

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.

PMWS Update

Post Weaning Multisystemic Wasting Syndrome (PMWS) and its associated condition Porcine Dermatitis Nephropathy Syndrome (PDNS) have been present in the UK for the last 3 years and the diseases have gradually spread throughout England, such that they are now seen in all areas. Scotland, however, remains largely unaffected for reasons that are not at all clear.

There is still an awful lot that is unknown about these diseases, not least the true cause. Research work continues to point towards Porcine Circovirus type II as the primary cause and yet experience in the UK indicates that this is a new infection spreading through breeding pyramids and in geographical clusters. Porcine Circovirus type II is ubiquitous having been shown to be present for 30 years or more in the pig population. Moreover, a widespread study of farms in Scotland and the north of England in early 2000 showed all farms to be infected with Porcine Circovirus type II at a time when the disease had not been seen in these areas. It is known that some alteration to the immune system is needed for Porcine Circovirus type II to have a harmful effect and this may suggest that another agent – probably viral and hitherto unidentified – acts on the pig at an earlier age – possibly around weaning or even earlier – to trigger the problems. An alternative explanation is that there has been a shift in Porcine Circovirus type II to render it more pathogenic but in a way that does not allow differentiation between the “old” harmless strain and the “new” pathogenic strain by blood testing. If such a change has occurred, it would appear that immunity to the old strain is not protective against the new.

A further feature of the disease as it has spread throughout England is the apparent change in its manifestation. The early reports from southern England and East Anglia indicated that the PMWS component presented as primarily a respiratory disease with fading and high mortality followed by high incidence of PDNS. Mortality rates of 30% plus have been regularly reported with very low recovery rates. Whilst some severe outbreaks have been seen in the north of England, generally the character of the disease has changed:-

- 1) Diarrhoea (profuse, watery and yellowy-green) with loss of condition is the predominant sign.
- 2) Losses generally are in the region of 8-15%.
- 3) PDNS is only seen as a sporadic disease of growers rather than in the epidemic form.
- 4) Better recovery rates – up to 60% of affected pigs can recover.

The reason for these differences are unclear, although the possibilities are:-

- a) Alteration in the pathogenicity of the primary cause.
- b) Differences in housing and husbandry.

- c) Differences in background disease levels on a regional basis.

Control

Most producers affected by the disease will be familiar with the existence, if not the detail, of the French 20 point plan. The majority of these points are no more than a re-emphasis of sound husbandry practice but it is worth reviewing some of what would appear to be the most significant factors.

a) **Weaning Age and Fostering.**

Rather than looking at average weaning ages the minimum age and spread of ages within a group seem most significant with 26 days the minimum cut off. Cross fostering can be used to even up litters at birth (within 36-48 hours) but further fostering beyond this age appears to exacerbate later disease – probably due to more mixing of bugs and wider spread of ages within a weaning group.

b) **Hygiene**

There seems little doubt that PMWS is a primary infectious condition and, as such, it is no surprise that improving hygiene will help. This may have to include cleaning beneath slats for weaners and early growers', attention to rodents, birds and flies are also critical.

c) **Mixing and Moving**

The more moving and mixing that goes on in the first 3 months of life, the more the disease will develop. Smaller rather than larger groups is an advantage.

d) **Management of Sick Pigs**

Assuming the infectious nature of the disease, it is reasonable to assume also that affected pigs are a rich source of infectious agents and, if left within the pen or within the same air/dunging space, the disease will build up. As with all infectious diseases, failure to remove sick pigs will exacerbate the disease and give those affected pigs little chance of recovery. Some advocate instant euthanasia of affected pigs although there is some suggestion that this may lead to excessive mortality as some pigs are destroyed unnecessarily. Rapid removal to a separate hospital remains the favoured option.

e) **Space Provision**

The Welfare of Livestock Regulations 1994 – later updated – imposed limits on stocking rates. In practice, the space requirements can only be approached in fully slatted accommodation with straw yards at the opposite extreme requiring up to 2.25 times the legal limits. However, the legal limits have never been based on any proven science and whilst they are minimum space requirements, many producers regard them as optimum. As a very broad generalisation, the most severe outbreak of PMWS is associated with herds operating to the limit of stocking. Experiences are beginning to show that increase in space provision by 30-50% in all types of accommodation have led to reduction in mortality. Conversely, herds that have increased the sow herd output to compensate for raised grower mortality have simply overstocked the weaners and made matters worse for growers!

f) **Treatments**

The effect of PMWS on the pig is to severely compromise the immune system, opening the door to secondary disease. In all cases, the predominant secondary

diseases should be diagnosed and specific treatment programmes introduced to control them. In particular, there is a need to maintain vaccination regimes where appropriate, for example Enzootic Pneumonia, PRRS. The implication of piglet vaccination in the development of PMWS appears to be little more than scare mongering.

Severely affected herds have resorted to the fairly desperate techniques of serotherapy – using the serum from supposedly “recovered” animals to treat young pigs i.e. prevent development of the disease. Some anecdotal reports suggest a benefit but the evidence remains flimsy. The technique carries enormous risks, as well as being legally questionable (depending on specific features) and should only be considered under full veterinary guidance.

Mark White BVSc DPM MRCVS

Copyright © NADIS 2002