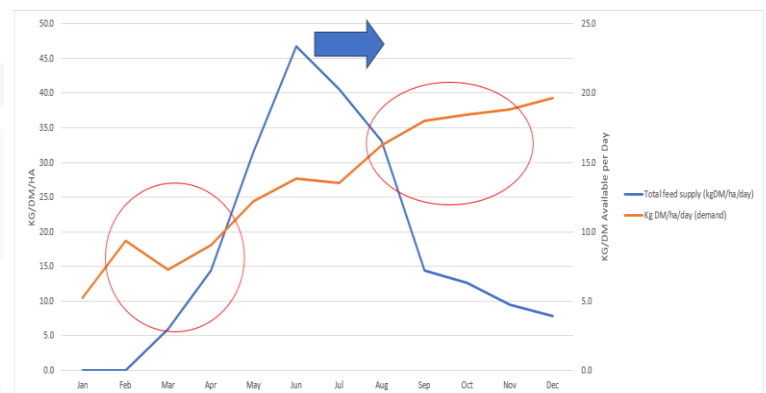
Youngstock get heavier and hungrier as they move from feeding off mothers to grazing and this amount can be estimated.

When demand is shown against the feed capacity of the farm, then these software packages help with stock numbers, grazing and silage planning while reducing the amount of bought-in feed.

What data are needed?

- Stock numbers
- Average weights of stock
- Feed analysis (MJ ME and Dry Matter %)
- Feed quantity (Kg DM/ha)
- Finishing weights and value
- Costs of production

Supply and demand



Minerals & Metabolic Markers

Seb Batchelor, Large Animal Vet with Buchan Vets discussed the value of blood testing livestock particularly prior to calving and lambing.

If bloods are low in **CALCIUM** at pre-calving or pre-lambing then clinical signs can include lethargy, poor muscle control, bloat and inability to stand.

Risks are higher for animals during lactation; with twins or triplets; or where bloods show high phosphorous

Consequences can be milk fever & reduced fertility

If low in **MAGNESIUM** then clinical signs can include seizure, muscle twitching, and inability to stand.

Risks increase due to use of nitrogen fertiliser use; high soil potassium; low forage DM. Sudden death can result.

Low and high **PHOSPHOROUS** can show pre & post calving and lambing.

Typically livestock display weakness, poor muscle control and an inability to stand. Consequences include, reduced fertility; reduced yield; urinary calculi

Low **VITAMIN-E & SELENIUM** can show up as stillbirth; retention of placenta; death of lambs and calves at or shortly after birth; reduced fertility in livestock; and reduced immune function.

Livestock with low & high **COPPER** or potentially due to high **MOLYBDENUM** can show dull coats (low copper); jaundice; sudden death; reduced fertility and; reduced immunity to disease

Low **VITAMIN B12** levels can cause small lambs; ill-thrift; weepy eyes and scaly ears. Linked to cobalt deficient soils, symptoms can include slow growth rates

Where **IODINE** is low, which can be consequence of feeding brassica crops, lush grass or high calcium, still birth can result, along with thyroid enlargement; reduced fertility; stillbirth; weak calves and reduced fetal movement.

When to screen?

It's best to do metabolic screening 3-4 weeks before and 2-3 weeks after lambing or calving.

Screening can measure the amount of energy available for use by the animal and indicate where energy required is below what's needed, potentially leading to reduced fertility. Markers in the blood for protein can also show if rations are being converted efficiently, immune functions are challenged and colostrum quality is threatened.

Cost Benefits

6 animals tested can cost as little as £180 plus vet time, with benefits that include:

- Improved fertility
- Increased weight gain
- Reduced mortality
- Higher output
- A reduction in antibiotic use
- Targeted mineral supplementation

For more information, contact Seb Batchelor:

M:07827 992112

T: 01771 637219

sebastian.batchelor@buchanvets.co.uk

Planning Nutrition for Calving - Euan Munro, Norvite



Top tips

- Target BCS 2.5-3.0 at calving
- Split cows into groups and put the fitter cows outside
- House heifers, 2nd calvers and older, more vulnerable cows indoors

Cows in poor condition have less ability to get back in calf. They've less milk and calf growth rate is less.

Avoid drastic changes in body condition throughout the year. Target no more than 1 BCS difference, by tailoring diets to the requirements of the cow, e.g lactating, bulling, dry. This is the actual ration for one of Bruce's cattle group, based on haylage bales at 500kg and silage at 850kg.

Weigh

Weigh your cows to ensure there is enough energy in the diet for maintenance.

An extra 5MJ/50kg bodyweight is required to maintain a cow.

Outwintering benefits

There's less capital involved - buildings.

However there is a cost:

Outdoor cows will require up to 15% more energy than indoor cows.

An extra 15 MJ/hd/d = 2250 MJ per winter
@10.3ME = 220kg DM
or 600kg Fresh Weight silage = £24/cow or more, if feed is wasted.

But, cows outside are fitter and have better muscle tone, while lazy cows tend to have lazier calvings

We need an energy buffer of +15MJ for being outside. Bruce's diet, based on forage analysis, provides 115MJ.

A cow requires 101MJ (based on a housed animal). So his diet looks about right.

In relation to protein, we're hitting the target of 10%.

Farmers feeding straw in the diet will find it difficult to meet that target so should add protein, a flat rate supplement (barley/blend/pellets) for example, on top of the forage, or additional protein such as soya or rapemeal.

Minerals

It is important to feed minerals all year round, but especially pre-calving.

High levels of **vitamin E** and **selenium** are needed for vigorous calves and improved colostrum and fertility.

Now Bruce had withdrawn from organic schemes he now can include MOS (mannan-oligosaccharides) to improve colostrum quality (and increase antibody content).

Another recommended small change would be to measure the Immunoglobins/antibodies in the colostrum using a refractometer, aiming for around 25 IGG for cows.

Recommendations

- Measure the forage quality and ration for the stage the cow is at.
- Use the right mineral at the right time.
- Measure colostrum quality.

The SMALL changes do have the BIGGEST impact! Especially on the bottom line!



MONITOR FARM Scotland

To find out more or to sign up, please contact:

Regional Adviser – Peter Beattie

07769 366614

pbeattie@qmscotland.co.uk

monitorfarms.co.uk

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