INFO SHEET
Veterinary Services

United States Department of Agriculture
Animal and Plant Health Inspection Service
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Swine Mating Practices

Reproductive performance is an integral part of pork production. Farrowing rates and litter size can be affected significantly by mating practices; therefore, proper mating techniques are essential for optimum reproductive efficiency.

The USDA's National Animal Health Monitoring System (NAHMS) collected data on swine health and management practices from a random sample of swine production sites in 17 States[1] as part of the Swine 2000 study. These sites represented 94 percent of the U.S. pig inventory and 92 percent of U.S. pork producers with 100 or more pigs. Overall, 2,499 swine production sites participated in the first interview from June 1, 2000, through July 14, 2000.

For estimates in this report, small, medium, and large sites refer to sites with less than 250, 250 to 499, and 500 or more breeding females, respectively. Animal-level estimates reported here are based on a June 1, 2000, inventory.

Often, breeding females are mated more than once during their estrous cycle/heat period. The study indicated that the majority of sows (50.9 percent) and gilts (47.3 percent) were mated twice during an estrous cycle (Figure 1). More than one-fourth of all sows and gilts were mated three or more times per service.

Mating techniques used to breed sows and gilts varied by size of site. Pen-mating was used most commonly on small sites (84.4 percent), compared to large sites (6.4 percent). Artificial insemination was used for mating sows and gilts on 91.3 percent of large sites (Figure 2).

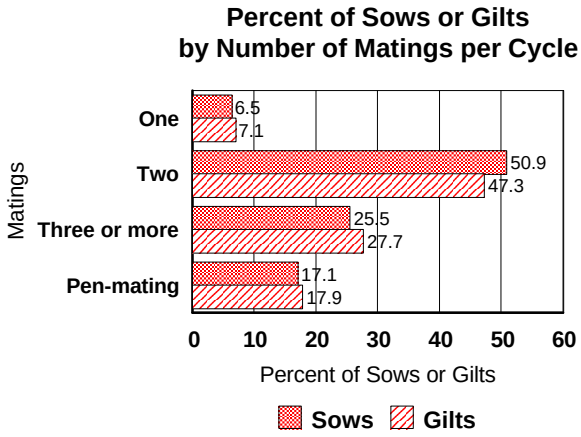


Figure 1.

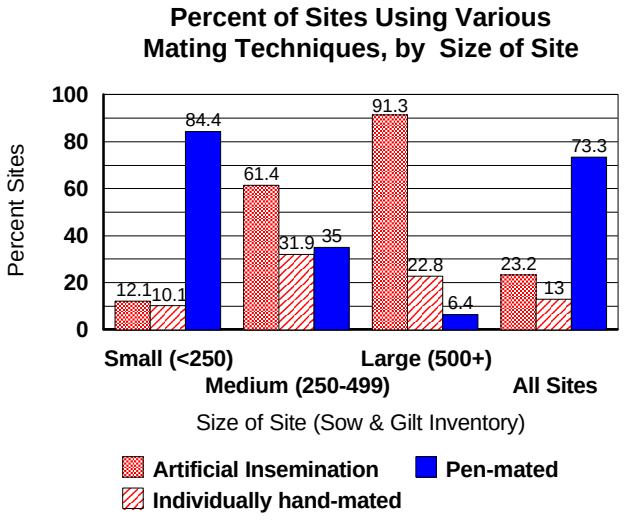


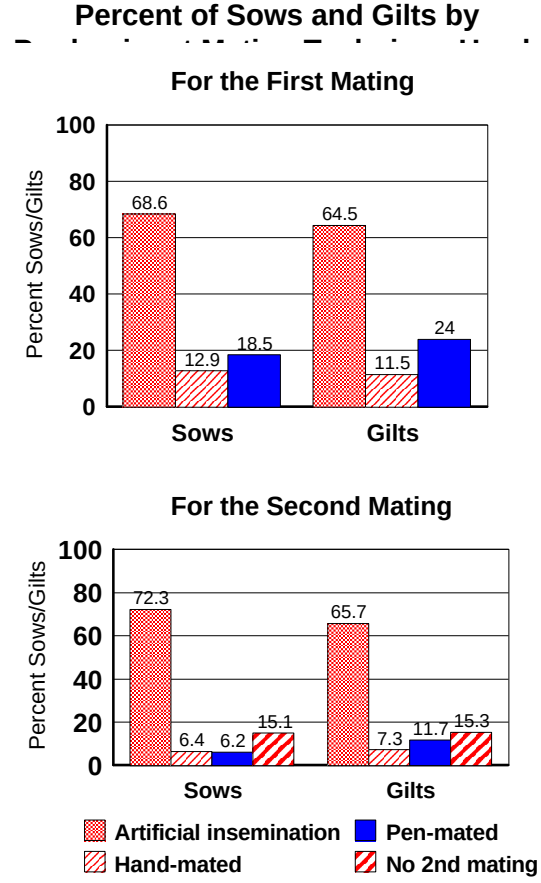
Figure 2.

Although artificial insemination was used on only 23.2 percent of all sites, more breeding females were bred using artificial insemination than any other technique because more large sites (91.3 percent) used

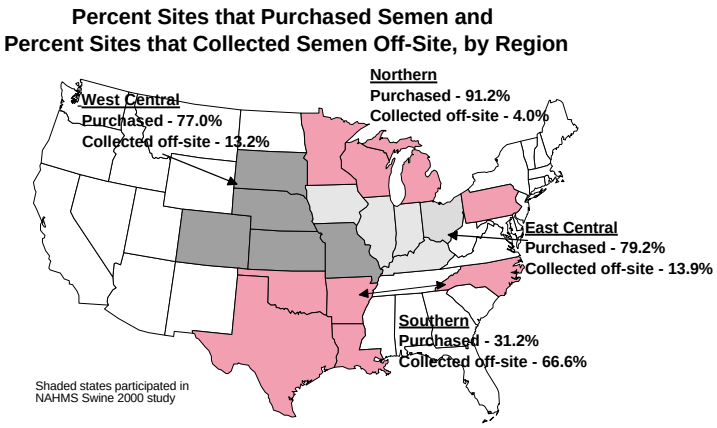
[1]Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Carolina, Ohio, Oklahoma, Pennsylvania, South Dakota, Texas, Wisconsin

this technique than medium (61.4 percent) or small (12.1 percent) sites. Overall, 68.6 percent of sows and 64.5 percent of gilts were on sites where artificial insemination was the predominant mating technique for the first mating. Similarly, 72.3 percent of sows and 65.7 percent of gilts were on sites where artificial insemination was the predominant mating technique for the second mating (Figure 3).

Figure 3.



Semen was purchased by 72.9 percent of sites that used artificial insemination. Only 17.1 percent of sites using artificial insemination actually collected and processed semen on-site. Semen was collected and processed off-site (e.g., owner, boar-stud) by 20.8 percent of sites using artificial insemination. (Note: some sites obtained semen from multiple sources; therefore, the values mentioned above sum to more than 100 percent). More sites in the Southern region collected semen off-site than did sites in the West Central, Northern, and East Central regions



(Figure 4).

Figure 4.

Sites that used artificial insemination as the predominant mating technique averaged 10.7 total pigs born per litter, compared to 9.9 total pigs born per litter for sites using other techniques. The percentage of breeding females culled for reproductive failure was higher on sites where artificial insemination was the predominant mating technique (23.3 percent of culls), as compared to other techniques (15.8 percent of culls).

Breeding records were kept by over three-fourths of sites with gestation and farrowing phases. These records were kept more often on large (96.8 percent) and medium (96.3 percent) sites than on small sites (72.2 percent).

Although 78.1 percent of sites were visited by a veterinarian during the previous 12 months, only 7.1 percent of these sites used a veterinarian for artificial insemination or breeding evaluations. Generally, a veterinarian was used more often for artificial insemination and/or breeding evaluations as site size increased (5.3 percent of small sites; 28.7 percent of medium sites; and 42.7 percent of large sites).

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[1]Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Carolina, Ohio, Oklahoma, Pennsylvania, South Dakota, Texas, Wisconsin