

FERTILITY CONTROL WITH PROLAN OIL S IN POST WEANING SOWS

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Abstract

Seventy crossbred (Yorkshire (Y) × Landrace (L)) sows parity 1-5 were randomly assigned to Prolan oil S (experimented group) and placebo treated (controlled group) equally on day 3 post weaning. They were mated twice when observed in heat. It was shown that interval from treatment to mating was shorter in treated than those in the control (4.5 ± 5.8 days VS 15.6 ± 27.8 days; $P < 0.025$). Reproductive performance of the sows from the 2 groups were similar. Furthermore, interval from weaning to subsequent estrus was also similar, 18.3 ± 18.3 days VS 14.6 ± 8.6 days for treated and control animals respectively. The findings indicated the possibility of using Prolan oil S for fertility control in post weaning sows.

Introduction

Delay, undetected heat or anestrus are the main causes of decreased reproductive efficiency in post weaning sows. An average of 15% of the sows do not return to heat between 2-4 weeks (Doplihar, 1973); 38.4 ± 44.9 days (Sinsuwong *et al.*, 1981) and

34.5 ± 21.1 days (Korthirakul *et al.*, 1981) after weaning. Normal sows should come in heat and serve within 12 days (Doplihar, 1973) or 5.6 ± 2.0 days (Korthirakul *et al.*, 1981) after weaning. Economic losses in term of non productive period in post weaning sows draws a great attention to solve this problem.

The present investigation was aimed to evaluate the efficacy of Prolan oil S for inducing of estrus in post weaning sows.

Materials and Methods

Seventy crossbred (Y \times L) sows parity 1-5 belonged to a commercial piggery, Nakhon Pathom province were used in this investigation.

Prolan oil S consists of 200 units of chorionic gonadotropin and 1 mg of oestradiol benzoate in oil (Bayer).

The placebo is 0.9% sodium chloride solution.

On the day of weaning (average lactation of 28 days) the sows were moved from farrowing crates and randomly assigned to treatment and control groups. Each of 35 sows received intramuscular injection of 3 ml Prolan oil S while another 35 sows served as control and received 3 ml placebo on the 3rd day after weaning.

Each sow was observed and recorded for sign of estrus, days of mating and performance at farrowing as well as estrus after subsequent weaning. Difference of the mean and percentage were analysed by using t test and proportion test respectively (Snedecor and Cochran, 1980).

Period of investigation was July 1984 to June 1985.

Results

Interval from Prolan oil S and placebo treatment to mating was shown in table 1.

Table 1. Mean (\pm S.D.) of interval from Prolan oil S and placebo treatment to mating in sows

Group	Interval from treatment to mating (days)
Prolan oil S	4.5 ± 5.8^a (1-23) (n = 34)
Placebo	15.6 ± 27.8^b (2-60) (n = 35)

^a and ^b different significantly (P < 0.025)

In Prolan oil S treated group 97.14% (34/35) of treated sows came in heat within 4.5 ± 5.8 days following the treatment, one sow was culled due to prolonged anestrus. Twenty point six percent (7/34) remated and subsequently pregnant. While in the control (placebo treated) animals, came in heat within 15.6 ± 27.8 days after the treatment. Twenty six percent (9/35) of the control animals came in heat between 2 to 60 days post placebo treated and one sow was also culled due to abortion.

Table 2. Reproductive performance of sows

Group	Gestation period (days)	At birth			Estrus after weaning	
		Pigs born	Born dead (%)	Mummies (%)	Born alive	(%)

Treated sows						
(Prolan oil S treated)	114.1 ± 1.5	10.3 ± 2.7	4.3	-	9.8 ± 2.5	18.3 ± 18.3
(n = 34)	(112-117)	(4-15)			(4-14)	(2-56)

Controlled sows

(Placebo treated)	114.8 ± 9.8	4.7	6.9	8.6 ± 14.6
(n = 35)	1.5	3.2	3.7	8.6
	(111 - 118)	(4 - 17)	(2 - 17)	(1 - 30)

Reproductive performance of sows at birth as shown in table 2, majority of the traits studied indicating similarity of the 2 groups excepted those of mummies which was found higher in control than those treated animals (6.9% VS 0) ($P < 0.001$). Subsequent interval from weaning to estrus of animals from the 2 groups was also similar 18.3 ± 18.3 VS 14.6 ± 8.6 days ($P > 0.05$).

Discussion

Prolan oil S treated animals exhibited estrus much more earlier than those in the controls (4.5 ± 5.8 days VS 15.6 ± 27.8 days ; $P < 0.025$) after the treatment. These findings indicated the advantage of using this treatment to improve reproductive performance of post weaning sows. Generally, it is accepted that estrus in post weaning sows occur within 7 to 12 days (Korthirakul *et al.*, 1981 ; Doplihar, 1973). In the present study it was also about 7 days after weaning in the treated group. While those in the control, 26% of animals came to heat rather late between 18 to 60 days post weaning. This delay anestrus contributed to economic loses both in term of feeding non productive animals and disturbances of breeding programme. Our previous investigation on prolonged anestrus and its rational treatment in post weaning sows indicated the possibility of using FSH plus LH, PGF 2 α , and estrogen. It was found more acceptable in FSH plus LH treatment than the other 2 products. However, if the problem is threatening, preventive measurement

should be taken as early as possible by using Prolan oil S. Gestation period of both groups in the present study was similar to our recent report (113.4-114 days) (Chantaraprateep *et al.*, 1985). Similarity of different traits studied at farrowing and interval from weaning to estrus of the 2 groups studies indicated that there should be no side effect of Prolan oil S on reproductive performance of treated sows. The present finding that percentage of mummy in control was higher than those treated animals (6.9% VS 0) could not be explained. In this piggery, interval from weaning to estrus was around 15 days which was longer than those aforementioned, 12 days (Doplihar, 1973) or 5.6 ± 2.0 days (Korthirakul *et al.*, 1981) as well as 5.3-8.9 days for sows (80-91.7%) with lactation period of 5-8 weeks (Einarsson and Settergren, 1974).

The present investigation indicated the possibility of using Prolan oil S for fertility control in post weaning sows. As it was shown that interval from treatment on day 3 post weaning to mating was earlier in treated than those in the control animals (4.5 ± 5.8 days VS 15.6 ± 27.8 days). In addition, reproductive performances of sows from the 2 groups were also similar.

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พระบรมราโชวาท

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วันจันทร์ที่ 1 เมษายน 2528

“การทำงานให้สำเร็จขึ้นอยู่กับความสามารถสองอย่างเป็นสิ่งสำคัญ คือ สามารถในการใช้วิชาความรู้อย่างหนึ่ง สามารถในการประสานสัมพันธ์กับผู้อื่นอีกอย่างหนึ่ง ทั้งสองประการนี้ต้องดำเนินคู่กันไป และจำเป็นต้องกระทำด้วยความสุจริตกาย สุจริตใจ ด้วยความกตัญญูเห็นที่เป็นอิสระ ปราศจากอคติและด้วยความถูกต้องตาม เหตุตามผลด้วย จึงจะช่วยให้งานบรรลุจุดหมายและประโยชน์ที่พึงประสงค์ โดยครบถ้วนแท้จริง”