

Mycoplasma infections in poultry breeders

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Mycoplasma infections in poultry, mainly caused by *Mycoplasma gallisepticum* (Mg) and *Mycoplasma synoviae* (Ms), are still considered a major worldwide problem in the modern poultry sector.

Mycoplasma gallisepticum is the causative agent of chronic respiratory disease (CRD) in chickens and infectious sinusitis in turkeys. *Mycoplasma synoviae* is the cause of upper respiratory infections and infectious synovitis in poultry.

These mycoplasma species establish long life infections in their host and will predispose the animal to other respiratory infections like *Ornithobacterium rhinotracheale* or *Escherichia coli*. Infection with Mg or Ms alone or in combination with complicating factors will lead to important economic losses due to reduced feed intake, reduced growth and egg producing efficacy, mortality and condemnations in the slaughterhouse.

Poultry breeders will suffer from decreased production efficiency. Severity of clinical signs is strongly influenced by concurrent viral or bacteriological infections and environmental factors.

Vertical transmission

Since mycoplasma bacteria are vertically transmitted, the progeny of the mycoplasma infected breeders will suffer from reduced feed intake and weight gain, respiratory or locomotory signs (in cases of Ms) and higher condemnations in the slaughterhouse.

Mycoplasma bacteria are horizontally transmitted through direct contact with infected carrier chickens and through indirect contact with contaminated vectors or

material. Recently, the role of wild birds as a possible source of infection for commercial poultry has also been emphasised.

For diagnosis of mycoplasma infections further investigation by culture, serological investigation or PCR is necessary. In order to prevent vertical transmission, control of the disease in the breeder stock is imperative. Therefore, control programmes, implemented by authorities or by integrations, focus on the eradication of the disease in the poultry breeders. Beside high biosecurity measures, regular serological control of the breeder flocks by investigating a representative amount of sera of the herd is frequently used as a first step in these control programmes.

Further investigation of suspected breeder flocks is achieved by PCR or isolation of the agent. Despite intensive biosecurity and eradication programmes breeding flocks are frequently not able to maintain a mycoplasma free status during life.

Vaccines and medication

Vaccines and medication can be used to control the disease in countries with high mycoplasma pressure. Vaccination generally results in protection against vertical transmission, reduction of clinical signs and drops in egg production.

However, vaccination is insufficient to prevent completely horizontal spreading of *Mycoplasma gallisepticum*. Vaccinated birds can, therefore, still be a threat for spreading the disease. In countries where the survey of the breeder flock is based upon serological control, the use of vaccines is sometimes forbidden. The intelligent and prudent use of antibiotics is a very important tool to control the clinical signs and the transmission of mycoplasma infections.

To prevent development of antibiotic resistance by other bacteria it is favourable to use mycoplasma selective antibiotics like Vetmulin (Tiamulin), Tilmovet (Tilmococin) and Pharmsin/Tylovet (Tylosin), all produced by Huvepharma, over broad spectrum antibiotics. These should be applied in appropriate schemes that maximise the (clinical) effect and minimise the risk of resistance development. ■

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