Impact of farrowing induction practices on reproduction performances in pig farms

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Induction of parturition is a common practice, especially in large pig farms where it improves batch management. Various benefits have been reported including better supervision and more day-time farrowings, less stillbirths, healthier sows, easier cross-fostering, more homogenous ages and weights at weaning. Inadequate use or timing of treatments may also have side effects such as lower birthweight and viability (Olson et al., 2009, Can. J. Anim. Sci. 89: 219–228). Early disruption of normal pre-partum hormonal cascade could interfere with lactogenesis (Foisnet et al., 2011, J. Anim. Sci. 89: 3048–3059). Therefore benefit of induction may be questionable in prolific sows which already have high numbers of immature piglets. This study evaluates induction practices in prolific herds, and possible impacts on reproduction.

A survey was conducted in 2006 among 218 representative farms (production indoor herds >100 sows). Reproductive events and average results for year 2005, were extracted from the National Pig Management database. Data analysis was based on a subsample of 177 herds were 1st insemination was always recorded as the beginning of pregnancy. Three groups were compared according to their induction rates; HIGH (≥60% sows, n=99), LOW (0–40% sows, n=36), or NULL (n=42); and age at weaning (3 vs 4 weeks). Results were analysed using two-way ANOVA or CHI2 tests.

Farrowing induction was implemented in 77% farms, on average for 46% sows. Farms from the HIGH group were larger (p<0.001), but had similar other characteristics and same prolificacies (13.9, 13.9 and 14.0 total born for HIGH, LOW and NULL, p>0.05). Some potentially detrimental practices were identified: no estimation of spontaneous gestation length (45%), imprecise calculations (17%), no sow data in farrowing room (17%), induction <113 days or without minimum gestation length (7%). Gestation was shorter (p<0.001) in HIGH (114.2) and LOW (114.3) than in NULL herds (114.8), with no significant difference in early (<113 days) farrowing rates (6.2, 8.6 and 7.2 % respectively p>0.05). Extended pregnancies (>116 days) and rate of week-end births both differed (6.4, 10.9 and 21.0% respectively p<0.001). Lack of induction was associated with more variable age at weaning (CV=11.9, 13.7 and 14% for HIGH, LOW and NULL, p<0.05), and higher risks of short lactations (<19 days) among herds with 3 weeks weaning strategies (9.8, 9.1 and 21.9% for HIGH, LOW and NULL, p<0.05). Fertility, pre-weaning mortality and weaned litter size were both improved (P<0.05) in HIGH herds.

This work confirms the benefits of farrowing induction but suggests that quality of procedures should be regularly monitored to optimize piglet maturity.

The study was funded by France Agrimer and received technical support from "Chambres d'Agriculture de Bretagne" and pig producers organizations.