International Poultry Production

Poultryhealth BYTES

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Number: 260

M. iowae

Introduction

Following the elimination of Mycoplasma meleagridis from turkey flocks, problems were seen that were characterised by depressed hatchability and leg deformities which, superficially, looked like M. meleagridis infection. In time, the causal agent was found to be another mycoplasma – M. iowae.

This mycoplasma was first isolated in the 1950s but it was not until much later that the link to the depressed hatchability and leg changes was confirmed.

The organism

The pathogenicity and virulence of M. iowae is variable and this is reflected in the manifestation of depressed hatchability.

The natural host is the turkey. M. iowae has been isolated from other avian species, but it is not associated with problems in these.

The condition

M. iowae infection typically induces no clinical signs other than depressed hatchability although it has been associated with leg weakness in poults. Hatchability is usually in the range of 2-5% with affected embryos dying off in the last third of incubation.

Infected embryos are stunted and congested and show some hepatitis, oedema and splenomegaly. Affected embryos often show a down abnormality known as 'swollen down plumule'. Leg abnormalities seen in late embryos and young poults include chondrodystrophy, rotated tibia, toe deviations and sometimes ruptured tendons. These may be accompanied by poor feathering and tenosynovitis.

Diagnosis

Diagnosis is by the isolation and confirmation of M. iowae.

Control

M. iowae has been eliminated from the breeding stocks of the major breeders. The only antibiotic that appears to be effective for M. iowae eradication is enrofloxacin.