International Pig Topics

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Number: 121

Mycotoxins IX

Ergot

Ergot is a fungus (Claviceps purpurea) that affects cereal grains and is most often seen in rye, oats and wheat. This fungus invades the plant's ovary and forms an elongated, dark body known as a sclerotium. This sclerotium produces chemicals known as alkaloids, which cause gangrene and interfere with reproduction. The resulting condition is known as ergotism. This condition was also seen in man in Europe a few centuries ago and was associated with the consumption of contaminated grains and flour.

Aetiology and ergotism

Gangrenous ergotism arises from a combination of vasoconstriction and endothelia damage, which causes gangrene of the appendages. As a consequence of the venous and lymphatic drainage remaining undamaged, the gangrene is a dry gangrene.

Ergot alkaloids affect piglet productivity and vitality by suppressing prolactin, and hence milk production, in the sow. If not spotted and rectified quickly this can result in piglet deaths from starvation. Pregnant animals receiving ergot contaminated feeds produce underweight piglets with low survival and growth rates.

Clinical signs

Reduced feed intake is seen, which is associated with depression and rapid breathing and pulse. Lameness can be seen, especially in the hind legs.

Gangrene can be seen on the ears, tail and hooves, which is characterised by necrosis and sloughing of tissues, such as hooves and tail and ear tips. These signs can be worse in cold weather.

Levels of ergots as low as 0.1% have been associated with weight depression.

Differential diagnosis

Differential diagnosis should include consumption of zearalenone and other oestrogenic substances, bacterial infections and mastitis-metritis-agalactia syndrome.

Diagnosis can be confirmed by examining the feed for ergot sclerotia and/or ergot alkaloids.

Treatment

Gangrenous areas can be cleaned and treated locally and antibiotic cover given to control secondary bacterial infections.

Removal of contaminated feed will result in improving gangrenous lesions within two weeks.