

ASK THE VET...

ARE SYMPTOMS CAUSED BY ONE OR MULTIPLE PROBLEMS?

Duncan Berkshire (MA VetMB MSc CertPM MRCVS), from the North Yorkshire-based XL Vets Bishopton Veterinary Group, tackles a timely question on pig health

QUESTION:

We are having some problems in our finishers at the moment, including several sudden deaths. A proportion of the finishers, which arrive into fully slatted buildings at around 45kgLW from straw yards, appear very stiff and some are reluctant to rise. When they do get up they look out of breath and are breathing heavily. We have treated them for pneumonia and seen little to no response. Some of the sicker pigs also have blue ears. I am obviously worried about what we are seeing. Is there any disease that could tie all these signs together or are we seeing multiple problems here?

“When they do get up they look out of breath and are breathing heavily”

ANSWER:

That appears to be an interesting set of clinical signs that could well be linked to multiple issues on farm at first look. That said, for all of them to come on at a similar point in time would be unusual if they were not linked.

To encompass all the signs that you describe, it sounds like Erysipelas could be involved here, caused by a bacterium called *Erysipelothrix rhusiopathiae*. This relatively well-known disease can present in different ways and pigs certainly don't always show the classic diamond-shaped skin lesions – this is just one clinical picture of the disease. We have seen several very similar outbreaks to yours recently in pigs from as young as six weeks old.



Erysipelas lesions

Erysipelas is spread in faeces, urine, saliva and nasal discharges. These bacteria, unlike most others, are very resistant to drying out so they can live in the environment, particularly soil or muck, for long periods of time and this makes control very difficult.

Additionally, birds and mammals can act as wildlife reservoirs for the disease, making it more

challenging to eradicate Erysipelas from the herd. Erysipelas is often associated with straw-based systems where contact with soil occurs although, as with your outbreak, problems can occur in all systems even if exposure was earlier in the production flow.

Pigs affected very acutely with Erysipelas may initially appear to be off their food and be reluctant to rise. This acute fever can cause them to have blue-purple-red patches of skin that are usually seen on the ears, snout, jowls or abdomen. These pigs are unlikely to survive and death can occur within 12 hours of infection.

If they occur, the classic skin lesions can develop around 24 hours from onset and the lesions

will initially be warm and raised to the touch before turning red in colour. This is obviously very easily identifiable and something that many people would see on an individual animal basis and treat promptly. As previously mentioned, however, you may have outbreaks where no skin lesions are seen at all.

Erysipelas can also present in chronic form. The bacteria that enter the blood from an acute infection can settle out in several different areas of the body. This includes the heart valves where inflammation results in endocarditis, causing the valves to become stiff and have 'cauliflower-like' lesions growing on them. Severe lesions mean they fail to



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work correctly and allow blood to flow backwards against the desired direction of flow. This disruption to flow can often cause fluid to build up on the lungs and compromise breathing, making the pig appear to have pneumonia and be very lethargic. The reduced function of the heart also results in poor blood flow, particularly to extremities, resulting in the purple-blue discoloration of the skin sometimes seen. Sudden death can occur in these pigs when stressed due to congestive heart failure.

Another area where the infection in the blood stream can settle out is within the joints, causing arthritis. Pigs can present with stiffness through to severe lameness and is most commonly seen in finisher pigs. Feedback from the abattoir of an increased number of joint condemnations should also be seen as a possible result and taken into account.

In the breeding herd, Erysipelas can be associated with reproductive losses when infection takes place during pregnancy. Abortion, mummified pigs and stillbirth are all features of Erysipelas and are due to the fever experienced, causing foetal death. Vaccination plays an important role in protecting the adult herd and gilts should be vaccinated (usually a course of two injections) prior to their first serv-



ice. To maintain immunity, a booster is required every six months. Boars should also be vaccinated since the fever – as with any fever – is likely to cause subfertility for between six and eight weeks due to damaged sperm. Often this may only be realised as an increased number of returns comes through.

Breeding herd vaccination will provide a degree of cover to the piglets via the colostrum and this is why it is uncommon to see outbreaks in pigs younger than eight weeks of age, although not impossible. It is commonly thought that vaccinating the breeding herd will protect the growing herd. This is not the case, however, since once the maternally derived antibody from colostrum has waned, the pigs are susceptible to disease. There are certain circumstances where vaccination of the growing herd may be required, but your own vet will be able to advise you on this.

Also ask your own vet about laboratory diagnosis, since the diagnosis of acute cases can be carried out by culture, although often the classic signs witnessed, coupled with the effective response to penicillin treatment, means this is not always required.

Erysipelas infection in the chronic form of the disease can be more challenging to diagnose, although heart valve lesion culture can sometimes be rewarding. That said, a negative result does not rule out Erysipelas. Blood samples can be useful, but interpretation can be complicated in a vaccinated herd.

Treatment of Erysipelas in the early stages of the disease can be very rewarding since it is usually

very sensitive to the penicillins. Treatment can be administered on an individual pig basis or to a whole group through water or feed, depending on the situation on each farm. Once Erysipelas has become chronic and lesions are present, however, the disease is very hard to treat because irreversible changes have occurred that cause the clinical signs rather than the bacteria themselves.

Finally it is worth noting that Erysipelas is zoonotic, meaning it can be passed on to humans. The biggest risk of this is in the slaughter house and is the reason why pigs showing acute signs of Erysipelas are not permitted to be sent for slaughter.

Ask the vet...

Email your animal health questions to sophie.flourup@xlvets.co.uk