

REPRODUCTION RESULTS AND ECONOMIC PERFORMANCE IN SOW HERDS OF CONTRASTING PROLIFICACY LEVELS

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The development of hyper prolific sows has been associated with a dramatic increase in perinatal mortality. The objective of the present study was to re-evaluate possible other side effects of high prolificacy on reproduction, subsequent weaning-to-sale performance and global economic results in french pig farms.

This study was performed on data from the French National Pig Management database (GTTT-GTE): average 2007 annual reproduction (2 435 herds) or economic results (1 340 farms). Analysis was restricted to indoor production farms (selection or multiplication unit excluded). Herds were splitted in four groups according to their average annual litter size: 13 total born or less (TB13-, n=422), 13-14 (TB14, n=951), 14-15 (TB15, n=883), over 15 (TB15+, n=179). They were compared using variance analysis procedures with herd size as covariate. Largest litters were associated with the highest numbers of stillborn piglets (average \pm sd values for the TB13-, TB14, TB15 and TB15+ respectively: 0.8 ± 0.4 , 1.0 ± 0.3 , 1.2 ± 0.3 , 1.4 ± 0.3). Despite high total pre-weaning mortality (17.5 ± 5.0 , 20.5 ± 4.2 , 22.7 ± 4.1 , $25.4 \pm 4.3\%$), the size of weaned litters increased with total born (10.2 ± 0.6 , 10.7 ± 0.6 , 11.1 ± 0.6 , 11.5 ± 0.7). No detrimental effect of high prolificacy was seen on reproduction performance nor on sow longevity : weaning-to-first service interval 6.6 ± 2.2 days, weaning-to-effective service interval 9.6 ± 3.4 days, conception rate at first service 88.3 ± 6.7 % and weaned litters at culling 5.2 ± 1.1 (average \pm sd values n=2435 herds). Global annual productivity peaked in "TB15+" (27.9 ± 1.8 piglets weaned/productive sow, 22.6 ± 1.9 pigs sold/sow) and was minimum in "TB13-" (24.4 ± 2.1 piglets weaned/productive sow, 19.8 ± 2.3 pigs sold/sow). Performance during the subsequent weaning-to-sale period such as pig mortality (6.4 ± 2.6 , 6.3 ± 2.5 , 6.1 ± 2.1 , 6.0 ± 1.8 %), technical feed conversion ratio (2.67 ± 0.17 , 2.63 ± 0.16 , 2.61 ± 0.15 , 2.60 ± 0.13), and daily weight gain (664 ± 53 , 678 ± 43 , 682 ± 41 , 598 ± 35 g/day) were not impaired in prolific herds. The annual gross margin/sow differed from 200 euros between the extreme groups. Despite higher veterinarian and medicine expenses "TB15+" herds have better economic results mainly because of higher productivity and better feed efficiency.