

HORMONE-THERAPY – MANAGEMENT SOLUTION FOR THE REPRODUCTION ENHANCEMENT AT SOW

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Abstract

Researches were made in 1138 by Camborough sows, grouped into 3 groups as follows: WB (witness batch) - 462 sows of untreated hormone; EB 1 (experimental batch 1) - 436 sows stimulated hormone in the weaning day; EB 2 (experimental batch 2) - 240 sows stimulate the hormone at 10 days after weaning. Hormonal stimulating has been given intramuscularly to the basis of the ear, with a dose of 5 ml PG 600. In all the batches was chased fecundity and dynamic heat coming into a period of 30 days after weaning. Application of the treatment in the weaning day resulted grouping heat in day 3 and day 4 after treatment (65.8% of sows in estrus at EB 1, and only 13.9% registered at the witness batch). Application of treatment to 10 days after weaning led to the emergence of estrus following 5 days at 69.5% of sows. In the first 16 days after weaning have heat 66.6% of sows in WB, 82.1% of sows in EB 1 and 88.2% of sows in EB 2. Administration PG 600 in weaning day led to reduced weaning-estru interval from 6.3 days to 3.9 days. For stimulate sows hormonal in weaning day, fecundity was insignificant lower (74%) than the untreated sows(76.9%) or stimulated sows at 10 days after weaning (78.1%). The hormone-therapy is an effective way to improve results obtained in the reproduction sector because corrects some reproduction indices (fecundity and prolificity) and contribute to more intensive use by reducing the unproductive period at sows (weaning-estru interval).

Key words: sows, estrus, hormone therapy, management

INTRODUCTION

An efficient management in reproduction sows to include measures for shortening the unproductive periods (seasonal anestrus, weaning-estru period), to improve the fecundity and prolificity. The function of reproduction is directly influenced by the work of neuro-endocrine sistem. To sow, physiologic lactation anestrus is due to reduced secretion of FSH and LH through negative feedback exerted by Prolactin (produced in large amount under the stimuli influence represented by suckling) on the release of these hormones. After weaning, follicular growth is unlocked and most sows (60% -90%) [5] enter in heat. There are situations where heat occurring in large intervals of time after weaning, the phenomenon is often caused by high temperatures in summer season. For routing reproduction function commonly used hormonal preparations [1,2,3,4]. With this

purpose in research, we used the preparation PG 600.

MATERIAL AND METHODS OF WORK

The biological material was represented by 1138 of sows Camborough who had between 2 and 5 birth, grouped into 3 groups as follows: WB (witness batch) - 462 of untreated hormonal sows; EB 1 (experimental batch 1) - 436 sows hormonal stimulated in weaning day; BE 2 (experimental batch 2) - 240 sows hormonal stimulate at 10 days after weaning. Observations were made in the summer season. Hormonal treatment consisted of intramuscular inoculation, at the ear, a dose of 5 ml PG 600. PG 600 contains 400 UI FSH and 200 UI LH. In all batches, starting the second day after weaning, has been the discovery of sows in heat with boars. The

action took place over a period of 30 days. Sows detected in heat were artificially insemination twice within 12 hours, with dose characterized by 80 ml volume and 3 billion mobile sperm. After insemination, the following 2 intervals of 21 days \pm 3 days, I checked the heat returns, and based on the results we calculated the fecundity. At birth we held the prolificity.

RESULTS AND DISCUSSIONS

In the first 10 days after weaning entered into heat 81.4% of hormone-treated sows on weaning day (EB 1) and only 64.0% of the unstimulated sows (WB) (table 1), differences between groups were significant ($p < 0.01$). The administration preparation based on gonadotrop hormones resulted follicular development and entry of grouped sows in heat. Thus, if EB 1, on days 3 and 4 after treatment, which correspond to days 3 and 4 after weaning entered the heat of sows 65.8%,

significantly more than in WB (13.9%). Unlike the EB 1, sows on the WB entered staggered in estru, registering the maximum on day 5th of the weaning (13.6%).

The sows in to the EB 2 which do not showed heat within 10 days after weaning were inoculated with PG 600. The treatment response to consisted, as in the batch EB 1, grouping heat following 5 days when they were discovered in estru 69.5% of treated sows (26.6% of the herd wean). During the same period, showed estru only 2.6% of the lot WB and 0.7% of the lot EB 1. Between 17 and 30 days after weaning, the effect of hormonal therapy has disappeared and the lot EB 2. Thus, the proportion of sows that have entered the heat was closer to the 3 lots (table 1).

Under the conditions mentioned in the 3-30 days after weaning, the proportion of sows that came into heat was 73.3% in the WB group, 83.7% in the group EB 1 and 92.5% in group EB 2.

Table 1
 The dinamic of the estrus appearance

Days after weaning	The batch					
	WB ¹ (No. = 462)		EB1 ² (No. = 436)		EB2 ³ (No. = 240)	
	no.	%	no.	%	no.	%
3	29	6,8	164	37,6	12	5,0
4	33	7,1	123	28,2	8	3,3
5	63	13,6	37	8,5	30	12,5
6	61	13,2	20	4,6	32	13,3
7	49	10,6	5	1,1	24	10,0
8	32	6,9	5	1,1	20	7,2
9	20	4,3	1	0,2	8	3,3
10	9	1,9	-	-	14	5,8
3-10	269	64,0	355	81,4	148	61,6
11-16	12	2,6	3	0,7	64	26,6
17-30	31	6,7	7	1,6	10	4,2
3-30	339	73,3	365	83,7	222	92,5

¹sows of untreated hormone

²sows hormonal stimulated in the weaning day

³sows hormonal stimulated at 10 days after weaning

The fecundity at stimulated hormonal sows in weaning day was slightly less (74.0%) than that of untreated sows (76.9%) or stimulated at 10 days after weaning (78.1%) (Table 2) ($p < 0.5$). The fecundity slightly lower in sows lot of EB 1 may be due to the short period between weaning and insemination.

The average number of pigs produced / calving was slightly higher in stimulated hormone sows (12.24 ± 0.11 piglets at EB 2, 12.01 ± 0.10 at EB lot, 11.94 ± 0.09 pigs at lot WB). The sows to stimulate hormone was obtained a slightly higher number of piglets than in WB group, because hormonal preparation used contains PMSG with poliovulator effect.

Table 2
 The sow's fecundity

Batch	Sows artificial insemination (No.)	Pregnancy sows (No.)	Fecundity (%)
WB ⁴	308	237	76,9
EB1 ⁵	358	265	74,0
EB2 ⁶	64	50	78,1

⁴sows of untreated hormone

⁵sows hormonal stimulated in the weaning day

⁶sows hormonal stimulated at 10 days after weaning

CONCLUSSIONS

Using the hormone therapy at sows is an effective way to improve the results in reproduction compartment because:

- PG 600 resulted grouped entry of sows into heat and shortening the interval weaning estru with 61.9%;

- hormone treatment resulted in improvement the fecundity with 1.2% when applied at 10 days after weaning and did not diminished considerably when applied in weaning day;

- stimulating hormone caused increased the prolificity until to 0.3 piglets / farrowing.

The cumulative benefits mentioned are arguments for using hormone-therapy as a modern management measure applied in reproduction farms.

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