A practical guide to differential diagnosis in swine

3 – Abortion

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It is generally accepted that some 2% of sow pregnancies end in abortion. In these cases, an investigation must be carried out to identify causing agents. These could span anything from environmental factors, such as heat stress, to nutritional ones, such as toxins.

In autumn, there may be a natural increase in the abortion rate due to daylight fading, though this ought to remain sporadic. This can be fairly well counteracted by shrewd management of lamps regarding both time and intensity.

In some cases, abortions result from the consumption of drinking water which has been contaminated by yeasts or other bacteria. In other cases they result from too little water intake during early gestation.

Fusarium culmorum.

If the abortion outbreak is dramatic and affects a wide number of sows in the herd then it is likely that an infectious disease is entering into the herd (see table) without any specific timing and the sows often have fever and there are other signs from the disease in sows, aborted foetuses and newborn piglets.

Characteristic is PRRS abortion occurring mainly during the last gestation period.

In large farms a rise in the abortion rate may be more difficult to observe, though evidence may come from a drop in feed intake and weight along with vulvar discharge.

Mycotoxins may also be a causing agent. Aflatoxins, deoxynivalenol, fumonisins, zearalenone (ZEN) and ergot alkaloids can all play a significant role in fertility problems and abortions.

Pregnant sows' consumption of feed with high levels of ZEN, especially during early gestation, can lead to smaller litters and mummification.

Between days 7 and 10 of pregnancy are the most critical ones with a high rate of embryonic death. Moreover, if the feed contains low to medium amounts of ZEN during the whole gestation, this will result in smaller foetuses and large variations in the weight of piglets of the same litter.

Furthermore, ZEN can also lead to stillbirth and neonatal mortality and in the worst case it can even lead to the death of the entire litter. There is evidence that ZEN intoxication is linked to splay legs.

Decrease of feed intake and sometimes feed refusal have a self-limiting effect on mycotoxicosis. ■

Check list	Corrective action
Potential cause: MYCOTOXINS: Fumonisins, Zearalenone	
• Positive raw materials ELISA or feed HPLC • Origin of raw materials historically contaminated • Elevated sphinganine/sphingosine ratio in serum	• Check raw materials and feed • Hygiene of feed and water lines • Use Mycofix Plus at suitable inclusion rate
Potential cause: PATHOGENS: **VIRAL: African swine fever, Classical swine fever, Foot and mouth disease, PRRS, PCV type 2, Parvovirus, Influenza A virus** **BACTERIAL: Actinobacillus spp., Brucella suis, Erysipelas rhusiopathiae, Lawsonia intracellularis, Listeria monocytogenes, Leptospira spp., Salmonella spp., Streptococcus spp., Staphylococcus spp.**	
• Epidemiology • Symptomatology • Necropsy • Bacterial culture • Histopathology • PCR • ELISA • Immunohistochemistry (IHC)	• Biosecurity • Vaccination • Antibiotics
Potential cause: OTHERS: High environmental temperature, draughts, water deficiency	
• Check room temperature • Check water flow directly after feeding time	• Temperature range: 10-21°C • Water flow 1.0-1.2 litre/mins (min. 8 litre/day)

References are available from the author on request