EQUIPMENT SPECIFICATIONS & EVENT RATES

To ensure dependable fan performance and operation, all fans should:
1. Be CMA rated and certified for required air delivery at 1/30 or 1/32 inch static pressure.
2. Have totally enclosed, ball bearing, thermally protected motors.
3. Have heavy duty welded frame and motor mount, with deep curved venturi.
4. Have welded steel or cast aluminum propeller blade with 1/8" to 1/4" maximum tip clearance in venturi.

SHUTTERS SHOULD BE:
1. Heavy aluminum or painted steel frame.
2. Aluminum blades with reinforced or stiffened edges.
3. Nylon or bronze pivot bushings.
4. Tie rod connected.
5. Balanced for gravity operation, or motorized.

HEATERS SHOULD BE:
1. Gas or oil with safety vents; or electric.
2. With safety controls.
3. Thermostatic operated to maintain minimum temperature per Table 3 for swine.

POSITION ALL FANS TO:
- Air intake and through building with direction of prevailing winds (not against).

### TABLE: VENTILATION DATA GUIDELINES

<table>
<thead>
<tr>
<th>Animal Type</th>
<th>Temp</th>
<th>Winter Min.* Rate</th>
<th>Winter Max.* Rate</th>
<th>Summer Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swine Furrowing</td>
<td>30°-60°</td>
<td>25 CFM</td>
<td>75 CFM</td>
<td>80°-85°</td>
</tr>
<tr>
<td>Nursery</td>
<td>65°-70°</td>
<td>2-3 CFM</td>
<td>6-10 CFM</td>
<td>65°-90°</td>
</tr>
<tr>
<td>Dairy Calves</td>
<td>45°-55°</td>
<td>5-6 CFM</td>
<td>10-12 CFM</td>
<td>60°-85°</td>
</tr>
</tbody>
</table>

*Min. = Minimum; Max. = Maximum

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**NOTES:**
- Smallest fans: Sided for "winter Min.* and "winter Normal" vent. rate per Table 1 for multi-speed or variable-speed, solid-state controllers to provide proper vent. rates. (Fan on a larger fan size recommended.)
- Larger fans: Maximum total capacity per Table 1, divided among all fans used to give 2s or 3s comparable stages of ventilation rate increase with thermostatic control for automatic operation.
- Shutter: Inlet shutters to be motorized and sized for 1 sq. ft. opening per 800 CFM fan capacity. Shutter opposite fan; jet to be same size as fan; jet. Hood over inlet shutters optional but recommended. Anti-backdraft shutter on exhaust fans sized and mounted to match fans.
- Heater: Same note as at left.
- Insulation: Same note as at left.

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### 10 POINTS OF A GOOD FAN

- A.M.A. Certified: Balanced
- Sturdy blades & seal
- Motor totally enclosed, ball bearing, thermally protected
- Strong frame and motor mount
- 1/8" to 1/4" blade tip clearance
- Deep curved venturi
- C.F.M./Watt Ratio = 18 to 30

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**COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS**

**UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATION**

**FAN VENTILATION SYSTEMS FOR ANIMAL FACILITIES**

KY 74 6190 SHEET 2 OF 2