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Health Quiz

NADIS Pig Health – July 2007

Greasy Pig Disease

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Greasy Pig Disease is a bacterial infection of the skin of the pig, which is known by a variety of other names – Greasy Skin, Exudative Epidermitis, Marmite Disease. The primary cause of the disease is *Staphylococcus hyicus*, which is a common bacterium known to colonise the skin of many pigs without causing disease. As a group of diseases, it probably constitutes the most common skin ailment in pigs and is pathologically a dermatitis/epidermitis, the most significant feature of which is that it is non-irritant, making the skin condition easy to differentiate clinically from the other common pig skin disease – Sarcoptic Mange.

There are a wide variety of presentations of the disease, ranging from localised lesions on the body, including the ear tips, to whole body effects. The disease can occur in all age groups from soon after birth up to adults.

Development of Disease

The causative organism lives on the skin surface of the pig, but will require some form of trigger mechanism to produce disease.

This may be:-

- 1) Damage to the skin, either from fighting, other disease (e.g. Sarcoptic Mange, Pig Pox, Pityriasis Rosea) or injuries from floors, feeders or pen divisions.**
- 2) A film of grease or faeces over the skin, under which the organism can multiply.**
- 3) High humidity levels, producing a moisture layer on the skin, within which the organism can proliferate.**

Staph hyicus can be found on the skin of most pig populations but there appear to be various strains of the bacteria and it is possible that new variants can be introduced (usually with incoming stock) and cause outbreaks.

Clinical Presentation

In the young pig, up to 7 weeks of age, the most common presentation of Greasy Pig Disease is one of a brown to black development of scab appearance, starting usually around the shoulder and neck and spreading to part, or the whole, of the body. The younger it occurs, the more serious the consequences. It can occur in the sucking piglet as young as 3-4 days and, at this age, can be lethal due to the disturbance that occurs to fluid balance.

At the young end of the scale, an acute ulcerative dermatitis can occur, particularly on the soft skin of the abdomen and



Fig 1: The classic form of Greasy Pig Disease in a weaner pig.



Fig 2: Erosion of the ear tips secondary to *Staph Hyicus* infection (ear tip necrosis)



Fig 3: Severe ulcerative dermatitis in a sow associated with *Staph hyicus* infection

chest and can easily be mistaken for a contact ulceration (e.g. due to disinfectant or lime washing). This form of the disease can be seen as young as 24 hours old and is often fatal.

Occasionally *Staph hyicus* can be involved in facial necrosis – the blackening of the skin of the face that results from teeth damage from litter mates where teeth clipping is not practiced. (*Fusobacterium necrophorum* is the more common cause of this disease).

Moreover, discreet dermatitis will commonly occur around the head, neck and shoulders of weaned pigs as a result of colonisation of skin wounds – themselves the result of fighting – by *Staph hyicus* that is present on the skin. This form of the disease will often appear to spread throughout a group of weaners.

As older weaners and growers, the aftermath of earlier widespread greasy pig disease in individuals can be seen as part of the healing process. The skin will appear shiny, often hairless and have a distinct orange tinge to it. This healing process can be extremely slow, to the extent that it can still be unhealed by the time the pig reaches slaughter weight, resulting in condemnation of the skin.

Staph hyicus is implicated in the development of dry gangrene of the extremities – affecting the tail of young piglets, often before tail docking has occurred and the ear tips of weaners of 6-7 weeks upwards. The latter result is ear tip necrosis, an unsightly but apparently inherently harmless condition.

Localised greasy pig lesions can also occur on the legs of weaned pigs, starting at the foot and gradually creeping upwards. Here, primary damage occurs close to the coronary band of the hoof, allowing penetration of skin colonising bacteria.



Fig 4: Chronic recovering Greasy Pig Disease in a finisher likely to lead to skin condemnation and down-grading at slaughter

A further manifestation of greasy pig disease occurs in adults. Here, discreet superficial black lesions occur, usually over the back – are non-irritant and apparently harmless. They may reflect some form of immune incompetence in the individual animal – lesions often remain for life and prove intractable to treatment and litters of affected sows may well show classic greasy pig disease early in life.

Finally, a rare and fatal form of *Staph hyicus* infection is reported in individual sows, in which the whole of the skin is affected, becomes progressively thickened and wrinkled (like rhinoceros skin) and progressive severe loss of condition occurs. These animals are usually euthanased.

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Treatment

As a bacterial infection, Greasy Pig Disease responds well to antibiotic treatment, provided:-

- 1) The antibiotic used is effective against the strain involved.**
- 2) Sufficient dose is given for sufficient duration.**
- 3) The antibiotic used penetrates into the skin in sufficient concentration.**
- 4) Treatment is given early**

Lincomycin, the penicillins and cephalosporins are most effective as injectable or orally applied treatments. Use of topical antibiotics direct onto the skin can be useful but there

are no licensed products available in the UK for this purpose, although the advising veterinary surgeon may be able to prescribe “off licence” products.

For the young piglets, hydration is vital and any suckling pigs should be given electrolytes if Greasy Pig Disease occurs.

The use of soap (e.g. Savlon) can be a useful adjunct to treatment to remove the grease film over the skin and kill skin bacteria locally.

Any concomitant disease that is acting to trigger Greasy Pig Disease (e.g. Sarcoptic Mange) must also be treated.

Prevention

If any one feature can be highlighted that will precipitate development of lesions, it is skin damage, either as a result of fighting, abrasion by floors or injury on pen divisions etc. Any control programmes must take this into account. Fighting can be reduced by minimising mixing and moving, maintaining stable groups and ensuring free access to feed, water and lying space. Teeth clipping will reduce damage to skin from fighting (it should be done within the first 3 days of life). Fighting at weaning can be reduced by temporarily leaving pigs in the dark or spraying with a deodorant (e.g. Maskomal: Antec), washing

pigs in weak soap solution (e.g. Savlon) or disinfectant (e.g. Virkon S) prior to mixing. The latter techniques can reduce skin colonisation as well.

In addition, in the face of a clinical problem, many farms will wash pigs in Savlon or Virkon S (Antec) to reduce skin contamination and thus reduce the risk of secondary infection with *Staphylococcus hyicus* into fight wounds. Care is needed not to chill pigs and to avoid excessive humidity whilst maintaining satisfactory airflow.

Where lesions start around the feet, attention to flooring is essential.

In farms where long standing intractable problems occur, use of strategic (in feed or in water) medication may be appropriate in

anticipation of disease developing and, in some cases, autogenous or farm specific vaccines can be prepared to apply either to sows or to young pigs.

Cost

The cost of GPD to the pig industry as a whole has not been quantified and the effect on individual herds is highly variable.

In young pigs, mortality can reach 5% in severe outbreaks equating to a loss of £1200 in a 300 sow breeder feeder herd for a problem lasting 6 weeks plus treatment costs.

As with most diseases, chronic low grade problems that continue over a long period of time can also be costly. Growth depression in affected pigs can be up to 10% throughout life – adding 2 weeks to age at slaughter in those animals. Thus in

the 300 sow breeder feeder farm with a 5% incidence over a year, the disease can cost £1000 plus treatment.

Where chronic disease is present at slaughter, the price penalty resulting from condemnation of the skin and downgrading can be £20/pig (6kg condemned and 20p/kg for downgrade) for a 75kg carcass.

No figures are available for the cost of localised lesions (such as ear tip necrosis) but the cost in terms of pig welfare should not be neglected.

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

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