



The Latest on Sheep Breeding, Health and Management

Ensuring that new knowledge is made available to those who can put it to good use, is the impetus behind this major open-day for the Sheep Industry at SAC's Woodhouselee Farm, near Penicuik. The event is being held a part of SAC's "Success through Knowledge" campaign, an initiative that recognises that the development of knowledge and knowledge transfer are crucial to the sustainability and prosperity of the land-based sector.

We in SAC believe that there is a profitable future for sheep farmers throughout Britain provided they keep up to date with the latest technical developments. At the Open Day, SAC's researchers, consultants and vets will demonstrate some of the latest technical and business ideas and results of recent research. We seek to help farmers meet the challenges of profitable sheep farming both now and in the future.

A morning seminar at Woodhouselee is followed by visits to focal points on the Castlalew and Woodhouselee Farms to see some of SAC's current research.

Alternatives for worm control.

The rate of development of anthelmintic resistance can be reduced through using wormers wisely. Drench only when it is required and not according to calendar date. Regular faecal egg counting can help to identify when to drench and which parts of the flock to target. This part may be smaller than expected especially if worm control through alternative strategies is

adopted. Recent research has shown that ewe supplementation with extra protein around lambing, e.g. soya, can rapidly reduce her worm burdens. This results in a win-win situation. Lambs will be heavier at weaning, because the ewe can produce more milk. Moreover, the ewes excrete fewer worm eggs, which further reduce the level of infection from pasture. In addition, benefits are coming through from grazing on novel forages like chicory. Chicory is a very palatable forage that can be readily grown under Scottish conditions. Wormy lambs that graze chicory have lower faecal egg counts and grow faster than wormy lambs grazing normal grass.

Neonatal Viability in Sheep

Lamb mortality has a clear impact on the financial viability of the farm. Nearly half of all lamb losses before weaning occur in the first day or two after birth, so ensuring a swift and uncomplicated birth process and good neonatal vigour will improve lamb survival. In this session the risk factors for difficult births and poor neonatal viability will be discussed. The potential to improve these factors, and so to produce lambs that are born more easily and are more viable, will be addressed.

Welfare issues in extensive sheep flocks

Welfare in extensive flocks is a crucial point, the conditions are extreme, the flocks are large and the animals have few contacts with the shepherds. Moreover, welfare will be more and more important for extensive farmer (legislation, CAP, assurance scheme, etc).

Success through **Knowledge**



SCOTTISH EXECUTIVE

This project is funded by SEERAD



Research at SAC is committed to animal welfare and economic sustainability in extensive and extreme conditions and recent projects showed that there are ways of improving welfare and economics. Specific results will be presented to visitors, in particular details on enhancing animal welfare and profitability in hill sheep farming systems by identifying management strategies to get a win/win situation. Benefits of off-wintering systems, coupled with integration with native woodland, will also be presented, as well as other current projects on interactions between animal welfare, husbandry (especially farm labour) and economics.

Breeding Maternal Rams

Maternal traits can only be measured on breeding females. However, performance data from all female relatives of rams can be used in a genetic evaluation to select rams that will produce offspring with superior maternal characteristics. Using a multi-trait selection index which includes both maternal and lamb performance traits will help to improve overall economic profitability of the flock. Such an index has been developed at SAC for hill sheep. Selection using this index has resulted in ewes with improved maternal performance (more lambs and heavier litters weaned), as well as improving lamb performance (increased weaning weights without corresponding increases in fat depths). Selection by these means will result in more efficient production, greater economic gains and increased sustainability of hill sheep farming.

Breeding for resistance to footrot

Controlling footrot in sheep is of major concern to many sheep farmers and costs the industry millions of pounds a year. New advances in molecular genetics offer the possibility of using DNA testing for susceptibility to footrot. New research led by SAC is currently investigating the best way of using genetics to help alleviate the problem of footrot. The aim is to develop robust procedures to identify individuals and family groups differing in their genetic resistance to footrot, to enable selective breeding for enhanced footrot resistance. Using information from Blackface,

Texel and Mule sheep, the project is using both molecular techniques and conventional animal breeding strategies to investigate the links between genetic susceptibility and expression of footrot. As the problem of footrot can be controlled using good husbandry and management practice, best practice for footcare will be demonstrated.

Biodiversity and Pollution Control

The importance of farmers as guardians of our countryside is now recognised and government support is available for schemes that enhance the environment. What are the implications of the changes in support for hill and upland areas? Concurrently we must recognise the potential environmental impact of farming activities such as sheep dipping and take steps to avoid pollution.

The event is supported by SEERAD. A free snack lunch will be provided through the support of SAC and the other sponsors, Moredun, McIntosh Donald, NFU Scotland, QMS and Rumenco.

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25/09/0068