



### How large litters do we need?

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#### Introduction

This study aimed to monitor the productivity of sows vaccinated or not against PCV2 in a herd that had regained health from PMWS since a year.

#### Materials and Methods

The study was carried out in a piglet producing herd with 280 sows that had been diagnosed with PMWS at herd level, but had been declared healthy since a year.

Every third week, 35 sows farrowed in perviously emptied and cleaned farrowing units. One turnover of the sows (8 batches) was followed in which 274 sows farrowed, 185 of these were vaccinated against PCV2 (Circovac, Merial) and 89 were left as controls. In order to obtain as robust results as possible, cross-fostering were minimised.

The total number of piglets born and weaned per litter was registered, and the piglets were weighted at weaning. Student's t-tests were used for comparisons between groups.

#### Results

No signs of PMWS were recorded in any pig post-weaning.

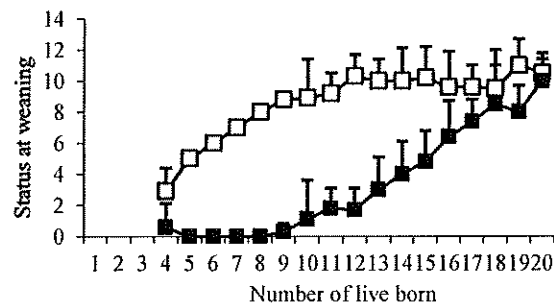
The number of weaned piglets ( $p < 0.01$ ) and the weaning weight ( $p < 0.05$ ) were reduced in litters delivered by sows that had been diagnosed with disease. In contrast, there were no differences in productivity between litters delivered by vaccinated or non-vaccinated dams until weaning (Table 1).

Table 1. Productivity of sows

	Vaccinated (n = 170)	Control (n = 79)	Sign
<b>Healthy sows</b>			
Parity number	3.4 ± 2.5	3.2 ± 1.7	NS
Totally born	13.8 ± 3.3	13.9 ± 2.1	NS
Born alive	12.5 ± 3.2	12.9 ± 3.2	NS
Weaned (5 weeks)	9.7 ± 2.0	9.3 ± 2.1	NS
Weight at 5 weeks (kg)	10.1 ± 1.8	10.3 ± 1.7	NS
<b>Sows with disease</b>			
Parity number	3.1 ± 2.0	3.7 ± 2.0	NS
Totally born	14.5 ± 3.1	12.9 ± 4.1	NS
Born alive	12.5 ± 2.1	9.5 ± 3.9	NS
Weaned (5 weeks)	7.1 ± 3.7	6.7 ± 4.0	NS
Weight at 5 weeks (kg)	9.1 ± 1.3	9.1 ± 2.6	NS

The piglet mortality increased when the litter size increased, resulting in a constant number of around 10 weaned piglets from an original litter size of 12 live born piglets or more (Figure 1).

Figure 1. Number of weaned piglets (□) and piglet mortality during suckling (■) related to number of piglets born alive.



#### Discussion

Vaccination of sows and/or piglets against PCV2 prevents PMWS (1), but the results obtained does not indicate any further positive effects of vaccinating sows when an affected herd has regained a stabile health status and seropositive sows balance the PCV2-infection. The study would have gained from weighing the offspring at a higher age, but the weight gain from weaning to market weight has repeatedly been shown equal in pigs vaccinated against PCV2 at three weeks of age and non-vaccinated controls in age segregated systems free from PMWS (2, 3).

Since crossfostering was kept to a minimum it was possible to evaluate the effect of litter size on sow productivity. It was evident that litter sizes above 12 liveborn piglets not increased the number of piglets weaned. Thus, pig producers ought to focus on piglet survival rather than on increasing the number of piglets born. Litter sizes greater than the number of teats of the sow will require either extra ordinary measures from the staff or demand nursing sows. The latter will however interfere with the aim to fulfil truly age segregated rearing systems.

#### References

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2. Ehlförsson CJ et al., 2010, Proc IPVS 21:424.
3. Sjölund M et al., 2012, Proc IPVS 22:submitted.