AUTUMN TECHNICAL MEETING
HELD AT MOREDUN,
PENTLANDS SCIENCE PARK, BUSH LOAN, PENICUIK, MIDLOTHIAN EH26 0PZ

On TUESDAY 17TH DECEMBER 2013 at 10:00 AM

MINUTES

Present: Campbell Tweed, Ian Duncan Millar, Bobby Lennox, Sandy Welsh, Tom Welsh, Steven Johnston, Rebecca Johnston, Eileen McCloskey, George King, David Nicol, Jo Conington, Yvonne Jones


Campbell Tweed welcomed everyone to the meeting and we all introduced ourselves.

Sam Boon spoke on ‘The Science of Genetics and a Vision of the Future of Signet Breeding Services’.

Sam started by reminding us where Signet fits into the Agriculture and Horticulture Development Board, who made up the Signet team and what Signet did. He discussed numbers of lambs recorded, their breeds, and that those numbers were decreasing. Much information is produced electronically now and in his Vision of the Future he talked about moving towards electronic on-line reports and removing paper and postage costs.

Under the heading ‘The Science of Genetics’ Sam talked about the factors influencing performance and analysis of the results. He reminded us that we are involved with population genetics. Although we look at individuals, we need to move the population of sheep, or a selection of the population, forward. A series of graphs showed the genetic trend over time. Sam looked at the EBVs we use, comparing performance between individuals and flocks, connectivity, and graphs comparing EBV and index. He finished this section looking at accuracy values and we discussed the fact that when new unrecorded tups enter a flock accuracy values do not increase until the daughters of that tup come through.

Sam finished by looking at research and development. Each breed would be getting a genetic parameter review, improving the way maternal ability is ranked. Litter size – born and reared, would be recorded separately, and he discussed the importance of recording dead lambs. New projects included ewe longevity and lamb survival and measuring and monitoring inbreeding.

Dave Bartley spoke on ‘Parasitology and the Targeted Treatment of Sheep in Partnership with Genetic Selection’.

Dave gave us the background to Moredun and then looked at the various kinds of internal parasites, focussing on roundworms in sheep. There was no one easy strategy to control worms.

He talked about genetic selection and resistance versus resilience. Resistance was developing an immunity to infection and could be measured by FEC and dag score. Resilience was tolerating an infection or minimising the negative impact of an infection, and could be measured by such things as liveweight gain, reproductive performance, longevity and overall number of anthelmintic treatments per year.

His aim is to reduce host/parasite contact levels so performance and welfare are not affected and reduce selection for anthelmintic resistance to ensure drugs work effectively for longer. This could be done by targeted treatments where the entire flock is treated, or by targeted selective treatments on individuals within a group. The challenge is
to identify which animals need the treatment. On the whole, studies have shown that high producers are more susceptible to infections.

Dave then talked us through the four different strategies that Moredun is researching.- Monthly treatment, Targeted Treatment, Targeted Selective Treatment (using liveweight gain and climatic conditions) and Group dosed on signs of infection (eg diarrhoea), and the pros and cons of each.

He summarised that there are problems with selection on either of the two parameters, resistance or resilience. Parasites change to survive. Problems vary from farm to farm and season to season. Therefore, a range of choices and different strategies are required.

**Philip Skuce** then addressed the group on his work about Liver Fluke.

This was identified as a major health and welfare issue for sheep farmers across all regions represented at the meeting. In relation to potentially breeding sheep for resistance or resilience to liver fluke, he reported that there was little or no evidence that this could be done in sheep, as they display little or no natural protective immunity to liver fluke infection. There is a breed of thintail sheep in Australasia, which shows some resistance to infection with the tropical liver fluke, Fasciola gigantica, but this appears to be an exception to the general rule.

Differences in fluke burden between sheep breeds and different hosts e.g. cattle, deer etc., most probably reflect differences in stocking density and grazing behaviour, rather than any inherent resistance or resilience to infection.

Also, following previous discussions of refugia-based, targeted selective treatment (TST) approaches for sustainable control of roundworms in sheep, Philip pointed out that this approach has not been attempted to date against fluke. This is for a number of reasons, including (i) the amplification of fluke numbers within the mud snail intermediate host, which serves to complicate the refugia situation; (ii) the presence of wildlife definitive hosts e.g. deer, rabbits and hares, which can keep the life-cycle going in the absence of livestock or even if livestock have been successfully treated (iii) the lack of suitable TST indicators of infection/production effects to inform which animals to treat and (iv), the highly pathogenic nature of liver fluke in sheep, with farmers reluctant to leave animals untreated in the face of known or suspected liver fluke risk.

After lunch, **Jo Conington** gave us an Update of the work at the SRUC.

First, Jo gave us an insight into Nicola Lambe’s project at Kirkton on Integrating EID into Hill Sheep Management. This is looking at three genotypes and two management systems. So far, results had showed that the Precision Livestock Farming group had performed best and a major benefit would be the slowed build up of anthelmintic resistance.

Then Jo spoke of her own work at Castlelaw – Identification of New Strains and Traits; looking at identifying traits in breeding programmes that might be of use in the future. They have produced a new low FEC selection line, with the aim of reducing drenching, and looking at the best strategy to breed for higher resistance.

Lastly, Jo explained Ann McLaren’s work, looking at why animals perform better in one environment than in another.

**Eamon Wall** was able to give us an Update from Sheep Ireland with a Skype call.

Eamon talked us through the main elements of the Sheep Ireland Programme and then told us how they were building up commercial data and linkages. The MALP programme (Maternal Lamb Producers Group) has 12 commercial flocks and 3700 ewes, all single-sire mated with 100 rams. In 2013 they moved to the TGM system. The STAP (Sheep Technology Adoption Programme) is a sheep discussion group programme. There were 4500 applications in 2013. Those interested must agree to attend the discussion groups and one national sheep event, and do two farm tasks from a list of nine, such as use a performance recorded ram, data record, take FEC samples or soil sampling.
In 2009 producers were reluctant to start performance recording but there has been steady uptake since then. For 2014 there will be minimum requirements for the 500 flocks that join. Deadlines have to be adhered to, department tags used and three lamb weights recorded, as well as deaths and lambing difficulties noted. A data quality index will then be produced, rating the completeness and timeliness for each participating breeder.

In 2014, Sheep Ireland are launching an online inbreeding checker, allowing breeders to check individual ram inbreeding across ewes in the flock, by a traffic light system. There is also engagement with Irish Flockbooks to generate flock ancestry. Current Indexes are also being changed, to a terminal index for meat lambs and a replacement index for replacement lambs. And the goal is to provide commercial sheep farms with the most profitable rams possible.

Michael Blanche then spoke on his thoughts on ‘A Way Forward in the Sheep Industry’.

As sheep farmers, Michael believes that we are too obsessed with sheep and give less thought about feeding the ewe correctly and cheaply, using grass and species rich swards. We need to find a way of lowering fixed costs and working alongside other systems for mutual benefit, such as using sheep in the arable industry to add back organic matter to the soil. He felt that success would be dependent on a change of attitude and the need to use performance indicators.

Finally Ian Duncan Millar gave us an update on the finances of the group. In round figures, the opening balance for the year was £4000 and Income £3000. Costs have been £2,500 secretarial & admin, £180 for audit and web updates £240. Advertising was £350 and the banners were £550. The closing balance will be about £3000. He would also like some ideas on how to get the website visited by more people.

The next meeting will be the AGM and General Meeting, to be held in the SRUC building again, on Wednesday 12th March 2014

The meeting closed at 2.45pm.