

COMPARATIVE STUDY OF TWO COMMERCIAL GONADOTROPINS FOR SYNCHRONIZATION AND INDUCTION OF OESTRUS IN SOWS

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The main objective of this study was to compare the bioequivalency of two commercial gonadotropins preparations containing eCG+hCG: **Duogestal** (Syntex, S.A.) and **PG600** (Intervet, S.A.), for estrus induction and synchronization in weaned sows. In addition, we assessed the biological effects of these gonadotropins on the reproductive efficiency.

A total of 129 weaned sows (+2 parity) with a defined genetic (LxY) from a commercial swine farm were used in a completely randomized design. The animals were randomly allocated to one of three treatments. The sows in the control group (CON, n=44) were injected with a saline solution (5 ml) and the rest of the sows (n=85) were injected on the day of weaning with a gonadotropins preparation (400 UI eCG + 200 UI hCG). The preparation was either **Duogestal**® (Syntex, SA, DUO, n=44) or **PG600**® (Intervet SA, PG6, n=41). Pregnancy diagnosis was done by real-time ultrasonography [RTU] at 28 days post-mating. The differences between treatment groups were analyzed by least square analysis of variance with Proc GLM of SAS[®]. The number of sows with estrus after each treatment (% of sows in heat), and the fertility and farrowing rates were analyzed with the Proc CATMOD of SAS[®] (SAS, 1989). To assess the cost benefits, the non-productive days (NPD) per sow per year and the fecundity index (farrowing rate x # piglets born alive, on a 100 sows basis) were calculated.

The interval treatment-estrus was less than 10 days and was within normal values for a commercial herd; however, statically significant differences were observed between DUO and PG6 sows (Table N°1). There were no significant differences in the pregnancy rate between groups (CON 80.9%; DUO 82.9%; PG6 82.5%). The average farrowing rate was low (71.3%) and the DUO group showed a higher farrowing rate compared to the PG6 group (70.5% vs 68.3%, P<0.05).

		Control	Duogestal	PG600
Sows with estrus after treatment		95.4% (42/44)	93.2% (41/44)	90.2% (37/41)
Wean-estrus interval (days)		6.4±1.2	6.3±1.2 ^a	10.9±1.3 ^b
Farrowing rate	1 st mating	61.4%	68.2% ^c	63.4% ^d
	2 nd mating	13.6%	2.3% ^c	4.9% ^d
Total piglets born		11.4±0.5	10.2±0.6	11.2±0.6
Piglets born alive		11.1±0.6 ^e	9.6±0.6 ^f	10.0±0.6 ^f
Born mean weight		1.4±0.04	1.5±0.04	1.5±0.04
Non-productive days		16.0	16.2	26.8
Fecundity index		832.5	676.3	682.9

Different superscripts within a row indicate significant differences, P<0.02 (a; b); P<0.05 (c; d); P<0.08 (e; f)

The number of total piglets born, and the mean weight of piglets born were similar between groups; however, the number of piglets born alive was numerically higher in the control group compared to the treatment groups (Table N°1). The non-productive days/sow/year (days open) showed similar values for the control group and the DUO sows, but was higher for the PG6 sows (Table N°1). Hence, the economics losses in the PG6 group increased, due to an increase of the NPD. The highest fecundity index was for the control group. The sows for the CON group produced 156.2 and 149.6 more piglets than the DUO and PG6 groups, respectively.

It can be concluded that there were not statically differences in the bioequivalency for the two commercial presentations of the gonadotropins. However, the interval treatment-estrus was higher for the sows treated with PG600 and hence, the number of days open and economic losses. The total piglets born and piglets born alive was higher for the control group, in agreement with what was reported previously.