INFECTION WITH AVIAN INFLUENZA VIRUSES

Article 10.4.25.

Procedures for the inactivation of avian influenza viruses in eggs and egg products

The following times for industry standard temperatures are suitable for the inactivation of avian influenza viruses present in eggs and egg products:

<table>
<thead>
<tr>
<th>Core temperature (°C)</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole egg</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>188 seconds</td>
</tr>
<tr>
<td>Whole egg blends</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>188 seconds</td>
</tr>
<tr>
<td>Whole egg blends</td>
<td></td>
</tr>
<tr>
<td>61.1</td>
<td>94 seconds</td>
</tr>
<tr>
<td>Liquid egg white</td>
<td></td>
</tr>
<tr>
<td>55.6</td>
<td>870 seconds</td>
</tr>
<tr>
<td>Liquid egg white</td>
<td></td>
</tr>
<tr>
<td>56.7</td>
<td>232 seconds</td>
</tr>
<tr>
<td>10% salted yolk</td>
<td></td>
</tr>
<tr>
<td>62.2</td>
<td>138 seconds</td>
</tr>
<tr>
<td>Dried egg white</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>20 hours</td>
</tr>
<tr>
<td>Dried egg white</td>
<td></td>
</tr>
<tr>
<td>54.4</td>
<td>543 50.4 hours</td>
</tr>
<tr>
<td><strong>Dried egg white</strong></td>
<td></td>
</tr>
<tr>
<td><strong>51.7</strong></td>
<td><strong>72 hours</strong></td>
</tr>
</tbody>
</table>

USA Comments to the Terrestrial Animal Health Standards Commission – February 2015 Report
**Explanation of proposed change:** Reduce the time parameter required to inactivate avian influenza virus in dried egg white at a core temperature of 54.4 degrees Celsius **from 513 to 50.4 hours.** Additionally, add a new row to recognize a lower core temperature standard that is also used by industry -- specifically, 72 hours at 51.7 degrees Celsius.

**Rationale:**

When using the equation in Figure 3 of the referenced scientific article: “Thermal Inactivation of H5N2 High-Pathogenicity Avian Influenza Virus in Dried Egg White with 7.5% Moisture” as shown in the following table, the treatments would be successful at 130F (54.4C) and 125F (51.7C); for 2.1 and 3.0 days respectively.

<table>
<thead>
<tr>
<th>Temp (Celcius)</th>
<th>Dt(min)(log10)</th>
<th>Dt(min)</th>
<th>time for 7log10 reduction (min)</th>
<th>time for 7log10 reduction (hrs)</th>
<th>time for 7log10 reduction (days)</th>
<th>time for 7log10 reduction (days) + 2 RMSE</th>
<th>temp (F)</th>
<th>temp (C)</th>
<th>temp (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>54.4</td>
<td>2.580564</td>
<td>380.6835</td>
<td>2664.8</td>
<td>44.4</td>
<td>1.9</td>
<td>2.1</td>
<td>130</td>
<td>130</td>
<td>54.4</td>
</tr>
<tr>
<td>51.7</td>
<td>2.728902</td>
<td>535.6758</td>
<td>3749.7</td>
<td>62.5</td>
<td>2.6</td>
<td>3.0</td>
<td>125</td>
<td>125</td>
<td>51.7</td>
</tr>
</tbody>
</table>

**Reference:**