UK presentation of the meat chicken trigger system used in Great Britain

Working group on data collection of animal welfare indicators in broiler slaughterhouses

October 10th 2011

sophie.vickery@defra.gsi.gov.uk
Outline of presentation

1. Development of the trigger system: selection and evaluation of post-mortem (PM) conditions
2. System processes
3. Trigger levels
4. The trigger system in operation
5. Results of the first year
6. Benefits of the system to date
7. Overcoming challenges
8. Future evaluation
Development of the trigger system: selection of PM conditions

- Nine PM conditions likely to reflect on-farm welfare were selected on the basis of published scientific evidence and discussions with representatives from the relevant competent authorities and industry

1. Ascites/Oedema
2. Cellulitis & Dermatitis
3. Dead on Arrival (DOA)
4. Emaciation
5. Joint lesions
6. Septicaemia/Respiratory
7. Total rejections
8. Cumulative Daily Mortality Rate (CDMR)
9. Foot Pad Dermatitis (FPD)
Development of the trigger system: evaluation of PM conditions

- All PM conditions were evaluated during a pilot study (September 2009 to February 2010)
  - On-farm welfare inspections were carried out one week prior to slaughter (112 broiler holdings) and matched with PM condition data collected at the slaughterhouse
  - Statistically significant links were found for Emaciation, Total Rejections and Foot Pad Dermatitis
  - Small sample size may have obscured a link for the other PM conditions tested, hence all nine conditions were taken forward for inclusion in the trigger system
System processes

- **Process 1**: A trigger report is generated if the level of a PM condition is exceptionally high (greater than 6 standard deviations above the mean).

- **Process 2**: A trigger report is generated if the CDMR is unusually high (greater than 3 standard deviations above the mean) and, **additionally**, the rate of three or more PM conditions is high (above the mean).
Trigger levels

• CDMR and FPD: calculated relative to averages reported in 2009-2010 pilot study (no national data available)

• All other PM conditions: calculated relative to GB national averages (2009-2010)
A trigger report is generated if the level of a PM condition is exceptionally high (exceeds mean + 6SD)

<table>
<thead>
<tr>
<th>Post-mortem condition</th>
<th>Process 1 trigger level (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascites/Oedema</td>
<td>2.02</td>
</tr>
<tr>
<td>Cellulitis &amp; Dermatitis</td>
<td>3.00</td>
</tr>
<tr>
<td>Dead on Arrival (DOA)</td>
<td>1.51</td>
</tr>
<tr>
<td>Emaciation</td>
<td>0.67</td>
</tr>
<tr>
<td>Joint lesions</td>
<td>0.43</td>
</tr>
<tr>
<td>Septicaemia/Respiratory</td>
<td>9.28</td>
</tr>
<tr>
<td>Total rejections</td>
<td>11.76</td>
</tr>
<tr>
<td>Cumulative Daily Mortality</td>
<td>11.85</td>
</tr>
<tr>
<td>FPD score*</td>
<td>167</td>
</tr>
</tbody>
</table>
Scoring of Foot Pad Dermatitis

- FPD is scored using the agreed Defra/FSA/industry Scorecard
A trigger report is generated if the CDMR is unusually high (exceeds mean + 3SD = 7.37%) and, additionally, the rate of three or more PM conditions is high (exceeds the mean)

<table>
<thead>
<tr>
<th>Post-mortem condition</th>
<th>Process 2 trigger level (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ascites/Oedema</td>
<td>0.21</td>
</tr>
<tr>
<td>Cellulitis &amp; Dermatitis</td>
<td>0.20</td>
</tr>
<tr>
<td>Dead on Arrival (DOA)</td>
<td>0.12</td>
</tr>
<tr>
<td>Emaciation</td>
<td>0.04</td>
</tr>
<tr>
<td>Joint lesions</td>
<td>0.02</td>
</tr>
<tr>
<td>Septicaemia/Respiratory</td>
<td>0.49</td>
</tr>
<tr>
<td>Total rejections</td>
<td>1.11</td>
</tr>
<tr>
<td>FPD score*</td>
<td>60</td>
</tr>
</tbody>
</table>
The trigger system in operation

- The official veterinarian (FSA Ops) assesses and records PM conditions at the slaughterhouse

- Data are uploaded to a central FSA Ops database and pass through the trigger system within 48 hours
The trigger system in operation

- Where applicable a trigger report is generated
The trigger system in operation

• The trigger report is verified centrally within FSA Ops and is then emailed to a central team in AHVLA. It is also sent directly to the owner/keeper

• The central AHVLA team record all trigger reports and distribute them to the appropriate regional office

• At the regional level, each report receives a full veterinary assessment to decide what action is to be taken

• The action taken is fed back to the central AHVLA team, and ultimately to the slaughterhouse that processed the birds
Results of the first year

July 2010 - July 2011

• 2117 trigger reports were generated (2% of all batches processed)

• The main PM conditions involved were Emaciation, Dead on Arrival (DOA) and CDMR

• Clear seasonal changes were observed (e.g. Emaciation and DOA were highest in the Summer)
Benefits of the system to date

• Action Plans indicate that changes are being made to improve welfare at the farm level

• Likely that on-farm welfare issues are being averted due to early intervention

• Increased awareness/understanding of more general welfare issues, e.g. a rapid increase in DOA trigger reports alerted officials to transport problems

• Beneficial knock-on effects, e.g. increased consistency of scoring FPD, improved communications between competent authorities
Overcoming challenges

• The system initially generated far more trigger reports than had been predicted on the basis of past data. Trigger levels were increased in August 2010 in response to this.

• Industry have had difficulty providing CDMR data

• Birds have sometimes been incorrectly categorised by producers

• Multiple trigger reports have been generated as a result of the system running at the batch level rather than the house/flock level
Future evaluation

• A research and development project has been commissioned that will assess the effectiveness of the trigger system and look in more detail at the relationship between the PM conditions monitored and on-farm welfare

• The ability of CDMR and standard mortality to identify poor on-farm welfare will also be compared

• The project is due to start in October 2011 and will run for two years
• The meat chicken trigger system is currently operating well

• We have seen some clear benefits of the trigger system to date, but we will continue to monitor and evaluate the system and refine it as necessary