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Health Quiz

NADIS Pig Health – August 2008 Porcine Ringworm

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Ringworm in the pig is one of the most confusing conditions that producers face in that it is not caused by a worm and usually in the UK – does not produce rings on the skin! The cause of ringworm is, in fact, a fungus. Most domestic species of animals have a specific form of the disease caused by their own targeted fungus. In the pig, *Microsporum nanum* is the primary cause but this is not seen in the UK. Most species of ringworm – irrespective of their primary host – are capable of jumping species and producing disease, including in man. Frequently this cross-species infection can lead to a longer-term infection than in the primary host. Within the UK, three types of ringworm are seen in pigs:

1. *Trichophyton verrucosum* – the cattle ringworm – largely only seen in backyard pigs in contact with calves.
2. *Microsporum canis* – the dog ringworm, which is actually more common in cats – and crosses over to pigs where cats and pigs mix. This means that the most likely infection will be in baby piglets where cats sleep in creep areas.
3. *Trichophyton mentagrophytes* – the rat ringworm. This is most commonly seen in outdoor sows and is associated with bedding derived from stacks in which rats have nested or simply within an environment heavily contaminated by rats.

Presentation

Rat ringworm in pigs can easily be mistaken for soil or faecal contamination of the skin. Rather than producing rings of inflammation it produces patches of up to 20cm in diameter usually on the neck, shoulders or back of a brown to orangey colour (figs 1 & 2). In rare cases it may appear as occasional rings (fig 1). Ringworm primarily attacks the hair follicles but, in this case, there is rarely hair damage or loss and irritation is minimal. Plucked hairs appear simply discoloured. Careful examination of weaners derived from affected sows may show mild lesions. The disease tends to be more common in winter. The disease can be seen as outbreaks in growers in heavily contaminated conditions (fig 3) including straw yards.

Because of the general lack of damage done by the fungus the disease in sows is of little economic concern, although can look quite dramatic and concerning.

Disease caused by *Microsporum canis* in young pigs is usually more ring like and damaging. Pruritus is more marked and the skin damage that results from the primary infection and the rubbing can precipitate greasy pig



Fig 1: Typical Ringworm in an outdoor sow; note the lower ring like lesions.



Fig 2: Mild ringworm in the sow with marked discolouration on the flank and neck.



Fig 3: Ringworm in growing pigs may have implication for carcass condemnation.

disease – an important and harmful bacterial dermatitis
[Link to Greasy Pig Disease Bulletin](#)

Ringworm in growing pigs must be distinguished from Pityriasis rosea – sometimes called false ringworm – which is an inherited, dramatic but harmless condition of individuals starting at 6-8 weeks and resolving totally by 20 weeks of age (fig 4).

Prevention

Logically, ringworm can be controlled in the UK by avoiding contact between species. Thus, calves should be kept separate from back yard pigs; cats should be excluded from pig houses (there are a range of diseases cats can carry and spread) and a rodent control programme is essential for all herds, with particular attention necessary outdoors to open straw stacks and areas around feed hoppers in paddocks, which form attractive housing for rats. Ringworm spores can infect wooden buildings and provide an ongoing source of disease. This is particularly important where cattle are involved

Treatment

Because of the mild nature of disease in sows and the practical difficulties of treating, therapy is rarely given or necessary. However, where severe, topical treatment can be given using products containing enilconazole – the veterinary surgeon can advise. (No products are licensed for pigs and thus a prolonged 28-day withdrawal period would be necessary.)

Historically, in feed medication has been available but this is no longer the case – the only available preparation available is only licensed for horses and, thus, is not suitable for food producing animals. Moreover, it should not be used in pregnant animals as it can produce foetal abnormalities.

Treatment of baby piglets with a fungicidal wash is appropriate where necessary, but care should be taken



Fig 4: Ringworm should not be confused with Pityriasis Rosea (more correctly called Porcine Juvenile Pustular Psoriasiform Dermatitis.)

not to chill them. Antibiotic medication may be appropriate to prevent secondary Greasy Pig Disease.

In growing pigs, as with sows, unless secondary bacterial infection occurs, there is little call for treatment. However, producers should be aware that if the disease is present in slaughter pigs – which in itself is very unusual – the skin is likely to require removal at dressing usually with a 6kg penalty on weight and downgrading of the carcass to an unclassified grade. Individually this can give a financial penalty of up to £20/pig.

It should also be noted that all forms of ringworm have the potential to act a zoonoses ie can spread to man.

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NADIS Health Bulletins are designed to improve farm income, animal health and welfare by promoting disease control and prevention.

Discuss how health planning can improve the profitability of your farm with your veterinary surgeon.

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