

DIVERGING SIGNS OF PMWS IN SATELLITES BELONGING TO A SOW POOL AFFECTED BY PMWS

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Introduction

In sow pool systems, all dry sows are kept at a central unit and before farrowing they are leased by piglet producing units (satellites). Following weaning, the sows are returned to the central unit for mating. The system was designed in cycles of 16 weeks at the satellites, typified by the arrival of pregnant sows three weeks prior to farrowing, weaning on this unit at 5 weeks of age and return of sows to the central unit before the arrival of a subsequent group of sows eight weeks later. Satellites can also run two or four cycles in a parallel system, and in general there is time for adequate hygiene measures. In recent years some satellite herds have developed shorter cycles with a view to increased production, which has resulted in shorter times for hygiene measures.

PMWS was for the first time diagnosed in a satellite herd to a sow pool in Oct-04 (1). The sow pool had 22 satellites, and as sows rotate between satellites the possible spread to other satellites was obvious.

Materials and Methods

PMWS was diagnosed according to the case definition defined by EU (2). The 22 satellites were defined, including defining a theoretical max age at 25 kg bw. Hygienic measures between batches were standardised to 1 week. The performance of the sows in 3 PMWS-affected satellites was compared to that of 4 healthy satellites, and the performance of 415 dams to litters affected by PMWS was documented in detail and compared with the performance of the same sows during the consecutive mating.

Table 1 Rearing strategy and health status in the satellites

Batch interval	N	Batches at herd	Max age at 25 kg bw	Healthy	PM WS
16 weeks	1	1	84 days	10	0
8 weeks	2	2	84 days	6	0
4 weeks	4	4	84 days	1	0
7 weeks	2	2	77 days	1	3
3 weeks	4	4	66 days	0	1

Results

PMWS was diagnosed in one satellite in Oct-04. PMWS was diagnosed in another three satellites as the whole pool was scrutinised. Table 1 shows rearing strategies and the health status of all satellites at that time.

The productivity of the sows was equivalent in PMWS-affected and healthy satellites. The post weaning mortality was higher in PMWS herds, but so was the daily gain of their piglets (Table 2). Culling of 117 out of 415 sows (28%) was within the normal range of the pool. The remaining 298 sows performed equivalent to the previous mating. PMWS was diagnosed in their offspring if they

again farrowed in PMWS-affected herds, but not otherwise (Table 3).

Table 2 Productivity of sows and piglets

Satellites		PMWS	Healthy	t-test
N of Satellites	(batches)	3 (11)	4 (8)	-
Gilt litters	(%)	19.2±0.4	19.4±12.5	ns
Live born	(n)	12.0±0.4	11.8±0.5	ns
Weaned	(n)	10.1±0.4	10.2±0.4	ns
Age at Weaning	(days)	34.7±1.8	34.9±0.7	ns
Mortality PW	(%)	7.1±4.1	1.4±0.3	***
25 kg bw	(days)	62.8±4.1	81.6±3.1	***

Table 3 Sow performance at two consecutive farrowings

	PMWS- batch	Consecutive batch
Number of sows	415	298
Matings / pregn	1.0 ± 0.1	1.1 ± 2.0
Live born	11.8 ± 2.6	12.0 ± 2.8
Stillborn	0.6 ± 1.2	0.7 ± 0.1
Weaned	9.9 ± 2.2	10.2 ± 1.8

The affected satellites have returned to the 16-week cycle, and have also altered the feed regime in terms of avoiding soybeans and decreasing the protein content. To date, one of the deemed satellites have been declared free from PMWS. In Dec-05 a fifth satellite performing the 16-week system, but with severe management errors at the time, was deemed for PMWS. The other 17 satellites have remained healthy for the 15 months (Feb-06) that have passed since PMWS was diagnosed within the sow pool.

Discussion

The multifactor origin of PMWS was strengthened. Sows performed equally regardless of health status of their offspring. Despite that the sows were rotated through the system only satellites with intensified rearing systems were initially affected by PMWS. These herds had the highest production, but also the shortest time for hygiene measures and for rearing runts which frequently were downloaded to consecutive batches.

To struggle PMWS a long term focus and preparedness for occasional reversions are required. Disrupting chains of infections, avoiding change of feed during the post weaning period and using soy free diets with low levels of protein have given promising results (to be published). Affected herds do not automatically recover if they return to the 16-week cycle, maybe to some extent due to that they had at least two units and never repopulated on herd level. Further, PMWS was recently (Dec-05) for the first time diagnosed in a satellite employing the 16-week cycle.

References

1. Wallgren et al., 2004, VetQ. 26:170-187
2. www.pcvd.org / news / PMWS case definition

