



Protecting Farm Animals in Extreme Heat

PIGS AND BIRDS



Throughout the hot summer months, it is important for farmers to continually monitor their animals for heat stress and take additional steps to ensure they remain cool and comfortable, even those such as pigs and birds that are housed in climate-controlled facilities.

Environmental factors that influence susceptibility to heat stress include air temperature and relative humidity, typically measured using the temperature-humidity index (THI); air speed and ventilation; stocking density; and—for pigs specifically—surface temperatures in the facility.

It is imperative that farmers detect early signs of heat stress and deploy heat abatement and intervention strategies before it becomes critical, or even fatal. Pigs—due to physiological characteristics such as inability to sweat and small lung capacity—are particularly prone to heat stress, which can be life threatening.

The Animal Welfare Institute offers the following tips to keep pigs and birds cool during the hot summer months:

- Prior to the start of summer, ensure ventilation and cooling systems are working properly. Increase ventilation and airflow during high temperatures.
- Check thermometers at least once a day to ensure accuracy. Thermometers should be strategically placed to ensure temperatures can be measured in all areas to which animals have access.
- Ensure there is adequate access to clean and cool water for all animals.
- Learn to detect signs of heat stress in pigs. When ambient temperatures increase, pigs attempt to regulate their body temperature by lowering heat production through reduced feed intake. Pigs are able to dissipate heat from their skin when the surrounding temperature is significantly lower than the pig's skin temperature.



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When this becomes ineffective, their respiration rate increases and they start heavily panting to release body heat. In addition to heavy panting and decreased feed intake, signs of heat stress include increased water consumption, increased attempts to sprawl out, unwillingness to move, lethargy, and trembling.

- Modify the diet of pigs to increase the concentration of nutrients to ensure these needs are met when consumption decreases. Increasing supplemental fats in the diet can also reduce the amount of heat generated during digestion.
- Learn to detect signs of heat stress in birds. Similar to pigs, poultry try to dissipate heat and cool themselves by panting. Poultry also attempt to regulate their body temperature by changing behaviors, such as increasing water intake and decreasing feed intake, spreading their wings more to dissipate heat, decreasing movement, and spending more time resting.
- Supplement the electrolytes poultry lose through panting by adding them to the birds' water supply. This will keep the level of electrolytes in the birds balanced and increase water intake.
- Digestion increases heat production so, if possible, move feeding times to the coolest parts of the day, which is early morning and late afternoon. For birds, feed should be removed 6 hours before peak afternoon temperatures and reintroduced when peak temperatures begin to decrease.
- Consider investments in both direct and indirect cooling mechanisms in swine operations, and evaporative cooling systems in poultry operations. Direct cooling mechanisms include drippers or sprinklers that wet the pigs' skin, which releases body heat through evaporation. Indirect cooling mechanisms refer to evaporative cooling pads that pull hot air through the saturated pads to cool the air inside the facility. Such mechanisms are most effective in conjunction with high air speeds and in areas with low humidity. Evaporative cooling systems, such as misters and foggers, can be used in poultry operations to wet the birds and keep them cool.
- Evaluate stocking densities to ensure animals have adequate space to perform behaviors that will allow increased heat dissipation. For pigs, this will ensure they are able to lie down and spread out, and for poultry, this will prevent overcrowding and allow the birds to spread their wings.
- If the animals have access to the outdoors, provide them with shade to help keep them cool. Wallowing areas should also be provided for pigs with outdoor access to alleviate heat stress.
- When transporting animals during high temperatures, do so early in the morning or at night, paying close attention to scheduled arrival times to minimize both time spent on the truck and wait times at the plant. Decrease stocking density on the trucks and ensure there is proper ventilation. Wetting swine and their bedding prior to loading will also help them stay cool during transport.