

Use of blood testing and fluke egg detection to target fluke treatments and reduce resistance on Scottish sheep farms

September 2022

A group of sheep farmers from across Northern Ireland accompanied by Beef and Sheep Development Advisers Hannah Doherty and John Moore made the scenic trip to Isle of Islay, Scotland this month to learn about new innovations in fluke treatments.



The group travelled by boat, leaving Ballycastle Harbour at 8am on Tuesday 6th of September 2022 with a pleasant crossing of 1 hour 30 mins beyond Rathlin Island and across to Islay before returning the following evening, Wednesday 7th across slightly rougher waters!

Fluke treatments are a routine husbandry practise across all Northern Ireland sheep farms with some areas of the country showing more significant challenges due to landscape and weather. The ongoing issue of triclabendazole resistance on farms largely threatens the success of treatments in the future and there is also an ongoing need for improved knowledge on the fluke cycle and key times of treatment with specific active ingredients.

The group specifically visited Islay as it was subject to a fluke trial in 2021. Elanco were responsible for carrying out the study while local Islay vet Samara Johnstone carried out the on-farm trial specimen collections and analysis. Our FIV group were very lucky to have Matthew Colston from Elanco and Samara Johnstone to lead our trip over the two days and outline the trial work and ongoing progress.

On day 1 of the trip Matt and Samara outlined the trial work completed in 2021. On 5 sheep farms a combination of blood testing, coproantigen testing and faecal egg counting were used to establish fluke challenge. Typically, in Islay due to the landscape and weather, fluke treatments would commence in August with dosing continuing into the spring. This type of blanket long-term treatment was giving rise to resistance and mixed effectiveness. Using this year's lambs, never exposed to fluke, the first stage of the trial used an antigen test, like a COVID antigen test, to determine the point at which stock were first exposed to fluke. No treatments were carried out on farm until these tests were predominately positive across the lamb group and from there coproantigen and faecal egg counts were used to track immature and adult fluke within stock. Appropriate products were used with suitable active ingredients to target the various stages of the fluke cycle and a significant reduction in product, time and labour was required as most farms in the trial did not begin fluke treatments until November as opposed to the usual August commencement.

Keeping the knowledge gained in the fluke workshop on day 1 the group then visited a further 4 farms over the two-day period with emphasis on fluke management and environmental issues. RSPB were a key partner in the visit showcasing two separate reserves which were mixed sheep and beef farms. These farms were environmental reserves first with the farming systems established to work hand in hand with the wildlife and habitats present on farm. At the RSPB Kinnabus Farm, staff showcased the use of the innovative virtual fencing collars on the cattle herd and the management of vast upland areas with this technology. These reserves were also very keen to reduce their anthelmintic use to reduce the impact on dung beetle and wildfowl populations on the reserves.



Farming systems on the island varied slightly from the typical sheep farm in Northern Ireland mainly due to the scale present on Islay. On day 2 a private estate farm of 55,000 acres was visited and most farms were managed very extensively with large numbers of sheep and cattle ran over very large areas of land. A huge emphasis is placed on the management of key environmental areas and the deer and geese population are a key element of farming on the island. The RSPB farm visited on day 2 grazed a geese population of 35,000-40,000 in the wintertime and the private estates also ran thousands of deer on their uplands with deer shoots present on the estates.

The farmland on Islay was predominately extensive and low input with some improved grassland and barley grown for the local whiskey distilleries. Islay boasts 7 independent whiskey distilleries which pay a highly sought-after premium to arable growers on the island. The sheep farming systems were all store finish with little to no factory finishing carried out. This system suited the extensive nature of the farms and with meal prices at almost £800/ton on Islay in 2022, it is not surprising that meal is not a significant factor in their management. All store animals are sent to the mainland at a target of 35kg for finishing and store cattle is also the main system for beef enterprises. From a veterinary perspective, there were some very positive aspects of the Islay farming system such as a clear status for enzootic abortion and a very strict quarantine protocol in place on farms on imports from the mainland. Fluke and ticks were the main challenges seen in sheep flocks, particularly in hill flocks. Breeding mainly consisted of hill cross sheep with emphasis placed on the use of the Scottish Blackface as the nucleus of the flock with Cheviot, Suffolk and Texel breeds also being used.



Take home messages:

- The fluke challenge on Islay is similar Northern Ireland and improved practise is required across both areas to protect active ingredients and successful treatment in the future
- The innovation of antigen testing for fluke will be an incredibly useful piece of technology for sheep farmers in the future and will be a key husbandry tool when it comes to market
- The mixed method approach of blood testing, coproantigen testing and FEC sampling is an innovative approach which could be implemented across Northern Ireland farms with improved learning and information from trials such as Islay
- The quarantine protocol and emphasis placed on keeping out zoonotic and harmful disease within livestock is an important practise on Islay and allows for reduced vaccination and losses
- The landscape of Islay is much more extensive and vaster in comparison to Northern Ireland sheep farms with all farms focusing on a store low input system, however this is endemic to the land type, scale and systems on the island
- The mixed approach of farming and environmental focus on Islay is exemplary and this could be a key area of focus and learning for NI farmers with much more emphasis being placed on environmental issues in future NI policy