A TYPOLOGY OF SOW HERDS ACCORDING TO WEANING-TO-FIRST-SERVICE INTERVAL

SYLVIANE BOULOT [1], MARIE-LAURE MAINSANT [2], ELISABETH SALLE [2],
[1] *Ifip Institut du Porc BP 35104 - 35651 Le Rheu cedex - FRANCE*
[2] *CEVA Santé Animale, ZI la Ballastière BP 126 - 33501 Libourne cedex – France*
sylviane.boulot@ifip.asso.fr

Introduction

An increase in weaning-to-first-service interval (WSI) is likely to disturb batch management. It may also depress subsequent performances such as litter size or farrowing rate (3). This study was designed to update data about WSI variability in French sow herds, and to characterize different herd profiles.

Materials and methods

Analysis is based on 2004-2006 sow reproduction records that were extracted from the French national databank for pig farm management (GTTT). Records with irregular transmission or quality defects were ruled out so that the study was restricted to a sub-sample of 999 representative herds. Usual reproduction criteria were calculated at herd level and included distributions of WSI by duration or parity, incidence of cross-fostering or shortened lactations (2) etc… Data were submitted to PCA and hierarchical clustering analysis (SAS) in order to characterize different WSI herd profiles.

Results

Average WSI (6.1±1.2d.) exhibited large within-herds variations (mean CV=92 %), with differences between 1st parity (7.2±2d.) and parity 2 to 6 (5.9±1.1d). More than 90% of herds mated at least 80% of sows within 6 days post-weaning. Delayed (7-22d) or extended (>22d) WSI were found in almost all herds (99%), and respectively accounted on average for 7.5% and 3% of sows. Between herds variability remained important (Figure 1). More than 10% of services were delayed or extended, for respectively 25% and 3% of herds.

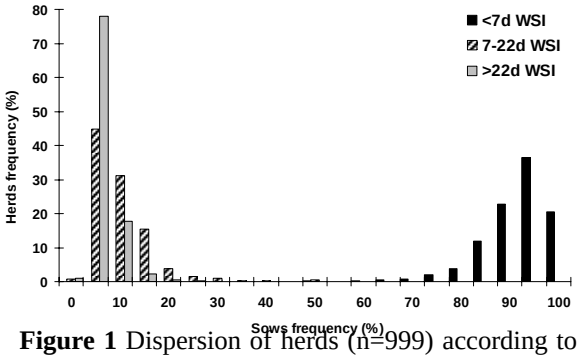

Figure 1 Dispersion of herds (n=999) according to WSI durations.

Four distinct herd profiles aroused from the typology (Table 1). Herds from A group (70%) were close to national average. B profile (20% herds) was associated to the best performances with highest rate of short WSI. They had a small size with frequent 4-wk weaning strategies (80% herds) and few shortened lactations (11%). C herds (4%) were characterized by large size, high fertility and prolificacy, but high rate of delayed WSI (12%). 3-wk weaning strategies were dominant with frequent shortened lactations (20%) and cross-fostering (80%). Herds from D profile (6%) showed severe reproduction troubles with low fertility and frequent delayed (18%) and extended WSI (7%). Despite lower prolificacy, 22% lactations were shortened.

Table 1 Main profiles characteristics (mean ±sd).

Profile (n)	A (696)	B (204)	C (38)	D (59)
WSI, d	6.1±1.0	5.5±0.8	6.3±0.9	8.0±1.2
4-6d, % sows	87.4±7.2	92.4±5.2	84.5±7.9	73.8± 6.2
7-22d, % sows	6.9±5.1	4.6±4.2	12.4±7.3	18.1±17.2
>22d, % sows	3.5±3.5	2.6±1.5	1.9±1.9	6.5±4.3
Fertility[1] %	90.3±5.0	90.2±5.2	92.6±3.8	86.3±5.4
3wk-weaning[2]%	34.2	18.6	92.1	59.3
Short lactation[3] %	12.9±9.3	11.4±9.0	19.7±9.7	21.5±12.2
Total Born	13.9±0.9	13.8±0.8	13.9±0.6	13.5±0.7
Weaned	11.0±0.7	10.9±0.6	11.2±0.5	10.3±0.5

(1) Conception rate at 1st service (2) % Herds
(3) % Litters, according to weaning strategy: ≤18d or ≤24d for 3-wk or 4-wk strategy, respectively.

Discussion and Conclusion

This study confirms that WSI variability and occurrence of delayed services are not negligible in many herds. Multiple causative factors include nutritional balance (3), oestrus detection, season, lactational oestrus (1) etc… Further investigation is required to identify risk factors and possible impact of litter management in different herd profiles.

References

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