***Application***

This study highlights the knowledge gap amongst farmers in identifying ovine infectious lameness conditions and utilizing appropriate treatment protocols at farm level. Future knowledge transfers activities should prioritize accurate lesion identification and appropriate lameness treatment protocols amongst farmers. This survey could also be refined and applied to other ovine infectious diseases or adapted to assess bovine lameness.

***Introduction***

Ovine infectious lameness represents a significant challenge within flocks due to its welfare and production limiting impacts. Infectious lameness conditions represent the majority of lameness cases within sheep flocks (Winter *et al.,* 2015)and comprise of three main disease types namely; Interdigital Dermatitis (ID), Footrot (FR) and Contagious Ovine Digital Dermatitis (CODD). All three conditions are linked, with Staton *et al.* (2021) reporting that 83% of ID/FR lesions can develop to CODD, where the causative bacteria is present and the lesion is allowed to progress. However, despite this each disease type requires varying treatment strategies for an effective resolution of the condition; while preserving antibiotic usage whenever possible in order to safeguard human and animal health against antimicrobial resistance (O’Neil., 2016). Foot bathing, for instance can be a useful method for the treatment of ID but offers limited efficacy for severe FR and CODD (Green *et al.,* 2018*)*.

There is a paucity of information on the ability of Irish farmers to identify infectious lameness lesions correctly in sheep and what subsequent treatment strategies are employed. The aim of this research was to assess the ability of Irish farmers to identify the types of infectious lameness lesions and to investigate the resulting treatment strategies that they employ on farm through a survey.

***Materials and Methods***

The survey was drafted in 2022 and was initially pilot tested by eleven Teagasc sheep specialists and technicians prior to its launch in January 2023. Once launched the survey remained live until May 2024 and was available in both online (via ‘Survey Monkey’) and paper based format. Online respondents were gathered through promotion on Teagasc social media. In-person respondents were collected at mart visits and attendance at Teagasc sheep events and responses were subsequently collated via ‘Survey Monkey’. Following collation SAS Version 9.4 was used for all data screening and analysis.

Survey respondents were presented with images of ID, FR and CODD followed by a brief written description in random order and asked to identify the lesion. Questions were presented in multiple choice format and possible responses included: ID, FR, CODD, Toe Granuloma and Shelly Hoof.

Post lesion identification, respondents were asked to indicate if similar lesions had been observed within their flock and to detail the treatment methods they used on farm per lesion (use of multiple treatment methods permitted) and list any antibiotic treatment, if any, administered. Respondents (14.5 %) who reported using lameness vaccinations were included in all analysis. Results are presented as the mean value with a -/+ 95% confidence interval.

***Results***

In total 364 Irish sheep farmers responded to the survey. Of which, 308 respondents answered the lesion identification questions. A total of 78.2% (95% CI: 73.6, 82.9), 77.6% (95% CI: 72.9, 82.3) and 61.7% (95% CI: 56.2, 67.1) of respondents identified ID, FR and CODD correctly, respectively. Out of 308 respondents, 148 (48.1%, SE= 0.04) identified all three lesions correctly. Of the respondents, 314 reported that they had identified at least one of the infectious lameness lesions on their farm. Wherein 90.8% (95% CI: 87.6, 94.0), 82.2% (95% CI: 77.9, 86.2) and 47.8% (95% CI: 42.1, 53.5) reported that they had seen ID, FR and CODD, respectively on their farm.

The most frequently utilised treatment method reported for the treatment of ID was the use of an antibiotic aerosol (71.2%; 95% CI: 65.1, 76.8). The second most frequently selected treatment method for ID was foot bathing (66.4%; 95% CI: 60.0, 72.3). In contrast, the administration of an antibiotic injection was the most frequent treatment method listed by respondents for FR (71.7%; 95% CI: 62.1, 80.0) and CODD (85.2%; 95% CI: 75.6, 92.1). Whilst, the use of an antibiotic aerosol was the second most frequently selected treatment method for both FR (61.3%; 95% CI: 52.1, 70.6) and CODD (49.4%; 95% CI: 38.1, 60.1).

When asked to provide details of the antibiotic treatments administered the European Medicines Agency (EMA) Category ‘D’ class antibiotics (most frequently used – Tetracycline’s) represented the majority of antibiotics administered for ID (82.2%), FR (76.5%) and CODD (64.7%). The remaining most frequently used antibiotics were from EMA category ‘C’ class antibiotics (most frequently used - Macrolides) and were administered as first line choices for ID (17.8%), FR (23.5%) and CODD (35.3%).

***Conclusions***

The majority of Irish flocks are faced with the challenge of infectious lameness annually. Contagious Ovine Digital Dermatitis, the least well-identified condition (61.7%), was reported to be present across 47.7% of flocks in this survey. The majority of respondents reported to use antibiotic aerosols most frequently to treat ID, in contrast to the use of antibiotic injections for the treatment of FR and CODD. The most common antibiotic class used for the control of ID, FR and CODD was EMA category ‘D’ antimicrobials, although there were a substantial amount of category ‘C’ class antibiotics used as first line treatments, contrary to veterinary treatment protocols for infectious lameness diseases.

***References***

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