

THE CHICK PAPERS

Georgia Poultry Laboratory Network's Monthly Newsletter



Swab Submissions for PCR:MYCOPLASMA

by Len Chappell

Introduction

PCR (polymerase chain reaction) is an antigen detection molecular test that looks for specific sequences in the Mycoplasma genomes for MG and MS in the chicken's upper respiratory tract. If present, the sequences are amplified and measured real time using a light cycler. We currently use the multiplex commercial kit supplied by IDEXX Laboratories that can detect both MG and/or MS in the same reaction.

When to Swab

Swabbing birds for Mycoplasma PCR should be done anytime birds show respiratory signs (especially breeders) and before birds are moved from one farm to another. This would include moving pullets to the breeder house, spike males to the breeder house, and any adult birds that are moved from Farm A to Farm B; however, we do not typically test spent hens on PCR:MYCOPLASMA prior to movement to the processing plants. Companies also swab birds after suspect serology results from ELISA, HI:MG ($\geq 1:40$) and HI:MS ($\geq 1:20$) are obtained. Additionally, it is a good idea to test flocks by PCR when there are significant number of ELISA reactors ($\geq 25\%$ of birds tested are positive) with negative HI:MS or HI:MG results, as this could indicate an early infection.

Type of Swabs

GPLN recommends COPAN swabs that are made of a rayon material, a material very good at picking up Mycoplasma organisms. It is important to know that COPAN swabs cannot be used for AI PCR testing. Swabs taken for Mycoplasma PCR should always be submitted dry. Avoid swabs with wooden handles as they may interfere with the PCR reagents leading to false negative results. When using a commercial swab, place the used swab back in the sleeve it was packaged in once the bird has been sampled. Swabs are available at the GPLN.

Number of Swabs to Submit

For routine monitoring, GPLN strongly recommends swabbing 30 birds per house in breeder operations. Less than 15 swabs per house is not an adequate sampling. If the reason for swabbing is to confirm positive serology findings, the flock would not need additional blood testing when collecting swabs at the house.

Swab Collection

Swab birds throughout the house to obtain a representative sample. Swabs can be from: 1) the choanal cleft, 2) the trachea, or 3) the oropharyngeal (mouth and cleft) area. Place all swabs from one house in a plastic sample bag. Never pool swabs in any liquid in the field. Label the bag with the company, farm name, house number, age and when applicable, move date. Keep swabs cool and submit immediately to the lab for testing.

Information (Results) from MYCOPLASMA PCR

The case report will include the number of pools tested and the number of pools positive along with a PCR diagnosis (MG/MS PCR Negative, MS PCR Positive, MG suspect, etc.). Flocks reported as "suspect" should have additional swabs collected. If swabs are taken that have not made sufficient contact with bird surfaces (tracheal linings, oropharyngeal mucosal tissues), the internal control for the PCR will not be valid. In other words, the PCR assay detects no chicken DNA, and the flock requires resampling. The percentage of pools positive is a general indicator of how widespread the infection is within the house. For example, 6 positive pools out of 6 pools tested represents whole house involvement. Whereas, 1 positive pool out of 6 pools tested suggests a very early infection.

TOURS, VISITORS, & COMMUNITY OUTREACH

- OCTOBER 3RD: THE ANNUAL MEETING
- OCTOBER 9TH: POULTRY WORLD
- OCTOBER 11TH: DR. CHAO LUAN AND BLAKE WILSON WITH ADISSEO
- OCTOBER 17TH & 26TH: GAINESVILLE HIGH SCHOOL
- OCTOBER 24TH: EAST JACKSON MIDDLE SCHOOL AG CLASS
- OCTOBER 30TH: AVIAGEN TEAM FROM ALABAMA



Dr. Jim Davis receiving his 30 Year Service Award.



Dr. Doug Waltman receiving his 30 Year Service Award.



Students from Gainesville High School learning about the poultry industry.



Dr. Hayes, Ms. Brock, and Ms. Scharber with Aviagen toured our lab.



Dr. Chao Luan and Blake Wilson with Adisseo toured the lab.



Poultry World volunteers at the Georgia National Fair in Perry, GA.