Minimum Ventilation For Broilers

1. Purpose Of Minimum Ventilation
   - To provide a minimum level of air exchange
   - Ventilation for some minimum amount of time is required to:
     • maintain good air quality.
     • remove excess moisture.
   - Minimum ventilation is recommended for younger birds and in cool or winter weather conditions.

2. Minimum Ventilation Rates
   - Minimum ventilation is a timer not temperature driven process.
   - Recommended minimum ventilation rates for minimum ventilation are:

<table>
<thead>
<tr>
<th>Live weight (kg)</th>
<th>Live weight (lbs)</th>
<th>Minimum ventilation rates (m³/hr)</th>
<th>Minimum ventilation rates (ft³/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.050</td>
<td>0.11</td>
<td>0.080</td>
<td>0.047</td>
</tr>
<tr>
<td>0.100</td>
<td>0.22</td>
<td>0.141</td>
<td>0.083</td>
</tr>
<tr>
<td>0.200</td>
<td>0.44</td>
<td>0.258</td>
<td>0.152</td>
</tr>
<tr>
<td>0.600</td>
<td>1.32</td>
<td>0.589</td>
<td>0.347</td>
</tr>
<tr>
<td>1.000</td>
<td>2.20</td>
<td>0.864</td>
<td>0.509</td>
</tr>
<tr>
<td>1.400</td>
<td>3.09</td>
<td>1.112</td>
<td>0.654</td>
</tr>
<tr>
<td>1.800</td>
<td>3.97</td>
<td>1.343</td>
<td>0.790</td>
</tr>
<tr>
<td>2.200</td>
<td>4.85</td>
<td>1.561</td>
<td>0.919</td>
</tr>
<tr>
<td>2.600</td>
<td>5.73</td>
<td>1.769</td>
<td>1.041</td>
</tr>
<tr>
<td>3.000</td>
<td>6.61</td>
<td>1.969</td>
<td>1.159</td>
</tr>
<tr>
<td>3.400</td>
<td>7.50</td>
<td>2.163</td>
<td>1.273</td>
</tr>
<tr>
<td>3.800</td>
<td>8.38</td>
<td>2.352</td>
<td>1.384</td>
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<tr>
<td>4.200</td>
<td>9.26</td>
<td>2.535</td>
<td>1.492</td>
</tr>
</tbody>
</table>

3. Achieve Good Airflow And Volume
   - If incoming airflow speed and volume is too low:
     • cold air will drop directly on to the birds/litter.
     • litter will become wet and birds may get chilled.

4. Ensure House Is Tightly Sealed
   - Ventilation only works effectively if the house is adequately sealed and there are no air leaks.
   - This ensures that airflow speed and volume entering the house are controlled and correct.

5. Uniform Air Inlet Openings
   - Open air inlets must be evenly distributed through the house and be opened equally.
   - This will create uniform:
     • volume of airflow
     • speed of airflow
     • direction of airflow
     • distribution of airflow
   - At lower ventilation rates close some inlets to force the same volume of air through fewer inlets.

6. Monitor And Evaluate Regularly
   - Monitor house pressure & air speed:
     • For every increase in negative pressure of 3-4 Pa (0.012-0.016 inches of water column) air will travel - 1 m (3.3 ft) into the house.
     • Incoming air should be thrown into the centre of the house.
   - Complete regular evaluation of:
     • air quality
     • relative humidity
     • signs of condensation
     • dust levels
     • litter quality
   - Use smoke tests or cassette tape to confirm if airflow direction and inlet settings are correct.
   - Monitor bird behavior.