2018 Broiler Industry Issues
Mark A. Burleson, DVM, MS, DACPV
President, American Veterinarians in Broiler Production
About Me

• 12 years in broiler production

• Director, Veterinary Services at Wayne Farms

• President, AVBP
  • 2-year term
AVBP

- Association of Veterinarians in Broiler Production

- Poultry veterinarians working with production companies
  - Graduated from veterinary school
  - Full-time salaried with broiler production company
  - Licensed in at least one state or board-certified by ACPV
  - Vote by membership
Yearly Survey

1. **Disease Issues**
   - Rank the issues facing your company
   - Indicate the level of importance of each issue to your company

2. **Non-Disease Issues**
   - Rank the issues facing your company
   - Indicate the level of importance of each issue to your company
Limitations

- Limited to the diseases listed (not open format)
- Significant diseases for one company may be weakened on the ranking/importance scale if no other companies experiencing.
- Some diseases need more clarity (i.e. coccidiosis)
2018 Survey

• 22 respondents (*51% of membership*)
  • *Option 1 – Company representation*
  • *Option 2 – Geographical representation*

• Estimated 142 million broilers processed per week represented (~76% of US broiler market)
Disease Issues

“Rank in Order of Significance to Your Company”
Please rank these MAJOR disease issues in order of importance to you/your company?

1. Coccidiosis
2. Necrotic Enteritis
3. Chick Quality and Early Mortality
4. Infectious Bronchitis- Respiratory
5. Infectious Laryngotracheitis
6. Gangrenous Dermatitis
7. Novel Reovirus
8. Bacterial Osteomyelitis of the Legs
9. Avian Influenza
10. Histomoniais
11. Infectious Bursal Disease
12. General Polyserositis - E. coli
13. Vertebral Osteomyelitis/Kinkyback
14. Infectious Bronchitis- Nephropathogenic
15. Mycoplasmosis
16. Newcastle Disease
17. Marek's Disease
<table>
<thead>
<tr>
<th>Disease Issue</th>
<th>Minor/Major Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coccidiosis</td>
<td>Major Issue</td>
</tr>
<tr>
<td>Necrotic Enteritis</td>
<td>Major Issue</td>
</tr>
<tr>
<td>Chick Quality and Early Mortality</td>
<td>Major Issue</td>
</tr>
<tr>
<td>Infectious Bronchitis- Respiratory</td>
<td>Major Issue</td>
</tr>
<tr>
<td>Infectious Laryngotracheitis</td>
<td>Major Issue</td>
</tr>
<tr>
<td>Gangrenous Dermatitis</td>
<td>Major Issue</td>
</tr>
<tr>
<td>Novel Reovirus</td>
<td>Major Issue</td>
</tr>
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<td>Major Issue</td>
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<td>General Polyserositis - E. coli</td>
<td>Major Issue</td>
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<tr>
<td>Vertebral Osteomyelitis/Kinkyback</td>
<td>Major Issue</td>
</tr>
<tr>
<td>Infectious Bronchitis- Nephropathogenic</td>
<td>Major Issue</td>
</tr>
<tr>
<td>Mycoplasmosis</td>
<td>Major Issue</td>
</tr>
<tr>
<td>Newcastle Disease</td>
<td>Minor Issue</td>
</tr>
<tr>
<td>Marek's Disease</td>
<td>Minor Issue</td>
</tr>
</tbody>
</table>

Please rank these MAJOR disease issues in order of importance to you/your company?
## Birds Grown by Feeding Program and Weight Range
### June 2018

<table>
<thead>
<tr>
<th>Live Wt.</th>
<th>Total Birds</th>
<th>NAE Birds</th>
<th>% NAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6 to 4.4</td>
<td>178,962,865</td>
<td>82,690,976</td>
<td>46.2%</td>
</tr>
<tr>
<td>4.4 to 5.2</td>
<td>60,443,125</td>
<td>48,012,860</td>
<td>79.4%</td>
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<tr>
<td>5.2 to 6.0</td>
<td>33,379,239</td>
<td>19,940,335</td>
<td>59.3%</td>
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<tr>
<td>6.0 to 6.8</td>
<td>115,846,344</td>
<td>79,594,586</td>
<td>57.7%</td>
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<tr>
<td>6.8 to 7.5</td>
<td>91,269,204</td>
<td>76,856,389</td>
<td>67.3%</td>
</tr>
<tr>
<td>7.5 to 8.5</td>
<td>28,413,945</td>
<td>12,019,046</td>
<td>42.3%</td>
</tr>
<tr>
<td>8.5</td>
<td>122,336,622</td>
<td>31,067,418</td>
<td>25.4%</td>
</tr>
</tbody>
</table>

Agristats, 2018
Seasonal % of Birds fed without antibiotics important for human medicine or ionophores
January 2013 through July 2018

Agristats, 2018
Class of Coccidiosis-Control Product: % of Feed Tonnage

Ionophore-Containing Products

Chemical-Containing Products

Vaccines
29.5. Broiler production (USDA figures) and year of introduction of new anticoccidial drugs. Generic names begin with lowercase letters, and trade names begin with capital letters. Diclazuril, not included on the chart, was the last approved product, in 1999.
## Coccidiosis Control Product

<table>
<thead>
<tr>
<th>Vaccines</th>
<th>Ionophores</th>
<th>“Chemicals”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advent</td>
<td>Salinomycin</td>
<td>Clopidol</td>
</tr>
<tr>
<td>HPIII</td>
<td>Lasalocid</td>
<td>Nicarbazin</td>
</tr>
<tr>
<td>Coccivac B52</td>
<td>Monensin</td>
<td>Decoquinate</td>
</tr>
<tr>
<td>Inovocox</td>
<td>Narasin</td>
<td>Robenidine</td>
</tr>
<tr>
<td></td>
<td>Narasin/Nicarb</td>
<td>Zoalene</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amprolium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diclazuril</td>
</tr>
</tbody>
</table>
Coccidiosis Control Product

**Vaccines**
- Advent
- HPIII
- Coccivac B52
- Inovocox

**Ionophores**
- Salinomycin
- Lasalocid
- Monensin
- Narasin
- Narasin

**“Chemicals”**
- Clopidol
- Nicarbazin
- Decoquinate
- Robenidine
- Zoalene
- Amprolium
- Diclazuril
Please rank these MAJOR disease issues in order of importance to you/your company?

Coccidiosis
Necrotic Enteritis
Chick Quality and Early Mortality
Infectious Bronchitis- Respiratory
Infectious Laryngotracheitis
Gangrenous Dermatitis
Novel Reovirus
Bacterial Osteomyelitis of the Legs
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Mycoplasmosis
Newcastle Disease
Marek's Disease
Gangrenous Dermatitis
Infectious Laryngotracheitis
Infectious Bronchitis- Respiratory
Chick Quality and Early Mortality
Coccidiosis
Necrotic Enteritis
% Feed Tonnage with an Antibiotic

- 2013: 52%
- 2014: 46%
- 2015: 40%
- 2016: 40%
- 2017: 28%
Broiler Feed Tonnage by Marketing Program

- **Full Spectrum (no restrictions on antibiotic or cocci usage)**
- **Reduced Use (no medically important antibiotics per FDA)**
- **Ionophores Only (WHO guidelines)**
- **No Antibiotics Ever (no antibiotics or ionophores in feed)**

**2017**
- Full Spectrum: 12%
- Reduced Use: 29%
- Ionophores Only: 19%
- No Antibiotics Ever: 40%

**2016**
- Full Spectrum: 28%
- Reduced Use: 23%
- Ionophores Only: 29%
- No Antibiotics Ever: 20%

**2015**
- Full Spectrum: 34%
- Reduced Use: 18%
- Ionophores Only: 36%
- No Antibiotics Ever: 12%

**2014**
- Full Spectrum: 45%
- Reduced Use: 22%
- Ionophores Only: 29%
- No Antibiotics Ever: 3%

**2013**
- Full Spectrum: 47%
- Reduced Use: 23%
- Ionophores Only: 26%
- No Antibiotics Ever: 4%
Please rank these MAJOR disease issues in order of importance to you/your company?

- Coccidiosis
- Necrotic Enteritis
- Chick Quality and Early Mortality
- Infectious Bronchitis - Respiratory
- Infectious Laryngotracheitis
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- General Polyserositis - E. coli
- Vertebral Osteomyelitis/Kinkyback
- Infectious Bronchitis - Nephropathogenic
- Mycoplasmosis
- Newcastle Disease
- Marek's Disease

Please rank these MINOR disease issues in order of importance to you/your company?
% of Broiler Placements Treated

- 2010: 90%
- 2011: 82%
- 2012: 88%
- 2013: 88%
- 2014: 81%
- 2015: 55%
- 2016: 46%
- 2017: 22%
Please rank these MAJOR disease issues in order of importance to you/your company?

1. Infectious Bronchitis - Respiratory
2. Necrotic Enteritis
3. Chick Quality and Early Mortality
4. Coccidiosis
5. Infectious Laryngotracheitis
6. Gangrenous Dermatitis
7. Novel Reovirus
8. Bacterial Osteomyelitis of the Legs
9. Avian Influenza
10. Histomonia
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Gangrenous Dermatitis
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Infectious Bronchitis- Respiratory
Coccidiosis
Necrotic Enteritis
Chick Quality and Early Mortality

Please rank these MAJOR disease issues in order of importance to you/your company?

Minor Issue
Major Issue
Please rank these MAJOR disease issues in order of importance to you/your company?

- Coccidiosis
- Necrotic Enteritis
- Chick Quality and Early Mortality
- Infectious Bronchitis - Respiratory
- Influenza Virus
- Histomoniasis
- Infectious Bursal Disease
- General Polyserositis - E. coli
- Vertebral Osteomyelitis/Kinkyback
- Infectious Bronchitis - Nephropathogenic
- Mycoplasmosis
- Newcastle Disease
- Marek's Disease
- Gangrenous Dermatitis
- Bacterial Osteomyelitis of the Legs
- Avian Influenza
- Bacterial Osteomyelitis of the Legs
- Novel Reovirus

Minor Issue

Major Issue
Please rank these MAJOR disease issues in order of importance to you/your company?

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Minor Issue

Major Issue
Research Opportunities – Disease Issues

1. Coccidiosis/Necrotic enteritis
   • New/Better way to do things

2. Chick Quality
   • Egg sanitation, *in ovo* improvements/additives

3. Laryngotracheitis
   • Better vaccine options

4. Bronchitis
   • New technology targeting cross-protection

5. Reovirus/Blackhead/Dermatitis

• *Honorable Mention*: Avian Influenza
Non-Disease Issues

“Rank in Order of Significance to Your Company”
Rank the following MAJOR non-disease categories in order of importance to you/your company?

1. Restricted Antibiotic-Use (Customer and/or Media Concerns)
2. Increased Food Safety Regulations by USDA
3. Biosecurity - (Internal Programs, HPAI Threat, etc)
4. Poultry Welfare (Internal Programs, Activist Threats, etc)
5. Vaccine Availability (CVB approval, supply shortage, etc)
6. Alternatives to Antibiotics
7. FDA - Drug Availability
9. Increased Environmental Regulations
10. Shortage of Qualified Personnel in Live Production
11. Exportation Issues (Drug MRLs, Paws, AI, etc.)
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Minor Issue

Major Issue
Salmonella Vaccination Programs

Vaccines: Broiler Breeders

# live vaccines - # killed vaccines

% of Projected Breeders

<table>
<thead>
<tr>
<th>Year</th>
<th>0 - 0</th>
<th>0 - 1</th>
<th>0 - 2</th>
<th>1 - 0</th>
<th>1 - 1</th>
<th>2 - 0</th>
<th>2 - 1</th>
<th>2 - 2</th>
<th>3 - 0</th>
<th>3 - 1</th>
<th>3 - 2</th>
<th>4 - 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>8%</td>
<td>8%</td>
<td>23%</td>
<td>17%</td>
<td>11%</td>
<td>6%</td>
<td>15%</td>
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<tr>
<td>2016</td>
<td>8%</td>
<td>8%</td>
<td>19%</td>
<td>18%</td>
<td>13%</td>
<td>11%</td>
<td>18%</td>
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<tr>
<td>2015</td>
<td>11%</td>
<td>15%</td>
<td>15%</td>
<td>23%</td>
<td>15%</td>
<td>12%</td>
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<td>2014</td>
<td>13%</td>
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<td>13%</td>
<td>30%</td>
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<td>3%</td>
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<tr>
<td>2013</td>
<td>31%</td>
<td>10%</td>
<td>10%</td>
<td>17%</td>
<td>17%</td>
<td>3%</td>
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<tr>
<td>2012</td>
<td>46%</td>
<td>4%</td>
<td>14%</td>
<td>11%</td>
<td>17%</td>
<td>5%</td>
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<tr>
<td>2011</td>
<td>55%</td>
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<td>12%</td>
<td>4%</td>
<td>7%</td>
<td>13%</td>
<td>4%</td>
<td></td>
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<tr>
<td>2010</td>
<td>69%</td>
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<td>3%</td>
<td>5%</td>
<td>14%</td>
<td>1%</td>
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</tbody>
</table>
Rank the following MAJOR non-disease categories in order of importance to you/your company?

Restricted Antibiotic-Use (Customer and/or Media Concerns)

Increased Food Safety Regulations by USDA

Biosecurity - (Internal Programs, HPAI Threat, etc)

Poultry Welfare (Internal Programs, Activist Threats, etc)

Vaccine Availability (CVB approval, supply shortage, etc)

Alternatives to Antibiotics

FDA - Drug Availability

Meat Quality Issues (White Stripping, Woody Breast)

Increased Environmental Regulations

Shortage of Qualified Personnel in Live Production

Exportation Issues (Drug MRLs, Paws, AI, etc.)
Rank the following MAJOR non-disease categories in order of importance to you/your company?

1. Vaccine Availability (CVB approval, supply shortage, etc)
2. Increased Food Safety Regulations by USDA
3. Biosecurity - (Internal Programs, HPAI Threat, etc)
4. Poultry Welfare (Internal Programs, Activist Threats, etc)
5. Alternatives to Antibiotics
6. FDA - Drug Availability
7. Meat Quality Issues (White Stripping, Woody Breast)
8. Increased Environmental Regulations
9. Shortage of Qualified Personnel in Live Production
10. Exportation Issues (Drug MRLs, Paws, AI, etc.)
Rank the following MAJOR non-disease categories in order of importance to you/your company?

1. Meat Quality Issues (White Stripping, Woody Breast)
2. Increased Food Safety Regulations by USDA
3. Biosecurity - (Internal Programs, HPAI Threat, etc.)
4. Poultry Welfare (Internal Programs, Activist Threats, etc.)
5. Vaccine Availability (CVB approval, supply shortage, etc)
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7. FDA - Drug Availability
8. Restricted Antibiotic-Use (Customer and/or Media Concerns)
9. Increased Environmental Regulations
10. Shortage of Qualified Personnel in Live Production
11. Exportation Issues (Drug MRLs, Paws, AI, etc.)
Research Opportunities – Non-Disease Issues

1. Salmonella
   • Nanotechnologies, prevalence vs. serotype

2. Biosecurity
   • Effective education

3. Poultry Welfare
   • Feel good vs. Science

4. Vaccine/Drug Availability
   • Regulatory, Manufacturing

5. Meat Quality
   • Genetic, Management
Thank You!

• AVBP members
• Greg Rennier, Ph.D.
• Mike Donahue
• Dr. Louise D. Zavala
• Dr. Emily Kimminau