Aim

• Estimate genetic parameters for BW in male and female broiler chicken at three different ages of growth

Material and Methods

Data

• 54 selection rounds for growth rate
• 329398 males and 317305 females

Genetic parameter estimation

• Multivariate animal model using REML
• 6 trait analysis including males and females separately in the 3 ages
• Model

\[ \begin{align*}
  BW \text{ Male} &= \mu + SRH + Animal + PE + e \\
  BW \text{ Female} &= \mu + SRH + Animal + PE + e
\end{align*} \]

• Random effects: Direct genetic effect of the animal & maternal permanent environmental effect
• Fixed effects: Selection round & hatch batch

Conclusion

➢ BW in the three ages should be considered as three different traits
➢ BW in the two sexes should be considered as two different traits

Results

Table: Genetic parameters for body weight in male and female broiler chicken at t, t-4 and t-7 days of age

<table>
<thead>
<tr>
<th>No</th>
<th>Age (days)</th>
<th>N</th>
<th>( \text{rg(SE) b/n Ages} )</th>
<th>( \text{rg (SE) b/n Males &amp; Females} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>t</td>
<td>441,769</td>
<td>1 &amp; 2 0.88 (0.04)</td>
<td>0.89 (0.01)</td>
</tr>
<tr>
<td>2</td>
<td>t-4</td>
<td>83,003</td>
<td>2 &amp; 3 0.98 (0.01)</td>
<td>0.89 (0.01)</td>
</tr>
<tr>
<td>3</td>
<td>t-7</td>
<td>121,931</td>
<td>1 &amp; 3 0.83 (0.03)</td>
<td>0.94 (0.01)</td>
</tr>
</tbody>
</table>