INCREASED LITTER SIZE AND LITTER WEIGHT IN GILTS BY PREBREEDING INTRAUTERINE INFUSION OF KILLED BOAR SEMEN

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Abstract

The effects of uterine priming prior to first breeding on the reproductive performance of gilts were evaluated in two separate experiments. In experiment I twelve (12) gilts were randomly assigned to three treatments: T1 - control (infusion of distilled water), T2 - single infusion of killed semen (KS1), and T3 - double infusion of killed semen (KS2). Each treatment had 4 breeding gilts which were bred by natural insemination (NI). In experiment II, another set of twelve (12) breeding gilts were randomly allotted to the same treatments which were subsequently bred by artificial insemination (AI). Infusions, through the use of AI catheters, were done during the 2nd estrous cycle for T1 and T2, whereas infusions for T3 were made during the 1st and 2nd estrous cycles. Regular breeding were subsequently made during the 3rd estrous cycle. All gilts that returned to cycle were rebred within the 30-day period. In experiment I (natural breeding), total pigs born was higher (P<0.05) in T2 (12.75 piglets) and T3 (11.75 piglets) than in the control (10.50 piglets). T3 obtained the highest (P<0.05) litter size (10.25 piglets) and heaviest litter weight (74.12 kg) at 28 days weaning, followed by T2 (9.80 piglets and 65.60 kg, respectively). The control yielded the lowest (P<0.05) litter size (7.50) and the lightest litter weight (47.00 kg) at weaning. For experiment II-gilts (artificially inseminated), T3 gave higher (P<0.05) litter size born alive (10.88 piglets), total pigs born (11.72 piglets) and live litter weight at birth (15.30 kg) than those of T2 and the control. Results indicate that prebreeding intrauterine infusion of killed boar semen (either single or double) improved litter size and litter weight of gilts.

Keywords: gilt, killed semen, litter size, litter weight, uterine priming, reproduction

Introduction

The index of output from any breeding herd is reflected in the number of piglets weaned per sow per year that comprises the number of weaned pigs per litter and the number of litters per year, or farrowing frequency. Approaches to improve sow productivity involve maximizing both of these parameters. Reproductive performance of pigs is generally measured in terms of litter size born alive (LSBA) and litter size at weaning (LSW) while reproductive success is measured primarily by pigs produced per sow per year and is dependent upon both farrowing rate and litter size. These parameters are significantly important in evaluating the overall reproductive performance of swine that is commonly measured in terms of pigs produced per sow per year (PPSY). In order to achieve an optimal reproductive rate, both the anatomical and physiological workings of the reproductive system of the pig must function properly. Reproductive efficiency, therefore, is one of the most important variables in economic efficiency of the swine enterprises.

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