



**Postweaning Multisystemic Wasting  
Syndrome (PMWS) and Porcine  
Dermatitis and Nephropathy Syndrome  
(PDNSP)**

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**Emerging Disease Notice Update**

This paper reports on developments regarding PMWS and PDNS since CEI's two emerging disease notices dated March 2001. Most of the information described here comes from [thePigSite.com](http://thePigSite.com), which maintains a special section devoted to these two syndromes and which appears to have the most complete and up-to-date information available. Several recent conferences held in June, October, and November, 2001 in the UK (Jun, Nov) and France (Oct), were in large part, or exclusively, devoted to the syndromes. Information from these conferences was summarized at [thePigSite.com](http://thePigSite.com). Papers or discussions about these syndromes generally refer either to PMWS and PDNS together or to PMWS alone, but not to PDNS alone.

### **Prevalence**

- Britain's Meat and Livestock Commission reported that PMWS and PDNS now affect up to 40% of Britain's pig farms, and the two syndromes are estimated to have cost the swine industry \$31 million in 2001. PMWS/PDNS were first reported in the UK in 1998.
- In Denmark, only 4 farms have contracted 'clinical' PMWS to date, although porcine circovirus 2 (PCV2) is present in most herds. One possible reason for the absence of PMWS is that the Danes decided several years ago to breed out the halothene (stress) gene from their breeding herd. This has resulted in a significant reduction in transport mortality but could also be helping with PMWS.
- Veterinarians in the Netherlands estimate that 25-50% of pig farms are affected with PMWS and PDNS. The disease appears in all types of pig farms, large commercial farms as well as in eco-farms.
- A large national survey in the US (NAHMS Swine 2000) showed an estimated 5.7% of sites with nursery-age pigs reporting that PMWS was present. This varied by herd size, though, with over 20% of large sites (>10,000 total inventory) reporting PMWS.

### **Ongoing Research: Risk Factors and Spread**

- PCV2 has been established by researchers as the initiating agent in PMWS, although the

syndrome cannot be reproduced by inoculation of PCV2 alone, and PCV2 infection is common and usually non-pathogenic. Research published in [The Pig Journal](#) suggests some specific co-factors that may lead to development of PMWS. There is evidence that PMWS may result from an overwhelming challenge to the immune system when pigs are weaned early, meaning at 3-4 weeks of age in the UK. Other research suggests that the growing use over the last few years of a multiplicity of vaccines in young pigs may also be a contributing factor; again, the hypothesis is that the early-weaned pigs' immune systems are overwhelmed.

- Reports and discussions from conferences implicated birds, pigs, and artificial insemination in the spread of PMWS/PDNS. Overstocking appears to be a major contributing factor.
- Proximity was also implicated in the spread of PMWS/PDNS. A British study showed that herds with PMWS and PDNS were 9 times more likely to be within 3 km of another affected herd than were nonaffected herds. Larger farms and those that purchased greater numbers of replacement stock were also more likely to report PMWS/PDNS.

## **Prevention and Treatment**

- Based on recent PMWS/PDNS conferences, [thePigSite.com](#) issued 3 golden rules for controlling PMWS. These are: (1) Limit pig-to-pig contact, (2) Stress is a killer, and (3) Good hygiene.
- A US study found that Virkon S (a commercially available disinfectant) was the only disinfectant to achieve a 4-log reduction against the PCV2 virus. This is significant because a 4-log reduction is recognized as the pass requirement for an effective disinfectant and PCV2 is well known to be highly resistant to disinfectant inactivation.