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PORK BRIEFS

THE LATEST INFORMATION ON SWINE NUTRITION

Get Ready for Summer

By: Ken Palen

With summer right around the corner there are a few things that we need to be checking in our barns to make sure we're prepared for what Mother Nature brings us every year. Let's start with the sows.

Typically it is much harder to breed sows during summer as Mother Nature's biological clock signals sows that farrowing in the winter is not as good as farrowing in the spring and summer. Although modern swine production methods and genetics have taken some of this variable out of the equation it still seems to play an important role in production.

One way of planning for avoiding a reduction in farrowing rates due to seasonal variation in fertility is to just breed more sows during the months when fertility may be lower. Table I shows an aggressive approach to this considering a high farrowing rate of 95% to a low rate of 74% with an average Farrowing Rate of approximately 87%.

Table 1 - Planning for Seasonal Infertility (Per 100 Sows)

Month Bred	Target Sows to Farrow	Sows & Gilts to Breed	Expected Farrowing Rate (%)
January	20	21	95
February	20	21	95
March	20	22	91
April	20	23	87
May	20	24	83
June	20	25	80
July	20	26	77
August	20	27	74
September	20	24	83
October	20	22	91
November	20	21	95
December	20	21	95

This Table 1 chart could be modified to reflect the normal farrowing rate on your own farm and adjusted accordingly by month shown.

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Volume 11, Issue 4
June 2018

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Hot Weather Sow Tips:

- Feed more frequently, in smaller amounts.
- Use your best quality, mold free feed for your sows.
- Wetting the feed often increases intake, but don't let it spoil!
- Make sure not to overfeed during gestation. Fat sows entering the farrowing house generally have poor appetites.
- Move bred sows in the first couple of days, or after 30 days bred, or you could upset pregnancy. With lower summer feed intakes make sure you are feeding a nutrient dense enough ration.
- Review your semen storage and handling procedures.
- Sows with larger litters and first litter gilts could benefit by topdressing additional nutrients.
- Weaned sows may benefit from a higher nutrient dense weaning ration or top dress.
- Add Lacta-Fat to improve appetite and energy density of the ration. (Sows like a little gravy with their meal.)
- Don't forget to rotate boars if natural breeding. The effects of heat stress show up for 4 to 6 weeks of poor semen quality. Extra vitamins and minerals in a top dress have been known to help.
- Adjust protein level of ration to make sure adequate lysine is consumed. Subsequent breeding performance and litter size could be affected. Added amino acids, up to the optimum level, will reduce the amount of waste nitrogen that needs to be metabolized and excreted, thereby increasing efficiency.
- Sow herd health is especially critical. Keep vaccines up to Vet recommendations.

Hot Weather Nursery Tips:

- Keep nurseries washed and disinfected.
- Do a low pressure rinse before disinfecting to clean off anything the high pressure wash may have splashed around.
- Wash unloading ramps and hallways as well. Lots of bugs grow in hot weather.
- Clean fans, blades, and intakes. Set intakes for more air flow so air does not drop down into pits, and bounce back out, bringing up poor pit air.
- Set ventilation to summer settings while keeping heaters running for cold nights.
- Check drinker flow on each device i.e. nipple or bowl.
- Don't overcrowd especially in summer.
- Keep feed fresh and feed high quality diets.
- Give vaccines during cooler time of day as per vet's advice.

Hot Weather Grow-Finisher Tips:

- Make sure feed is fresh. Keep feeders clean and free of spoiled feed.
- If not on self feeders, feed more feed in the evening, when it is cooler.
- Make sure feed grind is right – 600 to 800 microns is recommended for dry corn.
- Reduce high fibre ingredients like barley, oats, or wheat shorts, since fibre is hard to digest, low in energy and generates more body heat.
- Include Lacta-Fat in your feeds – it gives off less heat increment during digestion and will help increase gains and improve feed efficiency.
- Provide more space per pig.
- Increase ventilation rate. Make sure fan louvers and fan blades are clean to improve fan efficiency.

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- Make sure there are ample water sources. Extra bowls or nipples, that are working, should be considered: DO NOT restrict water during heat waves. Pigs don't sweat, so drinking and lying in water is their way to cool off, together with increased respiration rate.
- Consider water sprinklers or misters to cool pigs. Research has shown as much as 21% improved gains.
- Minimize health challenges.
- Keep Vet recommendations going.

Water

The process of eating and digesting their feed uses energy and, in turn, generates body heat which makes the pigs even hotter. The natural tendency then is to stop eating and breathe faster to get rid of the hot air. The following chart shows the importance of water intake as a driver of feed intake and performance on nursery pigs.

Table 2. Influence of water delivery rate on performance of weaned pigs from 3-6 weeks of age (Barber et al., 1989).

	Water Delivery Rate (mL/min) 175	450
Water Intake (L/day)	0.78	1.32
Feed Intake (g/day)	303	341
Daily Gain (g)	210	250
FCR	1.48	1.37
Time Drinking (min/day)	4.46	2.93

The study by Barber and coworkers was conducted with pigs housed in a thermoneutral environment (83ºF). All values, with the exception of FCR, differed (P<.01) between treatments.

Schiavon and Emmans (2000) published work that suggested that for **every degree centigrade increase in air temperature, water intake increases by slightly more than 0.1 L/d.**

This all shows the importance of not only getting the pigs to drink water during the hot summer months, as Dr. Barber's work shows the importance that water plays in growth and feed conversion which ultimately affects your bottom line. With today's growth rates even higher, water availability is even more important.

Best to check all water sources in the barns each day. Plugging can occur which can have devastating results. Table 3 shows how much water flow and consumption is estimated on average.

Table 3. Recommended Daily Water Consumption Levels

Age of Pig	Flow Rate (litre/minute)	Water Consumption
Nursery Pig	1.0	2.5 Litre
Grower Pig	1.4	3.3 Litre
Finish Pig	1.7	5.0 Litre
Dry Sow	2.0	18 Litre
Lactation Sow	2.0	36 Litre

(Source: Dewey, 2001)

Ventilation Adjustment for Summer

Many producers adjust summer temperature set points higher than winter temperature set points. This is to help prevent the temperature from dropping too quickly after the sun goes down. Ideally the drop in temperature in the hog houses between daytime and night time temperatures should be no more than 10°F (5.57°C). If the daytime temperature is 82°F (27.77°C) then the night time temperature should be set no lower than 72°F (22.2°C). It may pay to hire a ventilation expert to check all the settings on your controllers.

Nutrition

Keep a lid on how much fibre and protein you feed your pigs in the summer. High fibre diets make the feed harder to digest and create more heat in the process. This can be a big negative when the pigs are hot already. High protein levels in the feed can produce ammonia. Ammonia is a toxic compound, and animals need to eliminate it by converting it to urea. This conversion by the body of ammonia to urea costs energy to the body and can clutter up the blood stream by reducing oxygen transfer to the organs. Summer feeding lower fibre diets with added fat, which has a low heat increment, along with feeding lower crude protein levels, with higher synthetic amino acids added would be a great plan with today's choices.

This article is a rewrite of my article Spring Tune Up Time (May 2017) with added information on Hot Weather Nursery Tips. Please utilize the information to help prepare for summer. After such a long, hard Ontario winter let's take some personal family time this summer.

Have a great summer!
Thank You.

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