In this CVERA e-zine, we provide a brief overview of some of the recent work conducted by CVERA staff in collaboration with a wide range of national and international institutions. More in-depth information can be found at http://www.ucd.ie/cvera/, noting the role of CVERA to provide high quality independent scientific research and advice to support national evidence-based policy-making in animal health & welfare and public health and related matters.

bTB eradication in Ireland: where to from here?

In an earlier paper from 2019, Prof Simon More concluded that successful eradication of bovine tuberculosis (bTB) from Ireland by 2030 would be unlikely, given control strategies in place at that time plus the addition of badger vaccination. He argued that additional measures will be needed, broadly focusing on bTB risks from wildlife, risk-based cattle controls, and industry commitment. This paper reflects on recent progress in the national programme, and considers these points in further detail. [More (2023) *Irish Veterinary Journal* 76, 11].

TB Forum - opinions by the Scientific Working Group (SWG)

The Scientific Working Group (SWG) provides independent scientific advice to the national TB Forum. Since its first meeting in March 2021, the SWG has produced a number of scientific opinions, addressing a range of issues relevant to the national eradication programme. The first four of these opinions were recently migrated to *Food Risk Assess Europe*, an open access repository established by the European Food Safety Authority (EFSA) of selected scientific articles from national food safety agencies (and equivalent organisations) of EU Member States. These opinions include:

- How can DAFM best make use of whole genome sequencing to improve the effectiveness of the TB eradication programme? [Griffin et al. (2023) *Food Risk Assess Europe* 1, 0006E].
- What topics should be prioritised for the provision of funding by DAFM using the ERAD TB research fund in the period 2022-2024? [Griffin et al. (2023) *Food Risk Assess Europe* 1, 0007E].
- What is the scope for existing (including recently developed) diagnostic methods to detect infected cattle which are not currently detected by the existing programme? [Griffin et al. (2023) *Food Risk Assess Europe* 1, 0008E].
- What is the proportional contribution of cattle-to-cattle, badger-to-cattle, and deer-to-cattle TB transmission to bovine TB in

Ireland? [Griffin et al. (2023) *Food Risk Assess Europe* 1, 0009E].

Investigation of the association between the Enferplex bovine tuberculosis antibody test and the future risk of bovine tuberculosis in Irish cattle in infected herds: a pilot field study

The Single Intradermal Comparative Tuberculin Test (SICTT) and the interferon-gamma (IFN-γ) assay are the approved diagnostic tests for bovine tuberculosis (bTB) in Ireland. The aim of this pilot study was to explore if there was any added diagnostic benefit from applying the Enferplex bTB test (an antibody test) in severe bTB herd breakdowns after the removal of cattle that had tested positive to the SICTT and the IFN-γ test. In addition to the normal bTB testing and management protocols, the animals in these herds that tested negative to SICTT and the IFN-γ test were followed forward for a period of two years. All animals were tested by Enferplex at enrolment. The time to subsequent bTB detection (diagnosed with SICTT/IFN-γ tests or detection of visible lesions at routine slaughter) for animals that tested positive or negative to the Enferplex bTB test at the start of the study was compared using Kaplan–Meier survival curves and Cox based survival models. Of the 484 enrolled animals (from 11 herds), 171 (35.3%) and 151 (31.1%) initially tested positive in the Enferplex assay under the high sensitivity and high specificity interpretation settings respectively. The results of the survival analysis showed that there was no difference in the survival time to a positive diagnosis with bTB during the follow-up period between animals initially classified as positive and negative by the Enferplex test. Further research is warranted to explore the potential benefit of using the Enferplex test in other scenarios. [Madden et al. (2023) *Veterinary Research Communications*].

The opinions of farm animal veterinarians in Ireland on antimicrobial use and their role in antimicrobial stewardship

Antibiotic use and resistance in animal production are a concern to public health, and there is an urgent need to reduce antibiotic use in farm animals. There are currently no available studies on the opinions of Irish farm animal veterinarians on antibiotic use, reduction opportunities and their relationships with farmers. A digital survey was developed and sent out to Irish farm animal veterinarians. This paper presents the results of a cross-sectional study of Irish farm animal veterinarians' attitudes towards antimicrobial stewardship, their prescribing behaviours, antibiotic reduction opportunities and their attitudes for the future of antibiotic use. The veterinarian-farmer relationship is examined and potential interventions to reduce antibiotic use on farms are identified. This paper by Sorcha O'Connor et al. was conducted in collaboration with UCD CVERA, Utrecht University and Southeast Technological University. [O'Connor et al. (2023) *Irish Veterinary Journal* 76, 28].

A mixed-method survey to understand the role of dog welfare organisations in Ireland, including reported challenges and potential solutions

Dog welfare organisations (DWOs) in Ireland are recognised as an instrumental pillar of the animal welfare sector, with some receiving substantial public funding. A survey of DWOs in Ireland was conducted to gain a better understanding of their role and function, including their policies and procedures and the rehoming of dogs to other regions. The authors wanted to get a better understanding of the challenges experienced by DWOs in fulfilling their role and their perspectives on potential solutions to these challenges. Reported challenges included a general lack of funding,

limited public awareness of the importance of dog welfare and insufficient capacity to handle dog numbers. To address these challenges, the DWOs highlighted the potential contribution of subsidised programmes and access to resources to educate potential owners. This study, led by Claire McKernan from Queen's University Belfast in collaboration with UCD CVERA, UCD Veterinary Medicine and DAFM, provides important insights into the roles and functions of DWOs and challenges they experience in Ireland. It is hoped that the findings from this research will inform future research investigating potential solutions to these challenges as well as the development of policy in Ireland. [McKernan et al. (2023) *Irish Veterinary Journal* 76, 27].

Geovet23

The International Conference of Spatial Epidemiology, Geostatistics and GIS (Geovet23) took place in Teramo, Italy in September. The conference brought together a diverse group of researchers, policymakers and agencies who are international experts in spatial epidemiology, spatial statistics and Geographical Information Systems as applied to animal health, public health and food safety. Conference themes included GIS and One Health, remote sensing, network analysis for transmission pathways, novel data sources, modelling, genetics and bioinformatics, environmental impact on animal health, artificial intelligence, ecology and epidemiology. Jamie Tratalos presented on "The use of spatial metrics to select regions for enhanced bovine tuberculosis control measures in Ireland". Guy McGrath, who was a member of the Scientific Committee, presented on "Reducing uncertainty in spatial analysis involving fragmentated farms". More information about the conference can be found at https://geovet2023.izs.it/

M. bovis 2022* - special supplement of the *Irish Veterinary Journal

The Seventh International conference on *Mycobacterium bovis* took place in Galway during June 2022. Papers resulting from a number of the plenary speakers have been published in a special supplement of the *Irish Veterinary Journal*. These papers are varied, including a focus on eradication programmes and strategies from a range of different countries. There are also papers with a focus on disciplinary advances, relating to the social sciences, quantitative genetics and comparative genomics. The open access special supplement, which was edited by Prof Eamonn Gormley, is available at https://irishvetjournal.biomedcentral.com/articles/supplements/volume-76-supplement-1

This e-zine, and recent news items, can be found at: http://www.ucd.ie/cvera/news/

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