

# LITTER LETTER

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## **Calves Can Be Infected With Delta coronavirus:**

A recent study by Jung Eta Al showed that calves orally inoculated with Porcine Delta Corona Virus were infected but did not show clinical signs or lesions. This did not occur when calves were inoculated with PED. The significance from this would be that pigs may be able to become infected with Delta Corona Virus from contaminated trucks that had previously carried calves.

## **Pig Knows Phone App:**

Pig Knows has developed a format that works well on your mobile phones. If you go to [www.pigknows.com/m/](http://www.pigknows.com/m/) and then save this on your phone. This can be an easy way to look up individual sow information in the barn. If you save it to your "home" screen it should also retain your user ID and password. You would only need to enter the "customer ID" (SHS). Tap on the PigKnows login to bring up the menu.

## **New Rapid Foot and Mouth Disease Test and Vaccine Bank:**

A new diagnostic kit that could be used by first responders to detect foot and mouth disease has been licensed by USDA. This is the first kit that has been approved and will be manufactured in the United States. The test was developed through a public and private cooperative effort. This will work for multiple species that are affected by foot and mouth disease. Foot and mouth disease is a highly contagious disease in cloven hoofed animals including cattle, pigs and small ruminants. The major concern with foot and mouth disease would be the effect upon global livestock trade with the U.S. The estimated economic losses of a foot and mouth disease outbreak in the United States are near \$200 billion dollars in revenue over 10 years across multiple agriculture industries. The ability to rapidly diagnosis an outbreak is essential in the attempt to contain a foot and mouth disease infection in the United States. NPPC and many other ag groups are lobbying Congress to include funding for a FMD vaccine "bank" in the 2018 Farm Bill. Dr. Rodibaugh recently participated with over 20 other swine vets in visiting

with our elected representatives office, explaining the importance of this funding to agriculture.

## **Summer Cooling:**

As you likely know, pigs are not great at losing body heat to the environment due to their fat layer, skin and lack of sweat glands. The 3 methods of cooling commonly used for pigs include elevated airspeeds, direct and indirect cooling. Elevated airspeeds are the goal of tunnel ventilation or stir fans. These are effective if the air temperature is less than the pigs' skin temperature. In situations with a small temperature gradient the evaporation of water can be used for cooling. When water changes from a liquid to vapor heat is removed from a source to replace the heat required to evaporate water. With cool cells and evaporative cooling the air passing thru the cool cell removes the heat from the air and this is indirect cooling. With direct cooling water is sprayed upon the skin. The water that is used to wet pigs' skin results in the direct transfer of heat from the pig to the water. Several factors can affect the efficiency of cool cell cooling and because of maintenance, cost and other logistics this method is not very common for finishing pigs but is more effective for breeding herds and hallways providing air to farrowing rooms. With the direct cooling (spray cooling) sprinklers need to have sufficient pressure and large droplets in order to cover a large portion of the pen in a short period of time. Increasing airspeed in combination with water is very important up to about 400 ft./minute of air velocity. The effect of airspeed and direct cooling can be significant and settings should be dependent upon the size of pigs, the air speed and the temperatures. (think how it feels getting out of the shower and standing in front of the fan) Remember to match sprayer "off" time with how long it takes for the pigs to become dry. "On" time should be determined by the time necessary to properly wet all the pigs. We usually recommend starting spray cooling systems at around 150 lbs. and 82-84 degrees barn temperatures. Credits: National Hog Farmer, Brett Ramirez, Iowa State University

**Finisher Space Affects Average Daily Gain:**

A recent report from the Prairie Swine Center in Canada looked at the effects of finisher space in big pens vs more conventional penning. Results showed that at 250 lbs. pigs at less than 7.75 sq. ft. began to show suppression of average daily gain with no effect on feed efficiency. Therefore, the reduction in performance was due to reduced daily feed intake. There was no difference in the response between the large pens compared to conventional pens and the reduction in feed intake appeared to be related to the crowding as opposed to reduced feeder space

**Circovirus Stability in Sow Herds:**

There have not been reliable criteria established for determining if a sow herd is "unstable" to circovirus. Some recent reports have attempted to establish various sampling methods in order to determine stability of a sow herd. A paper by Schulte and others compared testing of colostrum, umbilical cord, serum, sow serum and piglet serum. Colostrum showed the highest detection of PCV2 suggesting that it might be the most sensitive indicator of PCV2 presence in the sow herd. However, there was no correlation between sow serum and the positive colostrum or umbilical cord serum from pigs out of those sows. Another study by Knox and others collected serum from 60 sows and their litters in a commercial sow herd. This was a system where there were signs downstream of PCV2 in late nursery and early finisher pigs. In this study some of the sows were re-vaccinated for PCV2 5 weeks prior to farrowing. Sow and litter serum samples were all negative while navel cord serum, colostrum and environmental samples had varying number of positives. However, no correlations could be made since sows' and pigs' serum samples were negative. The environmental sample detection rate was lower in the samples from the sows that had been vaccinated in gestation than those without vaccination. In this study there was no difference in total born, stillborn or mummified pigs between the sows that were re-vaccinated and those that were not. A 3<sup>rd</sup> study by Ruston and others looked at a 10,000 sow farm that also had a recent history of circovirus problems in downstream grow/finish. 150 sow and litter pairs over a 3 week period were sampled looking at colostrum compared to umbilical cord tissue compared to umbilical cord serum. In this herd the highest percent positive samples were detected from colostrum and the umbilical cord serum and the author suggested that these sampling methods over a period of time would be the best for detecting circovirus stability. In this study they did not look at the correlation between umbilical cord serum and the colostrum. They did look at piglet serum and less

than 5% of the samples were positive, whereas 70-80% of the samples were positive for colostrum or umbilical cord serum. The author's speculation was that maternal antibody might be interfering with the detection of virus in the serum of pigs that had nursed. Therefore, some questions still remain as to the best way to consistently test sow herd stability for circovirus. In these studies the sequence of the virus that was detected was not determined. Additionally, care must be taken when attributing downstream circovirus problems strictly to sow herd instability. Concurrent disease and vaccination protocols could also be influencing disease levels.

Congratulations to Mr. & Mrs. Levi Barns of Donald E. Orr Farm, on their recent marriage.

Congratulations to Mr. & Mrs. Rueben Hufford of Long and Hufford Farms, on their recent marriage.

Congratulations to Margaret Jacobs and family of Burton Russell Farm, on the birth of their son.

Congratulations to Mr. and Mrs. Eric Nyberg of JBS United, on the birth of their daughter.

Congratulations to Mr. & Mrs. Todd Hammack of Davis Ag Farm, on the birth of their son.

Congratulations to Manda Adams of AMVC SHS, on her recent marriage.

Congratulations to Dr. Max and Carol on the birth of their grandson, Theo.

Congratulations to Cameron Mann daughter of Rob and Melinda Mann of CC Livestock, on Cameron's completion of her years as a student representative on the Purdue Board of Trustees.

Congratulations to Dr. Harker on being awarded AASV Meritorious Service Award!

