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## BE PREPARED FOR SEASONAL INFERTILITY



Seasonal infertility refers to the effect of the season on reproductive performance. It is the time of the year that is difficult to get sows and gilts pregnant. This phenomenon is well known and has affected the markets for a long time. It's one of the reasons why fewer sows farrow from November to January, resulting in less pigs for sale in the following summer months.

There are several factors that account for seasonal infertility. Heat and reduced photoperiod (the shortening day length after the first day of summer—6/21/19) are two of the main ones.

The heat influence generally occurs in weeks 27- 32 of the year. Its effects are dependent on how extreme the heat is. Evaporative cooling remarkably reduces this effect but doesn't completely eliminate it. It's critical to make sure that all fans are operating at their peak efficiency and that your evaporative cooling system is working.

- Check fans to make sure belts are tight—this can have a tremendous effect on fan output. It's estimated that if the belt is loose, even a little, you likely lose at least 20-25% efficiency. Also, cones on fans can improve output by 10-15%.
- Dirty fan blades and shutters can reduce fan efficiency as well by up to 25%. Just think...if both belt and dirt problems exist, cooling capacity can be reduced by 50%! Washing fans and shutters, and checking/tightening belts on fans are things that don't cost much, but could pay big dividends.
- Mineral build up on cool cell pads can greatly restrict air flow—you can determine with air speed meter and/or static pressure. Air should be able to come through freely at 400 ft/minute without driving static pressure above .1 on a non-filtered barn or above .2 on a filtered barn. Replacing cool cell pads may be less costly than paying for the product and labor to clean them and can be one of the least expensive things you can do to restore air flow into the barn.
- REMINDER: Keep semen coolatrons in a climate-controlled area (also applies to the delivery area). Coolatrons may not be able to keep semen at 60-64 degrees when room temps reach over 90-degrees. Premature warming causes acrosome reactions, decreased motility, shorter shelf-life and decreased fertility.



- The shortening photoperiod is also a problem and seems to have its greatest impact in weeks 27- 40. The sows don't want to farrow in the winter so they are more likely to recycle, reabsorb the litter or miscarry. Make sure you're doing a good job of heat checking and identifying these animals early so they can be bred back into the system or culled. Although there is no way to completely mitigate the effect of shortening day length, the use of a timer on the lights can help. Having lights on for 16 hours/day (from 5:00 AM to 9:00 PM) mimics the longest day of the year.
- Use your historical records to help you determine how much season impacts your operation. Then, if space allows, you can compensate by breeding additional animals to make up for the losses. Monitoring conception rates at pregnancy check can be one of the first indicators that problems are starting to happen, and you need to make adjustments in your breeding targets.



If you have any questions on how to get your historical performance or evaluate what's happening in your herd, let one of the vets at SVC know so we can help!

## Continued Look at Sow Mortality

Sow mortality continues to be an unsolved problem for many herds. The annual Metafarms Benchmark Analysis for 2018 shows for a 7<sup>th</sup> straight year, sow mortality has increased among those herds in the Metafarms customer database. Within those herds, mortality rates were highly variable, with farms in the top 10%, achieving mortality rates of less than 6% and the worst farms having over 16% sow death loss. We know that sow death loss can rise as the result of health challenges within a herd but too often herds considered health stable are also experiencing sow death loss that is too high. As we analyze sow mortality across herds, a common trend we observe is the stage of gestation or farrowing where the highest sow death loss occurs. The table summarizes a 5-year trend of sow mortality across several herds.

We find that the highest mortality rates on-farm occur during the last two weeks of gestation and first week of lactation. This makes sense...it is during this time that sows have the greatest stress (late term pregnancy and farrowing) and are the most immune-compromised. In addition, syndromes like uterine or rectal prolapse most commonly occur in the days around farrowing. How can farms use this information to help reduce sow mortality? Ideas may include monitoring late gestation sows multiple times each day, increasing staffing for sows actively farrowing so more often someone is present for a difficult farrowing or can quickly intervene when farrowing difficulties occur.

Are further complications, like retained pigs or uterine discharges the result of poor farrowing technique? Does your farrowing staff recognize trouble or high-risk sows before and after farrowing to be able to implement effective treatment or are delays leading to ineffective treatment? Are enough post-mortem exams performed or diagnostic samples collected to better understand cause of death? Contact your Swine Vet Center veterinarian to help with diagnosing causes of sow mortality in your herd and help determine ways to reduce effects of this frustrating problem.

SOW MORTALITY BY STAGE/WEEK (2013-2017)					
	2017	2016	2015	2014	2013
Gestation 1	4.1	4.0	4.4	4.5	5.0
Gestation 2	5.6	5.7	5.9	6.2	6.2
Gestation 3	7.0	6.6	7.0	6.8	7.3
Gestation 4	6.9	6.1	6.6	6.6	7.0
Gestation 5	5.4	5.2	5.4	5.0	5.7
Gestation 6	4.7	4.9	5.2	5.0	5.1
Gestation 7	4.9	4.5	4.8	4.8	4.8
Gestation 8	6.6	4.5	4.4	4.2	4.0
Gestation 9	5.4	4.1	3.9	4.0	4.0
Gestation 10	4.2	4.3	4.0	3.8	4.0
Gestation 11	4.0	4.2	4.2	3.8	3.7
Gestation 12	4.0	4.0	4.0	3.6	3.9
Gestation 13	3.9	4.4	4.0	4.1	4.1
Gestation 14	4.2	4.6	4.5	4.3	4.2
Gestation 15	5.2	6.0	5.7	5.6	5.6
Gestation 16	9.8	11.7	11.0	11.6	11.1
Gestation 17	13.5	14.3	15.0	16.0	14.4
Lactation 1	84.5	76.3	74.6	66.8	64.4
Lactation 2	11.7	14.4	20.2	22.9	25.5
Lactation 3	3.9	9.3	5.2	10.4	10.1

## BI Announces 2019 PRRS Research Awards: CONGRATULATIONS TO SVC'S DR. ALYSSA BETLACH !

Boehringer Ingelheim Vetmedica announced the 3 recipients of this year's PRRS Research awards at the AASV meeting, held this March in Orlando, FL. The Respiratory Disease Research Board, consisting of seven independent swine veterinarians and researchers, reviewed several exceptional proposals before making their final decision. More than \$100,000 was awarded to support 3 outstanding research proposals. The following 3 recipients were selected as award winners in 2019:

**Alyssa Betlach, DVM**, Swine Vet Center, Saint Peter, Minnesota

- "Spatial and temporal detection patterns for *Mycoplasma hyopneumoniae* under controlled aerosol exposure for gilt acclimatization" *Congratulations Dr. Alyssa!*

**Juan Sanhueza, DVM, Ph.D.**, University of Minnesota, St. Paul

- "Toward the best testing strategy for PRRSv stability: time-to-negative processing fluids in breeding herds"

**Mariana Kikuti, DVM, Ph.D.**, University of Minnesota, St. Paul

- "Genetic diversity of PRRSv in piglets during an outbreak"

"The primary goal of these awards is to fund field-applicable research focused around key questions in our industry, and to do so in a collaborative fashion," said Reid Philips, DVM, PRRS technical manager, Boehringer Ingelheim. "We're proud to be a part of this effort to help move the swine industry forward in its understanding of respiratory disease, and we're excited to see how the outcome of these research proposals positively impacts the control and management of respiratory disease." Over the last 15 years, this program has awarded more than \$1.3 million to research costly swine diseases, improve