



Mitchell Veterinary Services

Pauly Veterinary Clinic

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Swine Newsletter

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May Heat Wave

Instant summer

As the warmer weather is upon us and planting is almost finished we need to start thinking about heat stress on our animals and the effects on productivity. When the environmental temperature gets close to the pigs normal body temperature the animals natural cooling mechanisms don't work as well. The pig will then start compensatory behaviors including decreased feed intakes, increased water intakes, increased breathing or panting and altered feeding patterns. All leading to a combination of less nutrition and more energy spent which equals lower productivity.

As the environmental temperature increases the pigs body increases the flow of blood to the skin for evaporative cooling. This decreases the blood flow to the gut causing a decrease in digestive efficiency, a change in normal gut bacteria and a leaky gut that allows bacteria into the blood stream. These natural gut changes lead to an increase in death loss in the summer months.

The biggest impact on productivity is decreased feed intakes. The digestion process releases significant amount of heat that the pigs body can't get rid of. This is followed by a significant increase in water intake (up to 6x as much!). Cold water removes heat from the body. The increase breathing rate allows for evaporation cooling from the lungs but requires a significant increase in effort and energy expenditure.

So what can we do?

Do a complete check and cleaning of all cooling systems including thermostats, fans, air inlets drip coolers and sprinklers. Evaporation is the main way we can help pigs with the cooling process. Getting them wet and increasing the amount of air movement over the skin is how evaporation occurs. If you currently don't have drip coolers or sprinkler systems it would be worthwhile to look into the cost benefit of putting a system in.

Water management

Ensure all water lines are clean and there is adequate flow at the nipples or bowls. Remove and clean or replace nipples and look at the water line to ensure that the size hasn't decreased from biofilm and mineral build up. Ensure animals have water availability at all times which may involve: increasing the number of water nipples or bowls per pen, providing supplemental water sources in liquid feed systems, increasing the number of water cycles fed per day and ensuring water troughs are always full. Cool water is a key to the pigs cooling mechanism. Assess end source temperature and consider line and tank insulation

Nutrition

I instinctively thought that as intakes go down you would increase the energy and protein density of the ration. As it turns out increasing energy density decreases performance even more in heat stressed animal. This has been explained by the increased amount of heat released by the digestion process.

Recommendations include decreasing protein density and maximizing the use of synthetic lysine and replacing starch energy with fat. Both changes increase the digestability of the diet. These diet changes come with an increased cost so have a discussion with your feed supplier on cost benefit.

As the temperature goes up all pigs alter their feeding behavior. They move less and eat less in the peak heat. Consider altering feeding patterns by providing smaller, multiple feedings and late day feeding. Consider feeding lactating sows four times a day including an evening feed.

Sows

As the environmental temperature goes up the piglets need for supplemental heat decreases. Decrease the temperature of heat pads and decrease the time of supplemental heat use. This avoids driving the piglets to the sow and causing increased crushing. By decreasing added heat we can keep a cooler room and help maintain intakes.

If you don't have cooler drip systems or they don't work give serious consideration to adding them. Barns with cooling systems can maintain normal intakes through the summer months.

Add water to feed as it has been shown to increase intakes in hot weather.

Heat stress has a significant impact on semen production. Consider ordering less semen more often.

Heat is a significant factor in seasonal infertility. If space and cash flow allow increase the gilt pool by 10 to 15 % to allow for higher breeding targets in the summer.

Keep cool

Glenn