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Head of Division

Pathology Division

The primary role of the Pathology Division is to provide morphological and clinical pathology expertise and resources in support of the Department's responsibilities in relation to animal health. This includes providing laboratory support for national disease control and eradication programmes, as well as specialist pathology support for the Department's Regional Veterinary Laboratories (RVLs).

The Division also provides Project Management for the Veterinary Laboratory Service Laboratory Information Management System (LIMS). The LIMS – which is networked throughout the Central Veterinary Research Laboratory at Backweston and the Department's five RVLs – is used to manage laboratory data from sample reception, through testing and reporting, to data retrieval and analysis.

Current Work of Division

The Pathology Division has a staff of 23 – comprising veterinarians, other scientists, and ancillary personnel and is divided into three Sections:

- Histopathology,
- Clinical Pathology and
- the Dublin Regional Veterinary Laboratory (RVL).

“This seed is potent as the seed
Of knowledge in the Hebrew Book,
So drive your horses in the creed
Of God the Father as a stook”

To the Man After the Harrow by Patrick Kavanagh



Histopathology Section

The Histopathology Section is responsible for the preparation of tissue slides for microscopic evaluation by pathologists - both within the Section and in the six RVLs.

As the EC National Reference Laboratory for Transmissible Spongiform Encephalopathies (TSEs, i.e. BSE, scrapie, etc.), Histopathology Section is responsible for the confirmatory diagnosis of all suspect TSE cases identified in the State. Additional responsibilities assigned to the Section under the EC TSE legislation (999/2001) include the approval and ongoing monitoring of private laboratories carrying out rapid screening tests for TSEs and the maintenance of an archive of TSE-positive tissues. The latter is used to support quality control of TSE screening tests – as well as local and international research projects.

Staff in the Section have been involved in a number of EU and DAF-funded research projects. These include a study of clinical signs of BSE in Ireland, a survey of TSE in non-ruminant species, investigation for evidence of BSE infection in scrapie-positive sheep, establishment of the lesion profile of BSE in Irish cases, and a study of brainstem cell populations in TSE cases. An additional project which commenced in 2007, involves molecular characterisation of TSE strains in Irish BSE cases.

Clinical Pathology

Clinical Pathology Section (formerly Biochemistry) performs metal (macro, trace and heavy) analyses on animal blood and tissues, and also measures metabolites and enzyme activity in serum to diagnose economic animal diseases or animal exposure to environmental pollution. In addition to providing

specialist support to the RVLs, the Section liaises with other State agencies such as the FSAI and the EPA to provide expert advice in relation to food safety and environmental animal health.

Because of its expertise in the study of toxicological and production-related diseases, the Section was central to the large inter-Agency investigations in Askeaton and Silvermines in the 1995 to 2002 period. The Section has been involved in several other investigations of animal health problems with an environmental component in counties Kerry, Kildare and Kilkenny. In 2006, it contributed to the investigation of a mining environmental pollution incident in Co. Tipperary.

Dublin RVL

Dublin Regional Veterinary Laboratory (DRVL) provides a diagnostic pathology service to the agriculture industry in the North Leinster area. It is part of the Department's network of Regional Veterinary Laboratories - which provide specialist diagnostic pathology facilities at strategic locations throughout the country.

In 2006, DRVL, along with the five other RVLs, comprised the Department's first line of laboratory defence against the threat of the highly pathogenic H5N1 strain of Avian Influenza.

Systems were in place for submission, examination, and sample collection from wild and domestic birds. Over 500 wild birds were examined by DRVL. In addition, suspicious outbreaks of mortality were investigated in poultry flocks.

Dublin RVL also provides support for the Department's control and eradication schemes for TSEs (including BSE and scrapie), tuberculosis, and brucellosis. Full pathology investigations were also carried out on several equines suspected of being infected with Equine Infectious Anaemia (EIA) virus as part of the Department's EIA control program during 2006.

Dublin RVL also undertakes field investigations of serious disease outbreaks. In 2006, these included investigations of suspected outbreaks of botulism, bovine abortion, calf pneumonia, and illthrift in individual herds.

In conjunction with the five other RVLs, DRVL staff contributed to the production of the 'Regional Veterinary Laboratories Disease Surveillance Report 2005'. This report comprises an analysis of the most frequently diagnosed causes of deaths and abortion in cattle and sheep, mastitis in cattle, and enteritis in calves. It is based on diagnoses on submissions to the Regional Laboratory network.

