

Highland Farming Efficiency Network (HiFEN)

Introductory meeting held at Auchmore on Tuesday 30th September 2014 by kind permission of Sheena, Stephen and Donald MacKenzie.



Meeting Theme – Profiting from improved efficiency

As the first meeting in the Highland Farming Efficiency Network at Auchmore, event chair and Farm Facilitator Jenny McCallum gave a welcome and outlined the aims and objectives of the network as part of the Climate Change Focus Farm initiative.

Working with the Girvan Family at Corrimony, (Glenurquhart) and Jason and Victoria Ballantyne at Clynelish (Brora), Sheena, Stephen and Donald Mackenzie at Auchmore are participating in the three year climate change focus farm programme as part of a [Highland Farming Efficiency Network](#).

Working as a discussion group with other local farmers, the aim within the Highland Efficiency Network is to share ideas to improve efficiency and profitability, whilst cutting the carbon footprint per kg of product from the farm. Hosts of previous climate change focus farms saved an average of £20,000 and reduced the farm carbon footprint by 10% with no loss of production.

Host farmer Stephen MacKenzie welcomed visitors to Auchmore noted that sometimes it's easier to make big jumps, such as the investment in renewables. It's often harder to take a step back and look at doing things you have always done in a different and ideally, more profitable way.

By working with a group of farmers, it's hoped that everyone will be able to benefit from taking a second look at routine practices and share ideas about what works well within the network discussion group.



The introductory meeting highlighted some of the topics for investigation over the coming years. Topics and speakers included:

- **A profitable beef herd – Jimmy Hyslop, SRUC Beef Consultant**

Jimmy discussed where to look for efficiencies in a beef system and the value of matching your system to maximise the resources available on the farm, be that sheds, labour, machinery grazing type and availability. Groups discussed the estimated size of suckler cows and how to gauge their output efficiency. This topic will be taken forward at the next meeting at Corrimony on 18th November, where we will know the weight of David's cows and the weights of their respective weaned calves.

The efficient use of fixed costs was explored using the shed itself as an example. The straw was in Heston bales and Stephen explained that he had taken it home from a field 3 miles away. The Hestons meant he could take a 14 bale load weighing 7t back in 1 hr 10min. By comparison the round bale load of 24 bales weighed only 3t and took 2hr 20min. The efficiency seemed obvious but Hestons wouldn't suit everyone and their pros and cons were discussed which led on to a

discussion on bedders and associated time and straw saving, provided cattle were housed at the same location but obviously a capital cost involved.

What to put in the shed and whether sheds were used all year round was also discussed. The analogy of asking the bank for funds to build a factory which would only be in production for half the year was made. This led back to the cow and whether she might stay outside all winter or perhaps just for longer? This is another topic that will be taken forward at the Corrimony meeting where we will look at the suitability of cows, out wintering sites and practical rations.



Breed selection, hybrid vigour, the use of EBVs for growth and for maternal abilities, retention of homebred heifers and the age at first mating were all thrown into the mix and have sparked many ideas to follow through at future meetings.

- **Maximising grassland potential – David Lawson, SRUC Grassland Agronomist**

David covered a number of key points:

Monitoring grass growth

Timing is all important: Don't graze grass when it is unable to recover and don't let growth get away from you and lose quality. Although not a perfect technique, the best routine assessment method for grass productivity is to measure sward height - by ruler, sward stick or plate meter. For continuous stocking a target height is set and maintained by increasing or decreasing stocking rate. For rotational grazing a target height is set for introducing and removing stock.

Controlling productivity

The standard of the grass and clover varieties within a sward is important for both quantity and quality of feed produced. Earlier heading varieties of perennial ryegrass will help to produce earlier season growth. However, these varieties are not so persistent as the later heading ones so over sowing or reseeded may be needed to maintain their part in the sward.



Monitor the soil

There are many factors in the soil which go towards grass growth: drainage, soil structure nutrient availability and pH. The last of these can have a major effect on the other factors. For instance maintaining a pH value above 6.0 will increase earthworm activity at the soil surface. Burrowing by the earthworms will greatly improve soil aeration and permeability. Maintaining a neutral pH value will also optimise the availability of soil nutrients, particularly nitrogen and phosphate. Thus by regularly checking soil pH and liming as required, fertiliser requirement can be significantly reduced.

- **Improving sheep flock performance – Kirsten Williams, SAC Consulting and Graeme Swanson, Conanvet**

Kirsten and Graeme’s presentations included a useful checklist pre-tupping and information on quarantine procedures for new animals coming onto the farm.

Ram preparation for mating – Key points:

- Body Condition Score: 3.5 – 4
 - Can lose up to 15% of their body weight during the mating period.
- Feeding: Additional feed last 6 weeks before mating if rams are not in correct BCS.
 - 12.5 MJ ME/kg DM (for energy) and 180-200 g/kg DM for testicular growth and sperm production.
 - Also beneficial: selenium (for improved sperm production), cobalt, zinc, PUFAs (poly unsaturated fatty acids as found in fish oils), vitamin E. Calcium to Phosphorous ratio of higher than 2:1,
 - Low magnesium.
- Teeth: Incisors should close firmly against the upper dental pad and not point forward.
- Mouth: Check for Orf lesions
- Head and Neck: Check for cracks and infection at base of horns, CLA abscesses around throat and neck, sunburn/photosensitized skin.
- Listen for ‘snoring’ sounds: suggests laryngeal thickening known as laryngeal chondritis. Seek veterinary treatment if this is heard.
- Fleece: Check for wool loss and irritation which may be due to scab, lice or bacterial dermatitis.
- Brisket skin: check for painful sores that can reduce desire to work.
- Limbs and feet - lameness is a big cause of reduced fertility
 - Look out for any abnormality in the limbs e.g. cow hocks, straight hocks.
 - Feet: Check for scald, foot rot, CODD.
- Prepuce: check for ulcers, swellings, Orf, discharge, blood
- Penis: Extrude penis by grasping the sigmoid flexure and pushing it forward while pulling the prepuce back.
 - Check for any growths, adhesions, deviation, loss of urethral process at the tip
- Scrotum: Check for scrotal hernias which appears as a soft swelling above the testicles
- Testicles: Should be firm but springy, equal, heavy, smooth, freely movable.
 - Watch out for small testicles (one or both)
 - Hard and enlarged testicle(s) suggests inflammation (known as orchitis) - fertility
- Epididymis: located at bottom of each testicle, walnut size round structure should be equal in size, smooth
- Scrotal circumference (see table): Measure both together at widest bit –

	Mature	Shearling	Tup lambs
Lowland/long wool breeds	36-38cm	32-34cm	30cm
Hill Breeds	34-36 cm	30-32cm	28cm

- Teasers:
 - Should be prepared at least 6 weeks before mating.
 - Used to produce a compact lambing period
 - Females isolated for a month then teasers are introduced for 12 days. Fertile rams introduced after this.

Quarantine requirement for sheep - Practical summary

Most important conditions to address during quarantine:

- Anthelmintic resistant worms
- Triclabendazole resistant fluke
- Foot conditions: Foot rot and CODD (Contagious Ovine Digital Dermatitis)
- Scab

To address the above issues, the following protocol may be followed:

Day 0: Arrival on farm

- Worm treatment: Three options-
 - Drench with Monepateel (Zolvix) and inject/drench with Moxidectin (Cydectin)
 - OR use Startect (dual action wormer from Zoetis)
 - OR use Levamisole drench and Moxidectin injection/drench (Cydectin)**Sheep should be yarded (kept off pasture) for 48 hrs after worm treatment. This allows time for any resistant worms and eggs to be expelled.**
- Scab options -
 - Plunge dip in OP
 - Use injectables – Ivermectin, Doramectin (Dectomax), Moxidectin (Cydectin). If using Moxidectin (Cydectin) injection for worming, scab will be taken care of.
- Footbath in 3% formalin or 10% Zinc Sulphate

Day 1:

- Treat with Triclabendazole (e.g. Fasinox) for fluke

Day 2:

- Treat with Closantel (e.g. Flukiver) for fluke
- Can now turn out onto isolation paddock or keep housed



Day 14: Repeat footbath treatment

Collect faeces from 6 sheep for post drench worm egg count (to test worm treatment has worked)

Day 28: Repeat footbath treatment and release from quarantine.

During quarantine you may wish to:

Blood sample for CLA, Maedi Visna, Border disease, Johne's disease

Vaccinate against: Clostridial diseases and Pasteurella, Abortion agents i.e. Enzovax and Toxovax

- **Benefitting from on-farm renewables; Micro hydro – Nick Forrest, Hydrobot**

The predictability of water flow makes it easier to forecast revenue from micro hydro schemes; with routine maintenance a well planned and installed scheme could be generating electricity and revenue for over 100 years, stated Nick Forrest of Hydrobot.

Popularity and investment in development means that micro hydro is now even more efficient and cheaper to install per kW, coupled with the Feed in Tariff (FIT) payments. Under the FIT, payment is made for the amount of energy generated, irrespective of if it is sold into the grid or used on site. You have the benefit of being able to use the energy generated and surplus energy can be sold to the grid. FIT payments are grouped in bands, so it's important to take these returns into account when sizing your scheme and putting finance in place.



The micro hydro development at Auchmore is 100kW and is a high head scheme. It is utilising an old lade as part of the route to pipe the water from the hill; water will be piped into the powerhouse to drive the Gilkes turbine and then be returned back into the watercourse. The group could see the start of the construction of the penstock, powerhouse and channel for the water to be returned back to the river.

From initial site selection to grid connection, there are many stages at which a potential project can be thrown into question. Nick gave the group a leaflet showing a [flow diagram](#) outlining the stages when considering a micro hydro installation. The FFBC [Practical Guide](#) on Micro hydro also provides some useful information, including the calculations to estimate kW achievable.



When embarking on a renewables project, [CARES loans](#) may be an option to consider. CARES loans are available to rural businesses up to £150,000 to cover up to 95% of the feasibility investigation. There are some requirements, such as a community benefit, and a flat interest rate of 10%, but Nick felt they were well worth looking into to de-risk the feasibility study stage.

Summary Points:

Beef Systems – Jimmy Hyslop

1. How do I get my fixed costs to carry more production?
2. How do I maximise use of building space e.g. Heston v's round bales, use in all seasons.
3. How do I produce more while also making my life easier?

Grassland – David Lawson

1. Check your soil and know what you've got.
2. Is your sward still delivering when you need it – might need early varieties or clover replenished.
3. Monitor growth and be flexible – have a plan B.

Sheep - Kirsten Williams

1. Make sure he's fit not fat – he's got a marathon to run.

2. Look after him pre and post tupping – tups are half your flock.
3. Teasers are undervalued - tighten up lambing, plan feeding, labour, etc.

Sheep – Graeme Swanson

1. Ewes correct body condition.
2. Check tups prior to use- body condition, feet and, fertility exam.
3. Avoid stress during mating period.

Hydro – Nick Forrest

1. Power is linked to both head and flow.
2. Gradient >10% slope required.
3. Need a suitable intake location.

Next meeting

The next Highland Farming Efficiency Network meeting will focus on beef on Tuesday 18 November 2014 at Corrimony, starting at 10.45 am. For further details and to confirm your place, contact Jenny McCallum at jenny.mccallum@sac.co.uk or telephone 01483 233 266.

Do you farm and would you like to attend to future meetings?

With support from specialists from both within SAC Consulting, industry and other farmers, the farmer discussion group will explore a range of practical topics to help to strengthen and develop your farm business. As part of the farmer discussion group and through a series of on-farm meetings and visits you will have the opportunity to:

- Identify key areas to improve farm profits
- Benchmark farm performance; both against national KPI data and within the Highland Farming Efficiency group
- Exchange ideas within the discussion group; what are others doing that you could benefit from? How are others approaching similar dairying issues?
- Access specialist advice and guidance at the meetings
- Help prioritise and shape the direction of future meetings, visits and guest speakers
- Improve farm efficiency and reduce the farm carbon footprint

The Highland Farm Efficiency Network meetings will have a beef and sheep focus, however all farmers are welcome to attend. There will be around 8 meetings or visits each year at times to suit the farming calendar. Meetings are free and you will not be expected reveal any financial data about your farm. For more information, contact Jenny McCallum at jenny.mccallum@sac.co.uk or telephone 01483 233 266.



Visit the website at www.farmingforabetterclimate.org

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