BIOSECURITY AUDITS AND IMPACT

Jeff Spivey, Director of Industry Operations
June 13th, 2019
A VIEW OF GEORGIA

- 36 commercial companies with live operations based in Georgia as well as 28 upland game bird producers
  - 5 primary breeder complexes
  - 8 table egg complexes
  - 6 breeder broiler complexes
  - 1 breeder layer complex
  - 18 broiler complexes
  - 1 commercial quail complex
  - 33 commercial hatcheries (25 broiler, 5 primary, 2 layer, 1 commercial quail)

The daily result: 31 million pounds of meat, 7 million table eggs and 5.6 million hatching eggs.
$38 billion dollar impact on the state economy

138,000 Georgians directly and indirectly involved in the Poultry Industry

If Georgia were a country, it would rank 7th in the world in broiler production

47% of Georgia Agriculture is poultry related
MEETINGS

Going to them

We travelled to 26 companies and 6 upland game bird operations to meet leadership, owners

Coming to us

10 companies travelled to our office
NPIP BIOSECURITY
TRAINING AND
AUDITS

ESTABLISH CONTACT

EDUCATE AND
EXPLAIN

DETERMINE NEED

AUDIT
GPLN MEETINGS AND INDUSTRY EVENTS

GROWER EDUCATION MEETINGS
**WHAT ARE THE NPIP 14 PRINCIPLES OF BIOSECURITY?**

1. Biosecurity responsibility
2. Training
3. Line of Separation
4. Perimeter Buffer Area
5. Personnel
6. Wild Birds, Rodents and Insects
7. Equipment and Vehicles
8. Mortality Disposal
9. Manure and Litter Management
10. Replacement Poultry
11. Water Supplies
12. Feed and Replacement Litter
13. Reporting of Elevated Morbidity and Mortality
14. Auditing

**7. EQUIPMENT AND VEHICLES**

NPIP is looking for two items on equipment and vehicles in the audit:

7.1 Does your biosecurity program and/or site specific biosecurity plan include provisions for procedures for cleaning, disinfection, or restriction of sharing equipment where applicable?

- 7.1.1 Procedures for cleaning, disinfection and restriction of equipment sharing
BIOSECURITY POWERPOINT

MEETING WITH ALL LIVE OPERATIONS MANAGERS, STAFF

DETAILED PRESENTATION OF THE BIOSECURITY PRINCIPLES

COPIES OF POWER POINT PROVIDED TO COMPANIES
3.2 Does your biosecurity plan have site specific procedures to be followed by owners, hired help, company employees, visitors, or suppliers that cross the LOS?

3.2.1. Provide the procedures for crossing the LOS
NPIP is looking for two items for perimeter buffer area in the audit:

4.1 Does your site specific biosecurity plan describe or illustrate the boundaries of the PBA?

4.1.1 A map, diagram or detailed description of the PBA
DETERMINE NEED

LARGE COMPANY

SMALL COMPANY

INDIVIDUAL

BIOSECURITY PLANS/BIOSECURITY TEMPLATES
3.1.1 Rabun Gamebirds produce a specific product for a specific part of the poultry industry. Rabun Gamebirds are raised in open pens with initial access to feed and water for chicks provided in brooding rooms. The open pen area is planted in various crops to produce a natural environment for the quail to become flight-conditioned. The emphasis of Rabun Gamebird’s production is to produce a bird which is adaptive and can survive and adapt in the environment.

A mesh netting contains the birds within an open environment. Rabun Gamebirds considers the LOS to be the walls of the brooding room and the mesh netting surrounding the open pens. The point of entry into the raising pens will be through the side doors and brooding room and disposable boot covers will be employed upon entry.

SIDE DOOR ENTRY ACROSS LINE OF SEPARATION (LOS)
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   2.3-Yearly Training Documentation  
   2.4-New Hire Training  
   2.5-Retention of Training Records  

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   3.2-Procedures for Crossing Line of Separation  

4. **Perimeter Buffer Area**  
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AUDITS

LOCATION/DOCUMENTATION

COMPANIES AUDITED

IMPACT
MYCOPLASMA INVESTIGATIONS

A service the GPLN offers to industry

Provide a detailed picture of their biosecurity program using the NPIP 14 Principles of Biosecurity

Isolate the time line of the infection

Suggest improvements
MYCOPLASMA INVESTIGATION:  

FARM VISIT AND MS REVIEW: Dr. Zavala and Jeff Spivey met on Tuesday, January 9th to discuss the Mycoplasma synoviae (MS) infection on his farm. Dr Zavala reviewed the Mycoplasma reservoirs for infection and how the disease can spread. The grower was given a MS poster and there was an extensive review of farm procedures and practices. We discussed the timeline of the infection and reviewed several items in addition to conducting an inspection of the farm, the surroundings and the working room/sanitation room.

MYCOPLASMA HISTORY OF THE FARM: This farm had pullets placed on the farm that were MS positive on 9/5/14. The MS positive pullets are the only MS diagnosis on the farm within the last 10 years.

FARM GEOGRAPHY AND SURROUNDINGS:
The farm is a single house farm 476 ft from the nearest road. The entire property is surrounded by fencing for cattle. There is one driveway leading to the house. Access to the property is very limited. The pastures are well maintained and there are few harbors for rodents other than a large stand of trees east of the house. There is a 4 house owned by roughly 1,643 ft away. There are two breeder houses within 2,301 ft and 2,461 ft respectively. There are 14 farms within 2 miles of the farm.

TIMELINE AND MOVEMENT INVESTIGATION: The birds were placed at 20 weeks of age and came from Mycoplasma negative source on the week of July 24th. At 26 weeks (9/6/17) the laboratory tested, the results were negative for MS/MD. Blood samples were submitted (10/3/17) to the GFLN at 30 weeks of age, the results were negative for MS/MD. The flock was spiked at 33 weeks, the test result for the spikes were negative. At 35 weeks (11/7/17) the laboratory tested, the results were negative for MS/MD. Blood samples were submitted (12/21/17) to the GFLN at 41 weeks of age, the results were positive.
Considering 6-7 days for birds to become positive, the birds were infected between 11/1/17 and 12/14/17. The time frame to consider is a 44-day window.

**Window of introduction**

<table>
<thead>
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<th>July 24 Placement</th>
<th>Sept. 6&lt;sup&gt;th&lt;/sup&gt;</th>
<th>Oct. 3&lt;sup&gt;rd&lt;/sup&gt;</th>
<th>Nov. 7&lt;sup&gt;th&lt;/sup&gt;</th>
<th>Dec 21&lt;sup&gt;st&lt;/sup&gt;</th>
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<td>26 weeks</td>
<td>30 weeks</td>
<td>35 weeks</td>
<td>41 weeks</td>
</tr>
<tr>
<td>Test</td>
<td>NEG</td>
<td>NEG</td>
<td>NEG</td>
<td>POS</td>
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</tbody>
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**Testing Table:**

<table>
<thead>
<tr>
<th>Test Number</th>
<th>Sample Type</th>
<th>Test Result</th>
<th>Test Type</th>
<th>Result</th>
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<td>Test 6</td>
<td>Test 7</td>
<td>Test 8</td>
<td>Test 9</td>
<td>Test 10</td>
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**Relevant Biosecurity Observations:**

We used the NPIP 14 Principles of Biosecurity to review farm practices.

**Training** (Principle 2): the breeder supervisor for the farm, trained individuals who interact with the birds beyond the farm's biosecurity measures. Egg pickup crews enter the farm but do not enter the house with the live birds. The farm has a proper protocol for crossing the LOS and the grower understands the nature of how MS can spread.

**Line of Separation** (Principle 3): the farm has an established line of separation. The area considered the dirty area contains the disinfection pan.

**Improvements:** Dirty shoes need to remain in the dirty area, the chairs should be arranged so the grower sits with his feet in the dirty area, removes his outside shoes into the dirty area then spins around, bringing his feet into the clean area. At this point he should access his site dedicated boots. Site dedicated boots should be cleaned after every house use.

There should be no exit of the house with site dedicated boots (clean side footwear) unless the LOS is utilized again and again protocols on scrubbing and disinfection implemented.

The disinfection pan should be directly in line with how someone would walk into the house. Moving the pan to the side of the entry allows someone to walk past the pan and skip disinfection. Another disinfection pan would be helpful inside the clean area.

**Perimeter Buffer Area** (Principle 4): has an established PBA. Signage is at the entrance to the farm and the farm is one way in and one way out. Access to disinfection and PPEs are available in a red box which is clearly visible.
The Biosecurity Analysis

visible at the entrance. The visitor sign in book is inside of the red box. signed the visitor log in book (8/8/17) that entered the houses. was the only person that with grower services.

is trained in company protocol for utilizing PPE. indicated that thereafter (8/15/17) to perform some work but did not ask that he sign the visitor log book. did not utilize PPE. His travel to other farms has not been established. Gravel was delivered by after Thanksgiving, but he did not enter the houses. We could not establish where had been prior to coming to the farm.

Improvements: All visitors entering the PBA should sign the visitor log in book with the only exceptions being those outlined by policy (typically flock supervisors, feed truck drivers, and egg pickup).

PERSONNEL: (Principle 5) There is no hired help. has dedicated boots that remain on the clean side of the LOS. The boots had significant amounts of litter and manure on the sides and bottom. utilizes cloth booties when packaging eggs. walks the houses. does not enter the houses. has a young man that helps him with cattle but indicated that the man does not enter the house. indicated that he would question the man on his travel but we are not aware of the content of that discussion or if it took place.

maintains the same daily routine he has conducted for years. Prior to coming to the farm, he has breakfast in at the Restaurant which is frequented by various poultry growers in addition to the public. He then returns to the farm and enters the breeder house, but he does not change clothes. He typically has lunch in then returns to the farm to pick up eggs. He does not change clothes before coming back to the breeder house. indicated that he travels to the Sell Barn on a regular basis (Tuesday and Friday) and returns to the breeder house without changing clothes. Further discussion with on 1/19/18 indicated that he had meals with in late October and early November. utilizes litter from . but we could not establish if the litter had been composted or if was actively spreading litter in that period.

Improvements: We recommend a change of clothing if the grower leaves the farm for any reason. Clothing worn off the farm should not be worn to the poultry house. Wearing the same clothing into the public [especially an area with a high concentration of poultry or poultry growers] then back to the farm constitutes a high-risk factor for the transmission of many poultry diseases. A proper change of clothes would help or the utilization of site dedicated clothing. The life cycle of Mycoplasma indicates it could be moved readily according to our discussions with . MS can be retained on clothes for 4 days, skin less than 4 hours, ears 4 hours, nasal passage 1 day, hair 3 days.

BIRDS, RODENTS, ANIMALS: (Principle 6) After walking the perimeter of the house, we did not find any significant areas of rodent pressure. The property is well maintained and there are few, if any, points where rodents could harbor. We did not notice significant wild bird pressure along the edges of the house. We did notice older, dry manure piles from cattle but we could not establish if the area around the house is grazed (little to no soil compaction indicates no grazing occurs). We did not identify the presence of backyard birds near the farm.

The flock supervisor Jason Newsome indicated that on rare occasions a wild bird (finch) would be found in the house. indicated that the bird was removed as soon as it was noticed during the flock.

Improvements: Continued bird proofing and surveillance of the breeder house.

EQUIPMENT AND VEHICLES: (Principle 7) No equipment has been shared in the period for infection noted above. No equipment is shared by this farm.
MORTALITY: (Principle 8) Mortality pits are located at the end of the house. Steps lead out the back door to the pits. If there is direct entry back into the house after the mortality is disposed, then the LOS principle has been violated. We did not establish if returns to the LOS and cleans his boots or reenters the house directly from the pits. The mortality pits were only utilized by for mortality from his farm.

Improvements: Any exit from the house with a need to reenter the house should require utilization of the LOS.

MANURE AND SHAVINGS: (Principle 9) No litter or shavings are stored on the farm. Litter is removed at the end of each flock and there is no stack house on the farm. No shavings were added to the house during the flock.

REPLACEMENT POULTRY: (Principle 10) The flock was spliced at 33 weeks and the males were from the farm. Spike source tested negative for MS.

WATER: (Principle 11) This farm utilizes drinking water and evaporative cooling water from wells.

FEED: (Principle 12) There was no feed spilled on the farm.

REPORTING MORBIDITY/MORTALITY: (Principle 13) Not applicable

August 8/8/17-9/15/17
Visitors

October 20
Spiked at 33 weeks

Nov. 1 Dec. 14
Window of introduction

July 24 Placement  Sept. 6th  Oct. 3rd  Nov. 7th  Dec 21st
20 weeks  26 weeks  30 weeks  35 weeks  41 weeks
Test  NEG  NEG  NEG  POS

MOST IMPORTANT RISK FACTOR: MS was likely introduced to the birds via exposure by someone in contact with an MS carrier. Maintains the same daily routine he has conducted for years. County has a tremendous poultry population and frequent travel into public places constitutes a significant risk factor for the movement of multiple poultry diseases. Returning to the breeder house from visiting public places without changing clothes compromises biosecurity. If there is exiting and reentering the house to dispose of mortality without utilizing the LOS then biosecurity is compromised. The use of contractors who do not utilize PPE is a compromise of biosecurity. Implied that the origin of the infection could only have been introduced through him entering the house, “if there was a vector it was me.”
LESS LIKELY POSSIBILITIES: Rodents or wild birds. There was an instance of a wild bird inside the house early in the flock (30 weeks or sooner), but they are unlikely to carry MS.

SUMMARY: The farm is in an area with significant disease challenges but with a low to negative prevalence of MS currently except for commercial layer operations. Despite those challenges the farm is isolated from commercial and backyard poultry. We believe the following items should be implemented to tighten biosecurity. The NPIP 14 principles of biosecurity served as a guide for performing this investigation.

- **Principle 3**: Retraining on crossing the LOS, changing shoes on dirty side then transitioning to clean side PPE. Any exit from the house must return through the LOS.

- **Principle 5**: All visitors must sign the visitor log book and utilize PPE before entering the houses.

- **Principle 5**: The grower should change clothes anytime he wishes to enter the house after a visit to a public place.