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## Standard operating procedures for farrowing and lactating sows with piglets in Japanese commercial herds

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### Introduction and Objectives

Standard operating procedures provide a standard working tool that documents routine management and technical activities. The objectives of the present study were to compare the procedures between two herd productivity groups and to examine the relationship between the procedures and sow performance in commercial herds.

### Materials and Methods

Questionnaire forms regarding farrowing and lactational management procedures for sows and piglets were sent in March 2009 to 115 commercial breeding herds in Japan that used a recording system (PigCHAMP<sup>®</sup> Inc., Ames, IA, U.S.A.). The data from 96 (83.5%) returned filled questionnaires were coordinated with the 2008 reproductive sow data of the respective herds including number of pigs born alive (PBA), preweaning mortality risk (PWM) and adjusted 21-day litter weight (A21WT). The participated herds were grouped into the two herd productivity groups based on the upper 25th percentiles of pigs weaned per mated female per year: high-performing or ordinary herds. ANOVA was used to compare surveyed herd management procedures and reproductive performance between the two herd groups. Additionally, modeling with backward elimination was performed for PBA, PWM and A21WT using farrowing and lactational management procedures shown in Table.

### Results and Discussion

Means ( $\pm$  SEM) of PBA, PWM and A21WT were  $10.8 \pm 0.07$  pigs,  $11.2 \pm 0.32\%$  and  $64.1 \pm 0.53$  kg, respectively. More high-performing herds practiced farrowing induction than ordinary herds ( $P < 0.05$ ; Table). High-performing herds also had a higher percentage of farrowing-induced sows than ordinary herds ( $P < 0.05$ ). No differences between two herd productivity groups were found

for management procedures for late gestating and lactating sows ( $P > 0.05$ ). A lower PWM was associated with a higher percentage of farrowing-induced sows ( $P < 0.05$ ). PBA and A21WT were not associated with any farrowing and lactational management procedure we surveyed. In conclusion, farrowing induction procedures in high-performing herds are different from those in ordinary herds. It is a good procedure to perform farrowing induction in order to improve PWM.

Table. Comparisons between two herd productivity groups for farrowing and lactational management procedures

Procedures surveyed	Herd productivity groups			
	n	High	n	Ordinary
A percentage of herds using a procedure for late gestating sows*				
Decreasing quantity of a diet	25	56.0	70	55.7
Percentages of herds using a procedure for farrowing sows*				
Farrowing induction	25	64.0 <sup>a</sup>	71	29.6 <sup>b</sup>
Oxytocin administration	25	80.0	71	81.7
Percentages of sows treated by a procedure				
Farrowing-induced sows	24	35.6 <sup>a</sup>	70	13.1 <sup>b</sup>
Sows administrated with oxytocin	25	32.7	70	27.8
Percentages of herds using a procedure for lactating sows*				
Feeding sows with dietary fiber	25	20.0	71	36.6
Feeding sows a diet with fat	25	24.0	71	26.8
Use of fostering technique	25	92.0	71	95.8
Use of nurse sows	25	84.0	71	70.4
Percentages of herds using a procedure for piglets*				
Transferring piglets to heating area	25	76.0	71	66.2
Spilt nursing	25	40.0	71	42.3
Antibiotics administration	25	32.0	71	33.8
Providing electrolyte solution	25	24.0	71	19.7

<sup>a-b</sup> Values (within a row) followed by different superscript letters differ ( $P < 0.05$ ).

\*Variable was coded as 1 for Yes and 0 for No.