



**Postweaning Multisystemic Wasting
Syndrome**
March 2001
Emerging Disease Notice

This report reviews current information regarding a worldwide emerging syndrome affecting the pork industry - Postweaning Multisystemic Wasting Syndrome (PMWS). This poorly understood syndrome sometimes, but not always, occurs on commercial pig farms simultaneously with another emerging syndrome in swine - Porcine Dermatitis and Nephropathy Syndrome (PDNS). The relationship between the two syndromes is unclear.

Summary

- In recent years this syndrome has become of significant concern to the pork industry in many countries, particularly Canada, the United States, Europe and the Far East.
- The syndrome affects pigs mainly between 6 and 14 weeks of age.
- PMWS is characterized by wasting, pneumonia, diarrhea, jaundice, and enlarged lymph nodes. Clinical cases may occur in a herd over many months, reaching a peak after 9 - 12 months and then gradually declining.
- The syndrome is associated in part with a porcine circovirus type 2 (PCV-2) and simultaneous infections with porcine parvovirus (PPV), porcine reproductive and respiratory syndrome virus (PRRSV), and mycoplasma.
- To date there is no vaccine available, nor effective treatment. Prevention of the syndrome is based on biosecurity precautions and good husbandry practices.

Background

Postweaning Multisystemic Wasting Syndrome (PMWS) is a syndrome of young pigs that was described first in Canada in 1994. In recent years this syndrome has become of significant concern to the pork industry in many countries, particularly Canada, the United States, Europe and the Far East.

The syndrome mainly affects pigs between 6 and 14 weeks of age. PMWS tends to be slow and progressive with a high fatality rate in affected pigs. Clinical cases may occur in a herd over many months, reaching a peak after 9 - 12 months and then gradually decline. Morbidity in the

affected pigs is highly variable ranging between 5 - 50 percent, and mortality could be between 5 - 80 percent. Both large and small herds in various management systems are affected, including "continuous flow" and "all-in-all-out". A high proportion of cases of PMWS are associated with continuous production and the mixing of different sources of pigs. The syndrome is commonly seen in "high health" herds.

Clinical and Pathological Signs

The clinical signs are quite variable. Affected pigs may show signs of chronic wasting, respiratory distress, diarrhea, incoordination, paralysis, pale skin color and blue ears. Pigs usually demonstrate a decrease in growth rate and, occasionally, jaundice. The carcass is emaciated with enlarged spleen, lymph nodes and kidneys. The lungs are usually rubbery and mottled.

Etiology

The syndrome is associated in part with a porcine circovirus type 2 virus (PCV-2) and simultaneous infections with porcine parvovirus (PPV), porcine reproductive and respiratory syndrome virus (PRRSV), and mycoplasma. It appears that most infections are subclinical. It is not known why some infections result in clinical manifestation of the syndrome.

Diagnosis

Differential diagnosis includes other conditions that can cause wasting in pigs. These include infectious diseases like PRRS, swine influenza, illeitis, and enzootic pneumonia. There are also some noninfectious causes of wasting in pigs that should be ruled out such as failure to adjust to solid diets, and a variety of management factors such as high stocking densities and continual production.

Treatment and Prevention

Antibacterial medication is usually ineffective and there are no vaccines available. Pigs are reported to respond well to injections of corticosteroids, with improved growth rates and reduced mortality.

Additional information and update on this syndrome can be found on the following web sites:

<http://www.thepigsite.com>

<http://www.pighealth.com>

<http://www.npa-uk.net/health.html>

If you seek more information or wish to comment on this worksheet, please contact Milo Muller at (970) 490-7844.

Information sources:

Spillane P. Personal experience of post-weaning multisystemic wasting syndrome and porcine dermatitis nephropathy syndrome. *The Pig Journal*. 2000;46:113-115.

Collins JE, Rossow K. New and emerging diseases of swine. *Large Animal Practice*. 2000; May/June:32-33.

Gresham A, Giles N, Weaver J. PMWS and porcine dermatitis nephropathy syndrome in Great Britain. *Veterinary Record*. 2000;147:115.

Swenson SL. Emerging Diseases of Swine. In: USDA/APHIS/VS. *Foreign Animal Disease Course*; February 2000.

Thomson J, Smith B, Allan G, et al. PDNS, PMWS and porcine circovirus type 2 in Scotland. *Veterinary Record*. 2000;146:651-652.

Anonymous. PMWS*circovirus*PDNS - emerging diseases of swine. Featured article. (<http://www.pighealth.com/circovirus.htm>).

Armstrong D. Health Forum - A questions and answers session on both PMWS and PDNS. National Pig Association (UK). (<http://www.npa-uk.net/health.html>).

Armstrong D. PMWS and PDNS Forum - Frequently asked questions. National Pig Association - health forum. (<http://www.npa-uk.net/health.html>).

Muirhead M. Disease focus - postweaning multisystemic wasting syndrome (PMWS). The Pigsite Featured Article. October 2000. (<http://www.thepigsite.com>).