Keeping Pigs Cool

Pigs do not sweat, and a pig cannot supply enough moisture from its body to its skin surface to keep itself cool. When a pig is confined, it is deprived of the opportunity to wet its skin. This can lead to heat stress, reduced feed intake, and poor performance (e.g., lower pregnancy rates, slow growth). It is in your best interest to provide the necessary cooling for the herd during periods of high heat stress. Heat stress occurs for pigs at different temperatures depending on their size.

- Large pigs begin to feel heat stress when the temperature rises over 21°C (70°F) with serious side affects to production at temperatures over 29°C (85°F).
- Newborn pigs are healthiest at temperatures of 32–33°C (90–95°F) and do less well at temperatures over (or under) this range.

Air circulation

Good air circulation is important for the comfort of pigs. Circulating air in pens provides direct cooling, lowers humidity, and assists cooling through evaporation. Temperatures should be regulated based on the size of the pig housed in the pens. To do this you can:

- Design open pens to let air through.
- Locate pens to maximize air flow.
- Keep drafts off newborn pigs.
- Use bigger and wider pens.
- Limit the number of pigs in each pen. Avoid overcrowding.

Shade

Pigs can easily be sunburned. Shade protects pigs and provides a cool surface for the animals to lie on. Ideally, the high side of the shade cover or roof should be located on the south side (for locations south of the equator) or on the north side (for locations north of the equator) to maximize

Following are seven economical methods to keep pigs cool and to maintain healthy and happy pigs.
heat loss from the animals. To make the most use of shade:

- Orient the long axis of the shade structure from east to west.
- Keep your pigs from being crowded together.
- Provide shade facilities in any environment including pastures, lots, and pens.
- Utilize materials such as greenhouse shade cloth or tin roofing.

**Wet-skin cooling: wallows**

If given a choice, a pig’s natural tendency is to seek out water and wet its skin by wallowing. Wallowing allows pigs to cool off when the evaporating water takes heat from the skin.

Provide wallows in open lots or pastures. Although mud on the pig’s body helps protect from the sun’s rays, wallows under shade work best.

**Wet-skin cooling: sprinklers**

Use sprinklers to cool pigs housed on concrete floors. Pigs are cooled as the water evaporates from their skin. Sprinklers use less water than hosing down each pig.

- Use sprinklers rather than foggers because foggers get only the air wet, not the skin.
- Construct sprinklers by punching holes in a polyethylene pipe with a drill.
- Use sprinkler nozzles to provide a better spray.
- Run the sprinkler for 1–2 minutes every half hour when temperatures exceed 27°C (80°F). Thermostat-controlled timers work best.
- Spray 1 gallon of water per hour to cool 50 large (114 kg/250 lb) pigs.
- Locate sprinklers over the manure area to keep sleeping and eating areas dry.

<table>
<thead>
<tr>
<th>Type of animal</th>
<th>Water per head per day*</th>
<th>Flow rate for nipple drinker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sow + litter</td>
<td>8 gal (30 liters)</td>
<td>3–4 cups/minute</td>
</tr>
<tr>
<td>Nursery pig</td>
<td>1 gal (4 liters)</td>
<td>1–1 1/2 cups/minute</td>
</tr>
<tr>
<td>Growing pig</td>
<td>3 gal (11 liters)</td>
<td>2–3 cups/minute</td>
</tr>
<tr>
<td>Finishing hog</td>
<td>5 gal (19 liters)</td>
<td>3–4 cups/minute</td>
</tr>
<tr>
<td>Gestation sow</td>
<td>6 gal (23 liters)</td>
<td>3–4 cups/minute</td>
</tr>
</tbody>
</table>

*Includes water use for drinking and moderate water wastage. Water cooling systems may increase usage.

An efficient sprinkler cooling system should have the following:
- A sediment filter (100 mesh strainer) in the water line before it reaches the sprinkler, and
- A timer-operated solenoid valve.

Wet-skin cooling: drip
Drip cooling keeps sows in farrowing crates comfortable. A hose with a drip nozzle is suspended over each farrowing crate in a position that allows water to drip slowly over the sow’s neck and shoulder area. Evaporation of the water has a cooling effect, making the sow more comfortable and reducing heat stress. A temperature-activated electronic device can be used to control the water flow.

Hosing
In an emergency, pigs can be cooled by hosing them down once an hour. Use this method as a last resort because it:
- Wastes a lot of fresh water.
- Creates a lot of wastewater.
- Takes time to hose down each pig.

For additional resources and publications, refer to ADAP fact sheet 2003-11 on Additional Information for Swine Waste Management.