On the 13th January 2016 Alistair Macrae from the Dairy Herd Health and Productivity Service (DHHPS) at The Royal (Dick) School of Veterinary Studies, The Roslin Institute and Bill Crooks Soil and Water Consultant from SAC Consulting’s Environment and Design Team were invited to speak to the Hillend climate change focus farm group. The first speaker, Alistair Macrae explained about the work he was doing at Hillend with regards to herd blood profiling.

**Monitoring blood profiles in the herd**

Ross Logan and his parents (Ross is pictured (right) with SAC Consulting's James Buchanan (centre) and dad Jaz (left)) use the service provided by Alistair Macrae and his team to monitor the blood profile of their cows. This allows them to assess if the diet they are feeding their cows is meeting the cow’s nutritional requirements. It also highlights if there are any issues of over or under feeding the cows which can be addressed before any clinical signs of ill health are shown.

The testing involves taking blood from three groups of cows;
- early lactation cows
- mid lactation cows
- dry cows.

Depending on the herd size and the number of cows available in the different groups, a number of cows are tested in each group to give an average representation of the herd profile.

Herds which are part of the testing programme can test as many cows as they want during the year (Alastair Macrae and his team provide the analysis and the commentary on the results, the local vet is required to take the blood samples).

As part of a routine programme, each herd would normally test 3 or 4 times a year depending on how many major changes there are in the cow’s diets during the year.

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**Farming for a Better Climate**

There are nine climate change focus farms in Scotland. Keep up to date with their activities at [www.farmingforabetterclimate.org](http://www.farmingforabetterclimate.org), Facebook or follow us on Twitter.
Making the most of manure

For the second part of the meeting, SAC Consulting’s Bill Crooks spoke about how dairy farmers could maximise the use of slurry and manures to minimise the amount of money they spent on purchased inorganic fertilisers. The key message was that if you continue to buy and apply what you have always done then you won’t save money on purchased fertiliser.

Before you consider applying less fertiliser it is essential to know the soil nutrient status of your soils. If pH is not at the target, any fertiliser applied would not work as efficiently as it would at the target pH 5.8 for grassland and pH 6 for cereals. Other soil conditions including drainage are also important and should be considered before spending money on fertiliser in each field.

Applying organic manure at the most appropriate time for crop utilisation and not just treating the manure as a waste product was also highlighted. This requires significant storage and investment if not already in place or required by SGRPID in terms of slurry storage capacity.

Bill provided a list of SRUC Technical Notes, available via the SRUC website for farmers and consultants to help establish how to make best use of slurry and manures and in turn minimise the amount of money they were spending or better target purchased inorganic fertilisers.

What are the benefits?

The blood profiling is seen as a management tool and allows herd managers to check if their cows are performing on the diets they are advised to feed. Diets are formulated using computers which are only as clever as the people using them, based on the analysis of forage samples which are then mixed with cereal concentrates and other forages and feeds. This involves a mixing process, where there are opportunities for quantities and volumes to be combined which may ultimately give a diet which is not the same as it appears on paper. The cows then get the chance to sort this feed and each cow may or may not get to eat the same volume and consistency of feed, depending on feed space etc. The results of the blood profiling gives an indication if what is being fed on paper to meet a dairy cows requirements, is actually what is being delivered to the cow. Good results indicate that the cows are being fed and performing as efficiently as possible, poor results indicate that changes are required to allow the cows to be kept more efficiently.

How has this helped at Hillend?

The results at Hillend were discussed. Improvements in the results were shown over time to indicate that the changes to the cows diets had improved the cows performance at Hillend. As each years grass growth and silage quality is different, it is seen as an ongoing process and the blood profiling is expected to continue as a useful monitoring tool at Hillend.

Test types

There are numerous tests that can be run on the blood samples, however in order to keep costs to an acceptable level the bloods are only tested for a small number of blood components which give the indicators required to show if the cows are healthy on the diet they are being fed. Other blood components can be tested for in problem cases/herds when further investigation is required.

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