NVSL SALMONELLA, MYCOPLASMA, AND PASTEURELLA MULTOCIDA UPDATE

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# NPIP Group D *Salmonella* Proficiency Test

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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</thead>
<tbody>
<tr>
<td>Participants</td>
<td>70</td>
<td>73</td>
<td>61</td>
<td>80</td>
<td>94</td>
</tr>
<tr>
<td>Mean Score</td>
<td>97%</td>
<td>92%</td>
<td>94%</td>
<td>98%</td>
<td>98%</td>
</tr>
<tr>
<td>Score Range</td>
<td>100-85%</td>
<td>100-29%</td>
<td>100-68%</td>
<td>100-80%</td>
<td>100-68%</td>
</tr>
<tr>
<td>Below Passing</td>
<td>0</td>
<td>7</td>
<td>4</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
## NPIP *Salmonella* serotyping Proficiency Test

<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>18</td>
<td>14</td>
<td>34</td>
<td>23</td>
<td>34</td>
<td>21</td>
</tr>
<tr>
<td>Mean Score</td>
<td>98%</td>
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<td>99%</td>
<td>95%</td>
<td>97%</td>
<td>88%</td>
</tr>
<tr>
<td>Score Range</td>
<td>100-90%</td>
<td>100-90%</td>
<td>100-80%</td>
<td>100-80%</td>
<td>100-80%</td>
<td>100-60%</td>
</tr>
</tbody>
</table>
Salmonella Serotyping

- 13,880 isolates submitted in 2015
  - 4,976 clinical
  - 6,396 non-clinical
  - 2,508 research and other
- 5,536 from chicken/turkey sources
# Most Common Serotypes – Chickens 2015

<table>
<thead>
<tr>
<th>Rank</th>
<th>Clinical</th>
<th>Non-Clinical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Enteritidis</td>
<td>Senftenberg</td>
</tr>
<tr>
<td>2</td>
<td>Kentucky</td>
<td>Kentucky</td>
</tr>
<tr>
<td>3</td>
<td>Typhimurium</td>
<td>Enteritidis</td>
</tr>
<tr>
<td>4</td>
<td>Braenderup</td>
<td>Worthington</td>
</tr>
<tr>
<td>5</td>
<td>Heidelberg</td>
<td>Montevideo</td>
</tr>
</tbody>
</table>
Salmonella Group D₁

- Chicken submissions, clinical + non-clinical
- 556 Group D₁ isolates
- 513 (91%) were SE
- Other 9%: Alabama, Berta, and Javiana
**Most Common Serotypes – Turkeys 2015**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Clinical</th>
<th>Non-Clinical</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Senftenberg</td>
<td>Senftenberg</td>
</tr>
<tr>
<td>2</td>
<td>Ouakam</td>
<td>Hadar</td>
</tr>
<tr>
<td>3</td>
<td>Muenchen</td>
<td>Anatum</td>
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<tr>
<td>4</td>
<td>Albany</td>
<td>London</td>
</tr>
<tr>
<td>5</td>
<td>4,[5],12:i:- / Typhimurium</td>
<td>Muenster</td>
</tr>
</tbody>
</table>
Molecular Typing: SE assay

• SE rule out testing for FDA egg rule
  • Receipt of samples that were not typeable via classic testing
    • Rough O:g,m:-
    • 9,12:poorly-motile
    • 9,12:non-motile
  • xMAP *Salmonella* assay to determine the presence of *sdf* gene
    • *sdf* specific to SE
Salmonella Pullorum

- 465 *Salmonella* Pullorum serological tests
- 2,550 mL *Salmonella* Pullorum tube antigen provided
- 1,175 mL *Salmonella* Pullorum stained microtiter antigen provided
- 338 mL of control antisera provided
NVSL Pasteurella multocida Update

• 149 isolates for somatic typing
• 114 isolates for DNA fingerprinting
• 124 vials of antisera supplied
• 25 reference isolates supplied
NVSL Avian *Mycoplasma* Update

- 282 Hemagglutination inhibition tests
- 320 mL of Hemagglutination antigen supplied
  - 70 mL MG
  - 45 mL MM
  - 205 mL MS
- 868 mL of control antiserum supplied
  - 290 mL MG
  - 68 mL MM
  - 260 mL MS
  - 250 mL Negative control
Salmonella serotyping
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