

## **Sponsors**

---

### **University of Minnesota**

College of Veterinary Medicine

College of Food, Agricultural and Natural Resource Sciences

Extension Service

Swine Center

The 2009 Allen D. Leman conference proceedings book is made possible by the generous support of **IDEXX**.

#### **We also thank the following sponsors:**

AgStar Financial Services

Alpharma Inc.

American Association of Swine Veterinarians

Applied Biosystems

Bayer Animal Health

Boehringer-Ingelheim Vetmedica, Inc.

Elanco Animal Health

Fort Dodge Animal Health

IDEXX

Invervet/Schering-Plough Animal Health

National Pork Board

Newsham Choice Genetics

Novartis Animal Health US, Inc.

Pfizer Animal Health

PIC

PigCHAMP

PRRS CAP2

### **Formatting**

Tina Smith

### **CD-ROM**

David Brown

### **Logo Design**

Ruth Cronje, and Jan Swanson;  
based on the original design by Dr. Robert Dunlop

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, or sexual orientation.

**A questionnaire survey about the mating schedules in commercial swine herds in Japan  
using a recording system**

**M. Kaneko and Y. Koketsu**

**Meiji University, Kawasaki, Japan**

**Introduction and Objectives**

High productivity in high-performing herds is attributed to better mating management (Koketsu, 2000). Herds mating females 12 hours after the onset of estrus had litter size similar to those mating females later (Dewey et al., 1995). However, no study has investigated the mating schedules for gilts or sows in commercial herds. The objective of the present study was to investigate the mating schedules by herd groups that were differently performing.

**Materials and Methods**

A questionnaire form was delivered to 115 commercial breeding herds that use a recording system (PigCHAMP®, Ames, IA, U.S.A.). Replies were received from 84 herds (73.0%) by May 2009. The questionnaire included questions about the mating schedules for matured gilts and weaned sows after the estrus was detected. The producers chose one of six options for the mating schedules: “mating immediately,” “6-12 hours later,” “18 hours later,” “24 hours later,” “48 hours later” and “it depends.” Reproductive herd data in 2007 were used for the analysis. Herds were categorized into two groups based on the upper 25th percentile of pigs weaned per mated females per year: high-performing herds (22 herds) and ordinary herds (62 herds).

**Results and Discussion**

Average female inventories ( $\pm$  SEM) in high-performing herds and ordinary herds were  $544.0 \pm 154.74$  and  $465.4 \pm 83.73$  pigs, respectively. Additionally, the respective proportions (%) of herds using artificial insemination (AI) only and AI combined with natural mating in high-performing herds were 22.7 and 67.8%. In ordinary herds, 37.1 and 58.1% used AI only and AI combined with natural mating, respectively.

The proportions of high-performing and ordinary herds that “mated immediately” for the first mating, that “mated 6-12 hours after the first mating” for the

second mating, and the farrowing percentage (%) are shown in Table. Additionally, the proportions of ordinary herds that “mated 24 hours after the first mating” for matured gilts and for weaned sows were 33.9 and 56.5%, respectively. The mating schedules for the reservice records are not shown.

In conclusion, at first mating matured gilts and sows postweaning  $\geq 5$  days were “mated immediately” more in high-performing herds than in ordinary herds. Furthermore, second mating of matured gilts and post weaned sows also occurred “6-12 hours after the first mating” more in high-performing herds than in ordinary herds.

Table. Proportions (%) of herds “mating immediately” for the first mating and “mating 6-12 hours after the first mating” for the second mating, and farrowing percentage ( $\pm$  SEM)

Time of estrus detection	Herd groups	
	High-performing	Ordinary
Number of herds	22	62
First mating: proportions of herds “mating immediately” after the estrus was detected (%)		
Matured gilts	86.4	58.1
Sows postweaning		
Day 1-3	9.1	8.2
Day 4	22.7	19.7
Day 5	54.5	41.0
Day 6	77.3	63.9
Day $\geq 7$	86.3	77.0
Second mating: proportions of herds “mating 6-12 hours after the first mating” (%)		
Matured gilts	90.9	59.7
Sows postweaning	84.6	40.3
Farrowing percentage (%)		
Gilts	$89.4 \pm 0.01$	$86.1 \pm 0.01$
Sows	$94.5 \pm 0.01$	$90.9 \pm 0.01$

**References**

Dewey et al. 1995. *Prev. Vet. Med.* 22: 89–102.  
Koketsu. 2000. *JAVMA.* 216: 376–379.