

THE CHICK PAPERS

Georgia Poultry Laboratory Network's Monthly Newsletter



LT Serology in GA Flocks

By: Len Chappell

INTRODUCTION: The use of serology for ILT (infectious laryngotracheitis) diagnostics is limited in breeders, and it is not customary for industry to monitor vaccinal LT response by serology.

In GA, most broilers are unvaccinated against ILT. The only exception are large bird complexes in NEGA getting a recombinant vaccine between October and April every year. Most GA breeder flocks are vaccinated with one TCO (tissue culture origin) vaccine. Note that for this study, we also had access to CEO (chicken embryo origin) vaccinated breeder flock serum.

METHODS: For broilers, we retrieved pre-slaughter serum from flocks over 40 days old for vaccinated and unvaccinated flocks in NEGA and unvaccinated broilers from W and S GA. For breeders, we gained access to stored serum at 22 - 26 weeks of age and at >50 weeks of age for CEO and TCO vaccinated birds.

Two conventional ELISA kits were used, as well as one that detects glycoprotein B antibodies and was expected to show seroconversion after vaccination with the recombinant vaccine used in the broilers tested.

RESULTS: We observed no serologically positive flocks in broilers in any of the GA regions or vaccination programs using the conventional or the gB ELISA kits.

In NEGA, breeders that were 22 - 26 weeks of age, we observed very good seroconversion in the CEO vaccinated birds (GMTs of 3,000 - 7,000). For TCO vaccinated flocks in NEGA, we observed GMTs of 500 - 4,000 but only 500 - 2,000 in W and S GA breeders.

In NEGA CEO vaccinated breeders that were 50+ weeks of age, the range of GMTs was 2,000 - 6,500. The TCO vaccinated birds in NEGA however had higher GMTs at 50+ weeks of age (500 - 8,000) than at 22 - 26 weeks of age. The same trend was not observed in 50+ week old S and W GA breeders. The titer range from 500 - 2,000.

COMMENTS: There were no differences between the 2 conventional ELISA kits used.

The gB ELISA was expected to detect a response from the vaccinated broilers. Possible reasons for the lack of response are partial doses, insufficient time for seroconversion, or failure of the birds to respond for undetermined reasons.

The CEO vaccinated breeder flocks yielded the best overall GMTs. It is possible that the TCO vaccinated birds in NEGA may have been challenged by either field virus or circulating vaccine viruses in the field, causing higher titers at end of life than at 22 - 26 weeks of age. In contrast, the titers from the breeders in S and W GA did not increase by end of life. There was considerable variation between the flock GMTs in breeder flocks under the same TCO vaccination programs. It may be advisable to occasionally check antibodies to LT in breeders by serology to ensure that there is a detectable vaccine response (indicating proper administration).

It is important to reemphasize that the usefulness of LT serology for diagnostics is limited, and it can be diagnosed and confirmed by other means in the laboratory (histopathology and PCR). For monitoring, it may be useful to check post vaccinal titers, as it is done for many other diseases, keeping in mind that serology for LT has no predictive value for vaccine protection.



Mike Giles, president of the Georgia Poultry Federation accompanied summer interns with USDA on a tour of our lab.



David Bleth with Harrison Poultry brought two Harrison interns for a tour of the lab.



Katrina Cochran, NE Outreach Representative from Senator Warnock's office, visited the lab with GPF President, Mike Giles.



UGA MAM Students visited the lab and toured with Dr. Zavala. From R to L: Drs. Maurice Racoursier, Reece Bowers, Ashley Hallowell & Louise Dufour-Zavala.

THE 86TH ANNUAL MEETING (IN-PERSON)

WEDNESDAY, OCTOBER 5TH