VENTILATION 101

How to keep your litter dry
YOU MIGHT HAVE VENTILATION ISSUES IF

► You need ice skates to walk at the tunnel inlet part of the house
► Your boots get sucked off as you walk by the water lines
► You use a canoe to pick up mortality at the end doors
► Your wife asks you if you have a dead chicken in your truck
Rules to Remember

► You must seal up all leaks
  ▪ You control the house environment not mother nature

► Rule of 20 for Incoming Air

► Rule of 20 for Incoming Water

► Rule of 7 for Nipples
Leakage

Czarick, 2005
For loose houses...

- Circulation fans are a must

Right type
Positioned properly

Czarick, 2005
Rule of 20 for Incoming Air

- Every 20 degree increase in air temperature doubles the water holding capacity of the air.
  - Conversely, every 20 degree decrease halves the water holding capacity
- Measured as Relative Humidity
Example

- Air temp at floor = 84 degrees with 60% RH
- Air temp entering sill plate = 34 degrees
- Mixed air at knee wall = 64 degrees with RH of 30%
- Effect on the litter – wetness
- Effect on the birds - Priceless
Rule of 20 for Incoming Water

- Birds drink on average 2 pounds (1 quart) of water for every pound of feed they consume.
- Birds utilize only 20% of the water they take in.
- Rest is exhaled or excreted.
- Has to be absorbed by litter or removed by ventilation.
Ventilation requirements for 10,000 birds

Czarick, 2005
Outside temperature = 0°C
(Inside Rh = 50%, Outside Rh = 50%)
### Dr. Bob’s Minimum Ventilation Guidelines

<table>
<thead>
<tr>
<th>Bird Age</th>
<th>Minimum Ventilation Rate</th>
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<tbody>
<tr>
<td>0-7 days</td>
<td>0.10 cfm/bird</td>
</tr>
<tr>
<td>8-14 days</td>
<td>0.25 cfm/bird</td>
</tr>
<tr>
<td>15-21 days</td>
<td>0.35 cfm/bird</td>
</tr>
<tr>
<td>22-28 days</td>
<td>0.50 cfm/bird</td>
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<tr>
<td>29-35 days</td>
<td>0.65 cfm/bird</td>
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<tr>
<td>36-42 days</td>
<td>0.70 cfm/bird</td>
</tr>
<tr>
<td>43-49 days</td>
<td>1 cfm/bird</td>
</tr>
</tbody>
</table>
Rules of Minimum Ventilation

► Never run less than 0.08-0.10 static pressure
  ▪ Usually requires at least 2 - 36 inch fans
► Vents should be open 1.5 inches in ceiling and 2.0 inches in sidewall
► Evenly space vents around house
  ▪ Balance heat by sealing up cracks and balancing birds
Air entering through staggered inlets

Air entering through inlets on one side of a house

Czarick, 2005
Rule of 7 for Nipples

- Nipples do not have an infinite life span
- If it is wet under the nipples chances are they are set too low or they are leaking
- Life span is difficult to determine, but start checking after 7 years.
- Especially prevalent when water pressure is turned up.
And Now Back To the Show
What Causes This??

- Wood shrinkage
- Concrete shrinkage
- Beetle damage
OH WHAT TO DO
Suggested Fixes

- Blame the builder
- Blame the Complex manager
- Blame the hatchery
- Underventilate so we don’t pull a static
- Blow up the house
Two Proven Methods

- Dr. Rudy’s double bubble method
- Mount Eby
Mount Eby
Other Ideas

- Ag tite Foam
- Liquid Nails
WE ARE ALL FACED WITH A SERIES OF OPPORTUNITIES BRILLIANTLY DISGUISED AS IMPOSSIBLE SITUATIONS

Chuck Swindoll