Breeder health issues under the spotlight at WVPA Congress

The XVIIth Congress of The World Veterinary Poultry Association was held in Cancun, Mexico and International Hatchery Practice attended. This review looks at some of the papers of interest to hatchery and breeder professionals in our industry.

In a keynote lecture on present and future perspectives of salmonella control, Prof. Richard Ducatelle from Belgium concluded that much progress had been made in recent years. Although the different available tools for salmonella control are not all equally efficacious, vaccination of layers does appear to be so.

However, this is not the case in broilers and probably reflects their relatively short life and their extreme susceptibility to a wide spectrum of salmonella serotypes in the post hatch period. This issue is then compounded by banning of antibiotic treatments in the EU. Carcase decontamination is also a controversial issue.

Colonisation inhibition

The concept of colonisation inhibition in which young chicks are inoculated with a (harmless) strain of salmonella to prevent colonisation of the chick's digestive tract by another serotype, particularly of the same serogroup looks promising and Prof. Ducatelle has shown that this approach can protect broilers against Salmonella enteritidis to slaughter age.

He also stated that, considering the widespread presence of salmonella in the environment, complete eradication of salmonella from production animals must be viewed as unrealistic. However, he did consider that it was possible to control vertical transmission by using vaccination coupled to stringent hygiene measures. Coupled to colonisation inhibition he sees this as the way forward but he stressed that permanent monitoring will be the cornerstone of salmonella control programs in the foreseeable future.

In another keynote lecture, Prof. Mallmann from Brazil reviewed mycotoxins in poultry. He concluded that the presence of mycotoxins in poultry feeds causes many losses. Control depends upon the implementation of appropriate policies on ingredient production and storage. The use of antimycotoxin additives in poultry feed is importance since once the mycotoxin is formed, detoxification processes often become impractical and expensive.

Guillermo Zavala from the USA reviewed broiler breeder diseases. He commenced by saying that having healthy broiler breeders is critical to the performance of any integrator but that, unfortunately, broiler breeder diseases are often poorly understood and not well documented. Frequently they are non-infectious or involve the reproductive system and are multifactorial involving an interplay of genetics, environment, nutrition, husbandry and management.

Factors influencing why broiler breeders have their own specific diseases include their relatively long lives, the continuous production of eggs and the 'wear and tear' of breeding. Also, the selection for rapid growth and efficient FCR is a two edged sword as effective growth control in breeders is paramount and too much or too little control of growth each attract their own disease problems. For example, overweight hens are associated with ovarian regression due to super ovulation, salpingoperitonitis, prolapse of the cloaca and vagina and decreased egg production.

He also highlighted chronic, obstructive pulmonary disease from the inhalation of foreign material that occurs in pullet houses with poor air quality and the problems associated with handling breeders for vaccination. He concluded with his observations on 'calcium tetany', cloacitis, feather pecking, avian hepatitis E virus infection and sporadic lymphoid leukosis.

In the scientific programme Rikako Anyoshi from Japan highlighted that because there are many serotypes of infectious bronchitis (IB) vaccines it is still difficult to control this disease in the field. He described a study in which combinations of four live IB vaccines were given followed by a dead booster IB vaccine. It was shown that birds receiving the Massachusetts-type strain in their first vaccination showed a broader spectrum of protective antibodies. In addition, the relationship between antibody titers and protection level varied as chickens got older.

Dr Anneke Feberwee receives the Bart Rispens Award for the best paper in Avian Pathology from Aris Malo of MSD Animal Health.

Himel Barua and colleagues from Denmark detailed the diversity and biological properties of Salmonella typhimurium DT 41 obtained from Danish broiler breeders. Some 13 out of 19 broiler breeder flocks contained S. typhimurium DT 41 and isolates from different flocks demonstrated major diversity. This particular S. typhimurium can survive for six months in feed pellets at 20°C but it only survives in dust for less than a month.

An emerging problem

Magne Bisgaard and Jens P. Christensen described amyloidosis as an emerging problem in Danish broiler breeders. Although they speculated on the aetiology of this condition the reasons behind a rising incidence of the problem over the last decade remain unclear.

Salvatore Catania from Italy described a situation in which two strains of Mycoplasma synoviae were isolated from a flock of table egg layers afflicted by eggshell apex abnormalities and the same scientist also reported on the first isolation of Mycoplasma meleagridis from guinea fowls.

M. E. Munch and colleagues from Denmark reported on the rapid spread of Enterococcus faecalis among layer chicks during hatch. The prevalence rose from 14% at time of hatch to 97% some 24 hours later.

Zhizhong Cui from China reported on that country's current situation with regards to avian leukosis which, in recent years, has seen avian leukosis J associated with myelocytomas, haemangiomas, osteopetrosis and, even, acute fibrosarcomas. In the most serious cases mortalities in excess of 30% were seen in layer flocks.

P. de Herdt and colleagues from Belgium reported on improved performance in broilers derived from broiler breeder flocks that had been vaccinated against Ornithobacterium rhinotracheale. Improvements included a 22.3% improvement in chick loss and a significant 3.9% higher production index.

R. C. Jones from the UK reflected on the effects of infectious bronchitis virus on the female chicken. He highlighted two critical ages at which infection causes reproductive tract damage – at or beyond point of lay and immediately after hatching.

The latter, which can result in silent layers, has become more important recently with the advent of the QX-type genotypes of the infectious bronchitis vaccine. ■