

WEBINAR Q&A

Laboratory approach to detect the presence of Mycoplasma in poultry flocks

1. Vaccination to layer breeder flock with TS 11 followed by killed vaccine, can ELISA test distinguish between the vaccine strain and field or wild strain?

No, ELISA cannot distinguish them.

2. Which media do you use when you want to isolate Mycoplasma strains?

The media used can be different (PPLO, Frey, Mycoplasma Experience, SP4). Usually we prefer PPLO and Mycoplasma Experience, you can find a publication on this topic I wrote with my research group (Evaluation of Minimum Inhibitory Concentrations for 154 *Mycoplasma synoviae* isolates from Italy collected during 2012-2017. Catania et al., 2019)

3. If the flock become positive for Mg by PCR, it should be always giving positive during the tests, why some time is PCR negative?

Yes, if the sampling number is adequate usually it will be positive. In some cases, for example a vaccinated flock of which we took only 5-8 tracheal swabs, sometimes you could find negative tested samples. It critical to increase the number of tracheal swabs collected for this monitoring.

4. Which method is a reliable screening test for differential diagnosis of mycoplasma?

To answer this question, I need to know the exact goal of the screening.

5. Which are the recommend latest adopted control measures?

In order to contain the spread of mycoplasma or avoid mycoplasma infection, it is essential to know the biology of the mycoplasma, the epidemiological condition and the condition of the integrated farm or poultry industry.

6. When and why we face a false positive in ELISA test?

It is not easy to predict and explain it. The false positive could be due to a high similarity between the epitopes elected and the antibodies. However, in poultry we should work with the population diagnosis, so a single false positive should not be important.

7. Un-vaccinated flock shows positives cases through Elisa, but the same samples are negative in PCR, why is it so?

To answer this question, we should know the percentage of positive sample. However, you could confirm the positive samples with another ELISA kit, or you could try to change the PCR target.

8. Can ELISA kit measure the level of IgM & IgG together?

The different IDEXX ELISA kits for Mycoplasma detect just IgG.

9. Which is better: trachea swab or trachea tissue?

When you take a tracheal swab you perform a scrub of the tracheal epithelium, so in this case you collect a good site for mycoplasma recovery.

10. Use of antibiotic in early stage of disease can cause decrease of antibody or can maintain negative flock?

The antibody reaction could be retarded or reduced. Usually a positive industrial flock does not become negative.

11. Your recommended prophylaxes medication protocol for breeders?

I don't recommend a prophylaxes medication in breeders.

12. Is it advisable to collect always 30 samples per 1000house breeder? also, the result is better to read for each individual sample or rely only on mean and cv? also, is there a direct ELISA for mycoplasma? where what is the supplier?

You should read the cumulative data using properly mean value and cv. I can advise to check the previous presentation in Poultry Academy "Interpreting serology results and the importance of baselines in poultry". You can find the recording in the webpage.

13. Will the short heating of incubation eggs prevent the vertical Mycoplasma transmission?

It can reduce the risk of transmission, but it does not prevent it.

14. Can I do a monitoring of free mycoplasma farm just using PCR each 2 weeks?

Yes, but in order to elect if this approach is adequate to your conditions, it is important to understand your goal and your needs.

15. Do you recommend MG ELISA test for day old chick?

If you would like to know if antibodies are present, the answer is yes. But for other possible application or question it is important to understand what your need is.

16. Which test is most suitable for detecting vertical transmission in 1DOC?

To detect the vertical transmission, we need to find the antigens (mycoplasma). However, we must remember that in one day old chicks is hard to find the antigens, because the transmission rate is low (low prevalence population) and the peak of positivity is during the first 4 weeks of breeder infection then it declined. So, to detect the presence of it we need a very large sampling.