

EFFECT OF ALTRENOGEST ADMINISTRATION IN GILTS ON REPRODUCTIVE PERFORMANCE AFTER SYNCHRONIZATION

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Introduction

Gilt performance is a major factor influencing the economy of pig breeding. The breeding objective is 25 piglets per sow per year, and some authors declare average 12.2 and 13.8 piglets born alive per litter (1, 2). Very low market prices of finished pigs in 2006 and 2007 and low reproductive performance (21.9 piglets born alive/sow/year, 19.5 weaned piglets/sow/year) in the Czech Republic in 2006 compromise profitability and force producers to breed more efficiently. To reverse the situation, the farms need to decrease the wean to oestrus interval (WOI), optimise the gilts introduction, improve fertility results after first insemination and increase the numbers of piglets born and weaned. The paper validates repeatability of results obtained after synchronizing of oestrus in gilts with Regumate™.

Material and Methods

A reconstructed farm was repopulated by newly bought SPF gilts. The gilts were grouped in batches of 24 and synchronized by administration of 5 ml Regumate™ (Altrenogest) daily during 18 days. 141 gilts of four breeds were included in the trial, varying in age from 210 to 225 days and weighing about 120 kg. At least one heat was recorded before the start of the synchronization and the age at insemination was between 240 and 255 days. Heat control was performed in presence of a boar in group pens. Insemination was done once a day. Gilts having a reflux of semen were immediately inseminated with another dose. The number of gilts with reflux did not exceeded 20 %. The immobilisation reflex was checked in presence of a boar 1 to 2 times a day until it was fading away.

Gilts were inseminated 1 to 4 times during standing heat, with an average of 2.5 inseminations per gilts. 6 batches of gilts were synchronized in the period from 17th July to 24th September 2006. The recorded data were: numbers of introduced gilts, number of gilts having showed at least one heat before synchronisation, numbers of gilts manifesting oestrus signs within 7 days after synchronization, numbers of pregnant gilts after 1st insemination, number of farrowings after 1st insemination, number of total born piglets per litter and number of live born piglets per litter. Average values, standard deviation (σ) and coefficient of variance (CV) were used as comparative index figures.

Results

A comparison of the results from 6 completed batches showed that standard deviation of all observed figures did not exceeded a value of 2.27 and the variant coefficient did not exceed 10.06 %. From the 148 introduced gilts 129 farrowed after insemination during the synchronized heat, i.e. 87.2 %. Batch 5 gave the best results, were 23 out of 24 introduced gilts farrowed an average of 14.9 piglets total born and 13.1 piglets born alive. Of the synchronized gilts, 98% showed oestrus within 7 days. Two gilts showed a swollen and red

vulva without a marked immobility reflex, and were not inseminated. Only in 3 animals (2.02 %) no oestrus was detected. Most gilts showed heat symptoms from 5th to 7th day after the ending the Regumate™ treatment.

Discussion

The implementation of synchronisation with Regumate™r was successful. Ninety Seven percent of the gilts could be inseminated within 7 days after treatment and the reproductive performances after synchronisation were of a high level. The culling rate of gilts before first birth was low. A comparison of production and efficiency results between batches show a repeatability of the performances. Based on the findings in this trial, oestrus synchronizing after administration of Regumate™ is a valid method for The gilts' reproduction efficacy did not significantly fluctuates during the trial after repeating of six batches and thus the results validated the efficacy.

Table 1 Reproductive results per batch

Batch	1	2	3	4	5	6
introduced gilts	n 25	28	26	24	24	21
gilts with immobility reflex before synchronization	n 24	21	22	21	23	20
gilts with oestrus within 7 days	n 25	27	26	24	23	20
number 1st inseminations	n 23	27	26	24	23	20
numbers of successful 1st insemination	n 23	22	24	22	23	18
number of litters	n 22	22	23	22	23	17
total born piglets born per litter	n 13.0	12.2	13.9	12.8	14.9	15.4
live born piglets per litter	n 11.8	10.0	12.0	11.3	13.1	13.7

Table 2 Reproductive results all batches

	Σ	n	x	σ	CV
introduced gilts	148	6	-	-	-
gilts with immobility reflex before synchronization	131	6	21.83	1.34	6.15
gilts with oestrus within 7 days	145	6	24.16	2.27	9.39
number 1st inseminations	143	6	23.83	2.27	9.51
numbers of successful 1st insemination	132	6	22.00	1.91	8.70
number of litters	129	6	21.50	2.06	9.59
total born piglets born per litter	129	6	13.71	1.14	8.32
live born piglets per litter	129	6	11.99	1.21	10.06

Remark: Σ -sum, n-number btch, x-average, σ -standard deviation, CV coefficient of variance

References

1. Meissonnier, T. et al (2006) Proc. 19th IPVS Congress, 515
2. Wittmann, M. et al (2006) Proc. 19th IPVS Congress, 259