

Effect of hCG and intravaginal application of estradiol and prostaglandin E 2 on pregnancy rate and litter size in gilts and SOWS

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Abstract :

Three separate experiments were performed on fifty pregnant gilts (Experiment 1 and 2) and forty primiparous sows (Experiment 3) to examine the effect of human

chorionic gonadotropin

(hCG)

administration on day 12 (Experiments 1 and 2) or 20 (Experiments 2 and 3) of pregnancy and

intravaginal application of estradiol alone or estradiol + prostaglandin E

2

(PGE

2

) on days 17-23

(Experiment 3) of pregnancy on pregnancy rate and litter size and weight at birth and weaning.

None of the treatments affected the pregnancy rate which ranged between 90 and 80% in control

and treated groups. In Experiment 1 no differences in the number of piglets born (13.2 ± 1.1 or

13.0 ± 0.8) and weaned between control and hCG group were noticed.

In Experiment 2 hCG treatment increased the total number of piglets born. For treatment on day

12 this number amounted to 15.1 ± 1.3 , for day 20 – 16.4 ± 1.4 , while for control gilts 13.0 ± 1.5 . The

similar trend occurred in the number of piglets born alive. The remaining indicators of piglets

survival did not vary between groups.

Though there were no significant differences in the number of total piglets born between groups

of sows in Experiment 3, a trend to the increased number of piglets weaned was found in groups

with intravaginal treatment of estradiol and PGE

2

($P = 0.10$) or hCG administered on day 20 of

pregnancy. The study revealed, for the first time, that hCG or intravaginal estradiol and PGE

2

administration during early pregnancy did not affect the pregnancy rate in gilts and sows and can be beneficial for litter size

Key Word :

estradiol / hCG / litter size / PGE 2 / pig / pregnancy

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