CEVA HAND BOOK OF POULTRY DISEASES

- GUMBORO
- CHICKEN ANAEMIA
- REOVIRUS
- MAREK
- RUNTING-STUNTING SYNDROME
- NEWCASTLE DISEASE
- AVIAN INFLUENZA
- INFECTIOUS BRONCHITIS
- LARYNGOTRACHEITIS
- AVIAN METAPNEUMOVIRUS
CEVA HAND BOOK
OF POULTRY DISEASES

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This book is the first in a projected series of similar works published at the initiative of Ceva Santé Animale.

Following on from the publication of the first and second editions of the books “Poultry Diseases. A Colour Atlas” and “Histopathology and Cytology of Poultry Diseases,” the aim of this work is to serve as a handbook, providing more specific practical data about common poultry diseases in a more accessible format.

Future instalments will cover topics in the fields of neoplastic diseases, respiratory diseases, immunosuppressive agents, poultry diseases and public health, enteric diseases and more.

Each chapter will include data about the history of the disease, characteristics and classification of the pathogen, epidemiology, clinical signs and pathology, diagnosis and monitoring, prevention and vaccinology. Gross and microscopic lesions, as well as the clinical signs will be illustrated with the help of a rich collection of photos, gathered during our diagnostic, research and consultation activities.

We hope that this planned series of publications will earn recognition as easy to understand and convenient to use handbooks in the fields of poultry pathology, suitable for students, novice practitioners and seasoned professionals alike.

SEPTEMBER, 2012 IVAN DINEV & CEVA
GUMBORO DISEASE

DEFINITION

Infectious Bursal Disease (IBD, Gumboro) is an acute, highly contagious viral disease affecting chickens, characterized by inflammation and subsequent atrophy of the bursa of Fabricius, various extents of nephrosonephritis, marked haemorrhagic diathesis and immunosuppression.

HISTORY AND SYNONYMS

In 1957, A.S. Cosgrove observed a syndrome which was later described as avian nephrosis in a broiler chicken farm in the Gumboro community, Delaware (USA) (Cosgrove, 1962). The syndrome, rapidly baptised “Gumboro disease” became more and more prevalent in Delaware. Gumboro is characterized by a 10% morbidity rate and a death rate of between 1% and 10% in affected flocks (Cover, 1960; 1961). The prevailing opinion at the time, considering the macroscopic changes in kidneys, was that the syndrome was caused by the Gray strain of the variant infectious bronchitis virus. In the early 1960s, the Gumboro disease was established in many other American states (Lashner & Davis, 1997). Winterfield & Hitchner (1962) managed to isolate two viruses – one from kidneys and another from the bursa of Fabricius of chickens displaying symptoms of the new disease. The virus isolated in the bursa of Fabricius has been linked to the effects observed on the birds’ organs. In his prevention and control report, Edgar (1966) was the first to describe the syndrome as “infectious bursal disease” instead of “Gumboro disease”. IBD rapidly spread beyond the USA and reached other regions in the world. The appearance of the disease in a variant or highly virulent form in Europe during the second half of the 1980s entailed substantial economical losses (Van den Berg, 2000). The same author reports that until 1987 viral strains were not strongly virulent and resulted in a death rate of below 2%, allowing for satisfactory control of IBD by vaccination. But by 1987, post-vaccination occurrences had been observed in different parts of the world. First, outbreaks of acute IBD among adult broiler chickens were reported in Europe (Van den Berg, 2000). Thereafter it became a pressing necessity to catalogue the various strains in circulation and adapt vaccination schedules to this new epidemiological reality. In 1995, acute clinical cases were reported in 80% of countries. The 1990s saw the emergence of very virulent strains of IBDV (vIBDV). At present, these strains are prevalent worldwide, however no cases have yet been reported in Australia or New Zealand (Eterradossi & Saif, 2008).