

NADIS disease bulletins are written specifically for farmers, to increase awareness of prevalent conditions and promote disease prevention and control, in order to benefit animal health and welfare. Farmers are advised to discuss their individual farm circumstances with their veterinary surgeon.

## Leptospirosis

Infertility in sows can result from a wide range of causes, both of an infectious and non infectious nature. The latter includes management factors, nutrition and environment. Disease can play a role, although in Great Britain many of the specific reproductive diseases do not occur e.g. Brucella suis, Aujeszky's Disease. PRRS, Parvovirus and the vaginitis/endometritis (discharge) syndrome probably are the most frequent infectious causes of infertility in this country.

The causes of post service vulval discharges in association with an elevated return to oestrous are many. They may be due to poor hygiene around service with environmental organisms (E coli, Streptococci etc) gaining entry to the vagina and penetrating upwards. Alternatively, specific agents may be implicated. One such is Leptospira bratislava (Australis Gp).

### Leptospiras

Leptospiras are spiral bacteria, which are associated with a wide range of diseases in many species. One of the best known is L.icterohaemorrhagiae, the cause of Weils Disease in man.

L.pomona is a specific, severe cause of reproductive loss in pigs (including abortion) but has not occurred in the UK. In this country, L.bratislava may be the cause of specific disease pattern in sows but, unfortunately, tends to be used as a bucket diagnosis for reproductive failure, frequently without any diagnostic backup.

### The Disease

L.bratislava is not associated with illness in pigs, its effects being restricted to reproductive damage.

#### *The signs seen can include:-*

- 1) An elevation in returns to service both at regular 3 month intervals and at abnormal times (e.g. 28-35 days post service).
- 2) Mucopurulent discharges will occur 2-3 days before the sow demonstrates a return to oestrous.
- 3) Abortions may occur, particularly in late gestation.
- 4) Increase in weak pigs born, stillbirths and mummification are also typical features of a true leptospiral infection.
- 5) Where confirmed cases do occur, they are frequently seen in established herds affecting gilts only, suggesting that sows have some immunity.

### Diagnosis

Confirmatory diagnosis is difficult to achieve. Demonstration of the organisms by fluorescent antibody test (FAT) in aborted material or in the reproductive organs of culled sows provides strong evidence of its involvement. Serology is confusing. Where a recent infection has occurred, the MA titres will rise dramatically (into the thousands) but will fall rapidly (within weeks).

It is common practice to blood sample a herd suffering reproductive failure and find titres of 1:50, 1:100 or even 1:200 in some animals. It is very dangerous to assume any significance in such results. Low level titres may be present in the normal herd and there is some degree of cross reaction with the many other serotypes present in and around the pig farm, particularly in rodents and other wildlife (hedgehogs, foxes, badgers etc).

Despite a commonly held view, there is no evidence that *L.bratislava* has a seasonal incidence appearing on the spring and autumn. This belief seems to have arisen simply because such a pattern is seen in cattle affected with a totally different serotype – *L.hardjo*.

### **Treatment**

Where the disease is confirmed, herd treatment with antibiotics is appropriate. This can take the form of:-

- 1) Blanket herd injection as a single or double treatment with streptomycin.
- 2) Injection of sows/gilts at service with streptomycin or potentiated sulphonamides.
- 3) In feed medication with tetracyclines, although dose rate is important. A dose of 10mg/kg liveweight is needed and for large sows on low feed levels, this can require, for example, 10kg per tonne of 10% chlortetracycline premix.
- 4) Regular treatment of boars (e.g. every 6 weeks) with streptomycin injection or sheath washing using oxytetracycline.

All treatments must be done under the direction of a veterinary surgeon.

### **Prevention**

No vaccines are currently available in the UK to control *L.bratislava*, although they are available in Europe.

Other species can act as a reservoir of infection for pigs e.g. rats but it must be remembered that the rats are not the primary source – pigs are. Rodent control should be a priority in and around all pig farms.

Attention to hygiene in service areas is vital, with regular washing and disinfection. In outdoor units, care is needed with wallows that harbour infection.

There is some evidence that venereal spread is a major part of the development of the disease and the exclusive use of AI is likely to be of benefit.

### **Conclusion**

Leptospirosis in pigs is overdiagnosed in the UK. Whilst it may be the cause of specific episodes of reproductive failure, it is wrong to assume that it is the cause of all bursts of infertility with a knee jerk reaction to reach for medication.

*Mark White BVSc DPM MRCVS*

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