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**Low environmental temperatures: A trigger for disease in swine in Denmark.**  
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**Introduction:**

In Denmark – as in other European countries -we have experienced a lot of trouble with PMWS in the last few years. During the summer of 2006, it seems that the disease is almost nonexistent in most herds. But in the last two winters, many pig veterinarians have had experience with cold temperature triggering acute outbreaks of PMWS/PDNS and other diseases in both weaner- and grower pigs. This will be described with 5 typical case studies.

**Case 1:** 600 weanerpigs with a weight of about 8 kilo pr pig were every week by lorry transported from the sow farm to a weaner farm. We had no health problems until November 2004 where we noticed that the pigs upon arrival were quiet, a little depressed and not interested in the new environment looking for food and water etc. Laboratory investigation showed mild PMWS.

The manager of the sow-herd assured us that the pigs had been normal at departure. This happened 3 times in a row. Each time it took 16 days after arrival for the weaner pigs to recover completely and show normal behaviour. Next time we followed the pigs very closely and found that they were heavily chilled during the 1-hour transportation. Thereafter we transported the pigs in a well-insulated and heated truck.

The problem was solved immediately.

**Case 2:** Winter 2005/2006 300 30 kilo pigs were installed in a veranda slaughter barn with natural ventilation. The outside temperature was about 0° Celcius (C). The pigs showed signs of great discomfort the first days after arrival and 5 days later about 18 % showed severe signs of diarrhea and wasting. The clinical diagnosis was PMWS. 7 pigs were shipped immediately to the regional veterinary laboratory with the result, that there were only light signs of PMWS. However there was a very severe ileitis with necrosis of a large part of the small intestine.

The pigs were water-medicated with doxycyclinehyclat and the worst cases were injected with a single dose of Draxxin®. The sow herd was asked to make a better ileitis-control and the problem was solved.

**Case 3:** In another veranda slaughterbarn, we saw mycoplasma-arthritis few days after arrival. We treated with Lincomycin both in water and as injection and lost only a few pigs. The next time new pigs arrived, we measured the temperature of the slatted floor to be between 3°C and 7°C

degrees. In this type of barn, it is impossible to heat the slatted floor and the room, so we treated the next batch of pigs with Lincomycin for 5 consecutive days after arrival.

This solved the problem.

**Case 4:** In a conventional slaughter barn 7% of the 30- kilo pigs were diagnosed with mycoplasma-arthritis 14 days after arrival. The barns were washed with soap and disinfected. The day before the arrival of the next batch, the slatted floor had a temperature of about +10° C. The barn was warmed up so the slatted floor reached +16°C and we found no signs of mycoplasmaarthritis in this and the following batches..

**Case 5:** Winter 2004/2005 an SPF herdsman with slaughterpigs called for help as he was experiencing heavy losses ranging from 6 to 13 % of the pigs. 6 pigs were shipped for examination to the regional laboratory and they were diagnosed PMWS/PDNS. The 1,200 sow herd delivered 30 kilo pigs to 5 slaughter herds and had earlier had a light outbreak of PMWS. We checked with help from the sow herd and found, that there were absolutely no problems in 3 of the 5 herds, but only in herd number 4 and this herd number 5.

Herd number 4 was checked again and the problem was diagnosed as feed-induced stomach ulcer.

An investigation showed that the 30 kilo pigs were chilled during the 20 minutes transport, that the barn was washed with cold ( 8°C) water and that the pigs were fed cold (10°C) low energy liquid feed at arrival to the barn.

Afterwards the pigs were transported in a heated truck, the barn was washed with warm ( 20+° C) water and the pigs were offered high energy dry-feed the first 5 days after arrival. and the problems with wasting and PMWS disappeared instantly.

**Discussion:** The above 5 cases are representative for many other cases in Denmark, were it is obvious, that pigs - originating from sow herds, which have had PMWS even though having recovered completely - can break down with PMWS if exposed to cold environment.