Non infectious infertility in sow herds

John Carr
Analysis of reproduction problems
Make sure it is a reproductive problem
## Major reasons for reduction in farrowing rate

<table>
<thead>
<tr>
<th>Reason</th>
<th>Farm actual</th>
<th>%</th>
<th>Target %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Returns</td>
<td></td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Regular returns 18-24 days post-service</td>
<td></td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Irregular return any other time post-service</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Not In Pigs (&gt;80 days post-service)</td>
<td></td>
<td>0 - 0.5</td>
<td></td>
</tr>
<tr>
<td>Abortion</td>
<td></td>
<td>0.5-1</td>
<td></td>
</tr>
<tr>
<td>Culls (pregnant)</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Deaths (pregnant)</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Farrowing rate</td>
<td></td>
<td>87%</td>
<td></td>
</tr>
</tbody>
</table>
Basic embryology

• Day zero ovulation and fertilization
Basic embryology

- Day zero ovulation and fertilization
- Day 2-3 embryo enters uterus
Basic embryology

- Day zero ovulation and fertilization
- Day 2-3 embryo enters uterus
- Day 7 embryo hatches
Basic embryology

- Day zero ovulation and fertilization
- Day 2-3 embryo enters uterus
- Day 7 embryo hatches
- Day 10 free living embryo released
- Oestrogen sulphate
Basic embryology

- Day zero ovulation and fertilization
- Day 2-3 embryo enters uterus
- Day 7 embryo hatches
- Day 10 free living embryo released
- Day 14-17 embryo implants
- Oestrogen sulphate
Basic embryology

- Day zero ovulation and fertilization
- Day 2-3 embryo enters uterus
- Day 7 embryo hatches
- Day 10 free living embryo released oestrogen sulphate
- Day 14-17 embryo implants
- Implanted embryo released oestrogen sulphate
Basic embryology

- Day zero ovulation and fertilization
- Day 2-3 embryo enters uterus
- Day 7 embryo hatches
- Day 10 free living embryo released oestrogen sulphate
- Day 14-17 embryo implants
- Implanted embryo released oestrogen sulphate
- Day 35 bone is formed in foetus
What happens if....?
What happens if

- Day 10 signal does not happen
What happens if

- Day 10 signal does not happen
- Sow returns 18-24 days
What happens if

• Day 14-17 signal does not happen
What happens if

• Day 14-17 signal does not happen
• Sow returns 25-35 days
What happens if

• Foetus dies around day 20?

• **Sow returns 63 days**

• pseudopregnancy
No reason for a sow to return at day 42
Abortions

• Abortions can occur at any time after day 11 because of prostaglandin production
<table>
<thead>
<tr>
<th>Reasons for return</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-17</td>
<td>Nymphomaniac, Not in season initially</td>
</tr>
<tr>
<td>18-24</td>
<td>Oestrus</td>
</tr>
<tr>
<td>25-35</td>
<td>Embryonic death, Not in season initially</td>
</tr>
<tr>
<td>36-48</td>
<td>Missed oestrus</td>
</tr>
<tr>
<td>49-80</td>
<td>Pseudo pregnancy, Abortion, Combination of above</td>
</tr>
<tr>
<td>80+</td>
<td>Combinations of above</td>
</tr>
</tbody>
</table>
Influence of stockpeople on reproductive success
Why is this important?
Standing heat, how long does it last?
<table>
<thead>
<tr>
<th>Stock-person</th>
<th>Farrowing rate</th>
<th>Total born alive</th>
<th>Live piglets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>90.6</td>
<td>11.0</td>
<td>2348</td>
</tr>
<tr>
<td>2</td>
<td>89.8</td>
<td>11.1</td>
<td>2413</td>
</tr>
<tr>
<td>3</td>
<td>89.1</td>
<td>10.8</td>
<td>2346</td>
</tr>
<tr>
<td>4</td>
<td>85.9</td>
<td>11.2</td>
<td>2310</td>
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<tr>
<td>5</td>
<td>81.6</td>
<td>11.0</td>
<td>2153</td>
</tr>
<tr>
<td>6</td>
<td>67.8</td>
<td>9.3</td>
<td>1371</td>
</tr>
</tbody>
</table>
Pregnancy Checking
Pregnancy checking

- 1-115 days in the presence of the boar*
- 18-24 with boar regular return
- 21 days + - real time scanner
- 25-35 days with boar irregular return
- 28 days doppler machine for uterine pulse
- 35 days doppler machine for uterine pulse
- 8 weeks by eye
Summary

• Farmers and Vets want a disease answer and want to blame someone rather than themselves.

• Unfortunately, stockmanship and management are the more common reasons for poor results.
The major cause of poor reproduction
Many Thanks