Manual of Standards for Diagnostic Tests and Vaccines

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This book deals with diagnostic tests primarily for lists A and B diseases of mammals, birds and bees. The objective is to improve animal health through appropriate diagnostic tests of internationally accepted standards thus facilitate international trade in animals and animal products. This is provided in the foreword by OIE Director General Dr. Jean Blancou and The President of OIE Standards Commission Professor Marian Truszczynski.

The first part introduces guidelines on how to use the book, listing diseases covered, describing and explaining in tabular form the diagnostic tests contained and provides reference laboratories recognized by OIE to confirm diagnosis of diseases. The diagnostic tests and alternatives are provided for each disease. All abbreviations and glossary of unusual terms used are listed prior to detailed discussions chapter by chapter. Included in the pre-chapter definitions are terms used for types of vaccines, the techniques and calculations for arriving at a final reading value and the authors and their addresses. This arrangement makes the book very comprehensive and a source of information, essential data and contacts for people working with animal health and trade.

The book covers a large list of diseases including foot and mouth disease, vesicular stomatitis, swine vesicular disease, rinderpest, peste des petitis ruminants, contagious bovine pleuropneumonia, lumpy skin disease, rift valley fever, blue tongue, sheep pox and goat pox, African horse sickness, African swine fever, classical swine fever (hog cholera), highly pathogenic avian influenza (fowl palgue), Newcastle disease, echnococcosis/hydatidosis, leptospirosis, rabies, paratuberculosis (Johne's disease), heart water, screw worm (*Cochliomyia hominivorax*), bovine brucellosis, bovine genital campylobateriosis, bovine tuberculosis, enzootic bovine leukosis, infectious bovine rhinotracheitis infectious bovine pustular vulvovaginitis, trichomoniasis, bovine anaplasmosis, bovine babesiosis, cytercerosis, dermatophilosis, theileriosis, haemorrhagic septicemia, bovine sponiform encephalopathy, ovine epididymytis (*Brucella ovis*), caprine and ovine brucellosis (excluding *Brucella ovis* infection), contagious agalactia, caprine arthritis encephalitis and Maedi visna, contagious caprine pleuropneumonia, enzootic abortion of ewes (ovine chlamydiosis), contagious equine metritis, dourine, equine encephalitis (Eastern and Western), equine infectious anaemia, equine influenza, equine piroplasmosis, equine rhinopneumonitis, glanders, equine viral arteritis, mange, Venezuelan equine encephalomyelitis, epizootic lymphangitis, Japanese encephalitis, atrophic rhinitis of pigs, porcine brucellosis, trichnellosis, enterovirus encephalomyelitis, transmissible gastroenteritis, infectious bursal disease (Gumboro disease), Marek's disease, avian mycoplasmosis, avian chlamydiosis, fowl typhoid and pullorum disease, avian infectious bronchitis, avian infectious

laryngotracheitis, avian tuberculosis, duck virus hepatitis, duck virus enteritis, fowl cholera (avian pateurellosis), myxomatosis, tularemia, viral haemorrhagic disease of rabbits, acariosis of bees, American foulbrood, Europian foulbrood, nosemosis of bees, varroosis, Leishmaniasis, malignant catarral fever, Q fever, salmonellosis, bovine viral diarrhoea, trypanosomosis, (tse-tse borne), ovine pulmonary adenomatosis, scrapie, border disease, sura (*Trypanosoma evansi*). porcine reproductive and respiratory syndrome and fowl pox.

Parts 1, 2 and 3 comprise of chapter 1, 2 and 3 respectively while part 4 is independent. Chapters are divided into sections. The first covers sampling methods, identifying the types, selection of site for sampling, size, information about the sample and transport, providing references for further reading. The second section introduces laboratory practice and handling of samples once submitted to the laboratory, describing the environment, buildings, personnel, diagnostic design, test method appropriateness, techniques, controls and protocols and concludes with references.

The principles of validation of the laboratory diagnostic tests are provided in the third section of chapter one about validation and stages. This section gives full analytical approach and evaluation using a detailed chart. The subsequent sections of the chapter describe elaborately tests for sterility and freedom from contamination of biological materials, describing how to test for sterility of different kinds of vaccines including sera, diagnostic agents injected, embryos and semen and provides example protocols.

Human safety in veterinary microbiology laboratory follows, providing standards for assessing risks from pathogens, requirements for work, storage of pathogenic material, laboratory animal facilities and how to handle emergencies. This is followed by vaccine production principles covering nomenclature, types, quality assurance, facilities, documentation, recording, seeding, cell stocking, ingredients, efficacy test, inferences, virulence tests, environmental risks, production consistency, potency, stability, safety, purity, inspection facilities, testing before release, upgrading, performance monitoring, enforcement, licensing, classification and recombinant products use.

The last section of the first chapter (section seven) describes biotechnology in the diagnosis of infectious disease and vaccine development; detection of genome nuclei acids, proteins and antibodies, and vaccines. Each of these sections ends with a list of references and this is desirable and appropriate giving a detailed easy select source of knowledge store.

The subsequent parts of the book parts 2, 3 and 4 covering chapters 2 to 3 also contain sections identified by being numbered and ending with a list of references Each chapter deals with a specific diseases, list A diseases of mammals, birds and bees in part 2, chapter 2. Parts 3 chapter 3, describe list B diseases divided into sections that deal with multi-species diseases, those of cattle, of sheep and goats, of horses, of pigs, of birds, of lagomorphs and of bees. Part 4 describes diseases that are not include in OIE code.

For each disease a summary involving the definition, causative agents, mode of transmission, clinical signs, diagnostic samples, serological tests and requirement for vaccines and diagnostic biologicals are presented. Following the summary are diagnostic techniques, by identification of the agent through isolation, immunological, nucleic acid, by serological tests; neutralization and enzyme linked immunosorbent assay (ELISA) and the requirements for vaccine and diagnostic biologicals.

The last but one section of the book provides a list of OIE reference laboratories in 1996 for all diseases by names of laboratories and contact personnel. The last section gives an alphabetic index of the diseases covered for quick reference. This arrangement of the book makes a perfect material for all people involved with animal health; researchers, trainers, diagnostic laboratories, decision makers, farmers, traders, and other interested community. Its technical terminology makes sense because it deals with standards in scientific audience. The book can serve as a quick text book for veterinary undergraduate and postgraduate students. Its distribution requires to include Universities.

The primary function of OIE as provided in the foreword by the Director General and President of the OIE Standards Commission and on which the book is based include 'To provide guidelines and standards for health regulations applicable to international trade in animals'. As such one would expect the trade guidelines and standards to be covered by the book. A chapter discussing trade regulations of animals and animal products and their standardization is lacking. This information would make the main function of OIE complete and it would be used by decision makers to guide the animal industry to international standards. Perhaps this is foremost as it would facilitate understanding in people trading in animals and animal products and drive them to compliance with standards on animal health thus diagnosis and disease control measures. I believe that OIE Standards Commission will examine this possibility in future editions of this useful manual.

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