Adequacy of insemination protocols with weaning day in pig farms

S Boulot[1], E Sallé[2], F Cade[1], B Badouard[1], M Collell[3]

[1.]*IFIP Institut du porc, Le Rheu, France,* [2.]*MSD Santé Animale, Beaucouzé, France,* [3.]*Merck AH Summit NJ, USA*

Miquel.collell@merck.com

Introduction

Labor constraints, are strong determinants of sow herd management (1). Changing weaning day is a frequent option to shift major week-end tasks, from farrowing to insemination (2). The aim of this study was to record recent weaning day choices in pig farms and to assess the adequacy of their insemination practices.

Materials and Methods

A survey was conducted among 214 pig herds randomly selected from the French National Pig Management database (metropolitan production indoor herds >150 sows). The questionnaire was e-mailed to farms for self-completion using Sphynxonline®. Questions (n=90), addressed five topics: weaning and breeding practices, pregnancy management, lactation and gilts. Average fertility at first service (TF1) and Total Born (TB) in 2012 were calculated for the 120 participating farms. Relationships between weaning day, insemination and performances were investigated through univariate analysis, using Chi^2 or GLM procedures, respectively for qualitative and quantitative data (3).

Results

Weaning is more frequent on Wednesday (60%) than on Thursday (37%), with only 3% on other days (4 herds excluded). Large herds and weaning at 21 days are significantly associated with Wednesday weaning (Table 1). More estrus detection and inseminations (AI) are declared on Sunday for Wednesday weaning. Though AI protocols are adjusted to weaning to estrus interval (WEI), for a given interval, position of 1st AI depends on weaning day. When WEI=4 days it is more frequently delayed over 18 hours for Wednesday weaning (Figure 1). Rate of multiple AI is similar (45% sows with 3 AI). TB (14.5 ± 0.67) and TF1 (90.0 ± 4.7) do not depend on weaning day, but practicing AI on Sunday is associated with better results (p=0.07 for TF1 and p=0.13 for TB).

Conclusions and Discussion

This study confirms overall French preference for weaning on Wednesday, with subsequent requirements for efficient estrus detection and insemination during the week-end. Most of the farms have coherent management, but data show variable or potentially detrimental insemination practices (no week-end AI or delayed first AI) in some herds, which can result in worse reproductive results.
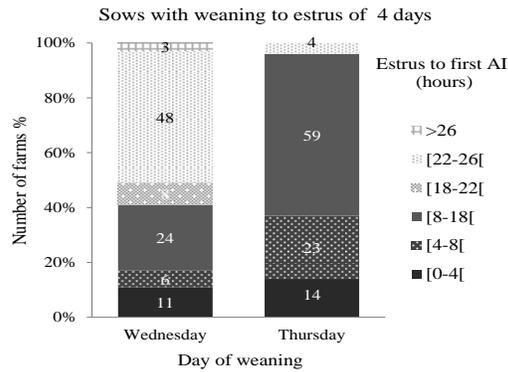

Figure 1. Distribution of farms according to day of weaning and position of expected 1st insemination for weaning to estrus = 4 days (116 farms, p<0.001, Fisher exact test).

Table 1. Main herd characteristics according to day of weaning. *(1) χ^2 or Fischer exact test, N=116 farms*

Number farms (%)		Day of weaning		p values (1)
		Wednesday	Thursday	
Herd size (sows)	<200	19	78	0.003
	200-400	60	45	
	>400	21	7	
Weaning at 21 days		65	48	0.06
Sunday detections		96	75	0.002
Sunday AI		80	41	0.001
Different AI protocoles		46	18	0.003
Specialized staff	detection	79	89	0.21
	AI	75	84	0.25

References

1. Knox RV et al. 2013. Anim Sci, 91:433-445.
2. Martel G et al. 2008. Livestock Science, 116 :1-3
3. SAS Institute 2009.Cary NC, USA.