Learning journey to SRUC’s Technology Centre at the Barony Campus

Members of the Hillend Climate Change Focus Farm group attended the ‘Precision Technologies in Dairy Farming’ open day at SRUC’s Technology Centre at the Barony Campus. The morning session was split into four sessions which covered;

- GPS and Soils Quality.
- Automatic feeding for calves.
- Satellite technology for maximising Grassland output & herbage Grass and clover testing in Scotland.
- Predicting methane emissions & using nutrition to reduce greenhouse gases emissions.

GPS and Soils Quality

The session covered using GPS information on your farm soils at home to give you a better understanding of your own soils using web based apps etc. Different types of GPS analysis and the methodology was also discussed including formulating a plan based on the results and how best to act upon it.

Automatic feeding for calves

This session was based around the 5 C’s;

- Control
- Calf
- Consistency
- Calibration
- Cleanliness

Automatic feeding of calves has gained in popularity over the last couple of decades however old problems are not always solved with new technologies. Unless the 5 C’s are managed accordingly and to the best of the farmer’s abilities, the time saving of 10 minutes per calf per day with the new technologies could be wiped out.
Satellite technology for maximising grassland output & herbage grass and clover testing in Scotland.

Research using satellite technology has shown that an increase of 13% in terms of dry matter yield on a three cut silage system can be achieved though using controlled management traffic systems in silage fields.

New technology is being considered in the processes involved with the compulsory grass herbage and clover testing that is taking place as part of European requirements in Scotland. As a result of this testing new grass and clover varieties coming on to the market can increase grass yields by 0.5% a year and farmers can be rest assured that if they use varieties which are on the recommended list they are using grass varieties which have been tested for Scottish conditions.

Predicting methane emissions & using nutrition to reduce greenhouse gases emissions.

Research had been carried out in the summer of 2017 to measure the methane levels given off by two different groups of cows. One was housed 24 hours per day, the other was housed for 8 hours overnight and had access to grass for the remainder of the time. The group housed 24 hours per day had a higher milk yield and lower methane emissions of approximately 7.97ppm per sample.

Research at SRUC is looking into different nutritional strategies to try to reduce enteric methane emissions. The most likely contenders are thought to be the use of lipid (oils and fats) or a nitrate compound like calcium nitrate. Oils and fats are available in Scotland and there are tried and tested safe levels within rations. However using nitrate compounds as a feed would require careful training and guidelines would need to be adhered to. A cautious approach is being adopted in countries where the practice is being adopted.

In the afternoon the group heard from Ice Robotics, a local company based in South Queensferry which is looking at using tried and tested technology to predict when a cow is going to become lame before the cows shows any visible sign of lameness. This allows for early intervention which should reduce long term damage to the cow and the cost of loss of milk sales to the farmer.

The second afternoon session looked at thermal imaging with the current ongoing research and its potential applications to dairy farming. Studies have shown that thermal imaging can be used to detect the inflammation caused by mastitis and infectious causes of lameness. Other potential uses include the detection of pneumonia in calves and oestrous detection in breeding cattle, however there are a number of issues to overcome once the technology is taken on-farm in order to produce consistent results.

The day was a really interesting and useful with the speakers providing plenty of food for thought for those who were able to make it and will provide for discussion at the future Hillend meetings.

There are nine climate change focus farms in Scotland. Keep up to date with their activities at

Meetings are free to attend and all farmers are welcome.

For Hillend, contact farm facilitator James Buchanan on 01738 636 611 or via james.buchanan@sac.co.uk for more information.

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