

The Chick Papers

A Monthly Newsletter from the Georgia Poultry Laboratory



August 2013

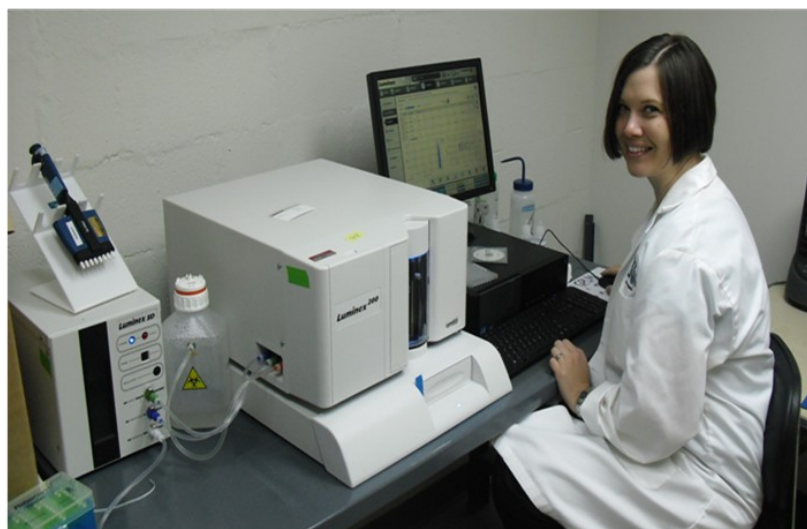
Laboratory Integration of the Luminex Salmonella Serotype Assay Kit

by Selena York



Serotyping is an important step in the identification and epidemiology of Salmonella. Antisera-based methods are the standard procedure for serotyping Salmonella. There are currently over 2500 serotypes of Salmonella. Conventional serotyping requires a large number of antisera representing all of the somatic (O) or cell wall antigens and flagellar (H) antigens, many are not available commercially. The antisera have to be extensively quality controlled and there are variations in the quality of the reagents. Serotyping is labor intensive and requires several days to type most isolates, especially diphasic strains. Moreover, isolates that are non-motile, rough or monophasic may not be serotyped by antisera-based methods that only detect expressed antigens, however they may be detected with a molecular-based system that detects the presence of genes associated with those antigens.

Thanks to a generous Homeland Security grant, GPLN acquired a Luminex xMAP Salmonella Serotyping system in 2011. It is a molecular-based system developed by CDC to detect the top 100 serotypes isolated from humans. It is now used in all Public Health Laboratories and at NVSL as well. This system does not replace conventional antisera-based methods, because it does not detect all the necessary antigens. However a large proportion of serotypes that are routinely isolated are able to be serotyped by this system completely or in combination with antisera, while the Luminex system does not replace antisera-based serotyping, it does resolve many of the problems associated with conventional serotyping methods.



Since some serogroups/serotypes are easier to serotype than others by antisera and the fact that the Luminex assay system is too expensive to test every isolate, a testing dichotomy was devised and evaluated. Typically, antisera-based testing is done with serogroups B, C2 and D, whereas the Luminex assay is done with serogroups C1, E, G, and polyvalent. Difficult isolates and strains that are not serotyped with antisera also are tested with the Luminex assay. Any isolates that are not typed or need further confirmation are sent to NVSL. The combination of antisera-based and molecular typing allows us to provide more accurate and faster results to better serve the poultry industry.

News from The Tifton Lab:

The technicians from the Tifton Lab Attended the GPLN Annual Meeting on August 21. The Tifton Lab services the vast southern part of Georgia, south of Macon to the Florida border. The Tifton and Oakwood Labs work together as one network to help Georgia flocks stay health by offering the best available testing methods on a daily basis.



Tifton Laboratory Personnel, (l-r) Kristina Ashton, MaryKay Hall, Tavoris Wallace, Zakia Wilson, Anna Basko

New Lab Skeleton.....

279 days remaining until material completion



Not Manhattans' best inspectors, just some curious GPLN employees looking over the new lab construction (l-r) Dr. James Davis, Freddie Smith, Dr. Doug Waltman



The steel supports are going up very quickly as the new lab structure begins to take place.

77th Annual Meeting Of the Georgia Poultry Improvement Association:

On August 21, the GPLN Annual Meeting was held at the First Baptist Church of Gainesville Family Life Center. After the business meeting, remarks were given by Dr. Robert Cobb, GA. state veterinarian, He presented the audience with his perspective of the importance of poultry to the economy of Georgia and an update on the use of computer technology in data transmission from the farm to the Georgia Department of Agriculture data centers. Ted McKinney from Elanco shared with the audience the challenges that will be faced in the future to maintain adequate foodstuff for the increasing world population. Receiving Service awards were Dr. James Davis (25 years), Dr. Doug Waltman (25 years), Crissie Boyd (20 years), Selena York (5 years), Lilly Steffey (5 years), Lynn Harned (5 years), Anna Basko (5 years), and Zakia Wilson (5 years).



Dr. James Davis



Dr. Doug Waltman



Crissie Boyd



Selena York



Lilly Steffey



Lynn Harned

Tours and Visitors

- **UGA Avian Biology Graduate Begins Internship with GPLN:** Frances Grace Ashby toured the lab on August 22 for an introduction to department functions at GPLN. Grace will began a two month internship with the Oakwood Lab to gain some experience in the poultry industry. Grace hopes to gain admission to vet school in the fall of 2014.



Anna Basko and Zakia Wilson from the Tifton Lab each with five years of service at GPLN

Employee News and Events:

- **GPLN Employees Attends the Georgia Poultry Knight of Nights Special Event at the Cobb Galleria Centre :** On August 24, staff from GPLN were treated to a fabulous meal and great entertainment by Joe Nichols, a rising star in the country music arena. Glenda Stover and Len Chappell served as members of the Georgia Poultry Federation's Welcoming Committee.
- **NPIP Avian Influenza Diagnostic Workshop:** August 6-8, Jane Askew and Dorene Seabolt attended the AI Workshop at PDRC. The workshop was a combination of lectures and lab exercises designed to help the students learn about the methods used diagnose AIV. Len Chappell presented a lecture entitled "AIV Testing at GPLN".



Pat West, Jesse Kimbrell, and Glenda Stover enjoying the festivities at the Knight of Nights annual event