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**Opportunity breeding-female pigs for improving herd productivity
on commercial farms in Japan
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Introduction and Objectives

“Opportunity breeding-female pigs (opportunity females), which are pigs producers should keep an eye on to improve herd productivity” have been proposed by Dial and co-workers (Dial et al., 2001). Opportunity females have suboptimal reproductive performances. Opportunity females include four subgroups of females with re-services, lactation length (LL) 0 - 13 days, weaning-to-first mating interval (WMI) ≥ 8 days, or aborted records. Our objectives were to observe what proportions of opportunity females on commercial herds were; to determine how low the reproductive performance in opportunity females; and to investigate possible risk factors for farrowing rate and pigs born alive in opportunity females. Additionally, we analyzed the reproductive performances in the four subgroups of opportunity sows and the two subgroups of opportunity gilts.

Material and Methods

All producers (approximately 140 farms) using a computerized recording system (PigCHAMP) in Japan were requested to mail their data files to the School of Agriculture, Meiji University during 2002, when they purchased the software or renewed their yearly maintenance contract. We received data from 124 farms, but five farms were grow-finish operations and two farms were just started, and those 7 farms were excluded from this study. The female records were categorized into two groups (opportunity or not-opportunity females; the OPPO-OR-NOT groups). Separate statistical models using the MIXED procedure and the GLIMMIX macro were constructed to analyze farrowing rate and pigs born alive in the OPPO-OR-NOT groups, four subgroups of opportunity sows, or two subgroups of opportunity gilts. All statistical models included the farm as a random effect in SAS (2001).

Results and Discussion

Of the 102,494 parity records, 20.0% were opportunity females. Opportunity females had at least 11.7% lower farrowing rates than not-opportunity females among any parity and any mated season groups ($P < 0.05$). As parity increased from 1 to ≥ 6 , farrowing rate in opportunity females decreased from 75.0 to 63.7%, while farrowing rate in not-opportunity females decreased from 88.8 to 83.8% ($P < 0.05$). However, no difference in pigs born alive was found between the two OPPO-OR-NOT groups. Parity 1 sows had the highest proportions of becoming opportunity females among the parity groups, and females mated during summer had the highest proportions of becoming opportunity females among the four seasons ($P < 0.05$). Females with single mating had higher proportions of becoming opportunity females than those with multiple matings ($P < 0.05$). In the subgroups of opportunity females, gilts and sows with aborted records had at least 38.3% lower farrowing rates than those with no aborted records ($P < 0.05$). Re-serviced gilts and sows had at least 22.2% lower farrowing rates than non-return gilts and sows ($P < 0.05$). In the LL 0 - 13 days groups, no difference in the farrowing rate was found between the WMI groups. However, the farrowing rate in sows with LL ≥ 14 days decreased from 84.4 to 75.7% as WMI prolonged from 0 - 7 to ≥ 8 days ($P < 0.05$). In conclusion, careful mating management on opportunity females improves herd productivity.

Reference

Dial et al. 2001. *Advances in Pork Production*. 12: 181-195.