

INDUCTION OF FERTILE HEAT IN LACTATING SOWS

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I INTRODUCTION.-

Many studies have been performed with the purpose of including fertile heat during lactation, based either on management systems with partial separations of the piglets (Smith 1961; Varandin and Marjanov 1971) or by grouping the females with their litters (Rowlinson, Boughton and Bryant, 1975; Guthrie et al., 1976). Never-the-less, which ever system is used fertilization is not achieved until approximately the 40th day of lactation and with a highly variable proportion of pregnant sows (Paquignon et al., 1978). With the exception of those results found by Rowlinson et al., 1975.

Hormon treatments have also been used, based on PMSG and HCG application but with diverse results (Martinat-Botte et al., 1974; Ahrens and Schlegel, 1977; Kuo et al., 1976), also with the use of GnRH on order to help induce the ovulation (Guthrie et al., 1976).

According to Martinat-Botte (1975), the injection of 2.000 IU of PMSG induces heat during lactation but the ovarian response depends on the moment of injection of PMSG and the litter size. In order to induce very early gestation (day 16 of lactation) it is necessary to leave only 1 to 5 piglets with the sow before the application of PMSG.

The purpose of this study is to demonstrate that gestation can be obtained with high consistency in the lactating period of sows without the use of hormones or dietary supplements. These results were obtained through a special management program based principally on: partial separation of piglets, presence of a male and grouping of lactating sows.

II MATERIALS AND METHODS.-

A.-Animal material.-

The following data and results were obtained at "Navas" Pig Farm located in Campillo in the province of Malaga, Spain. They were collected over a continual period of 4 years from a herd of 250 mothering sows. These females were LW x Landrace hybrids.

B.- Methods.-

The following management system is used at the "Navas" farm: Gestating sows are retained in groups of 16-20. The expectant sows are taken to maternity pens 4 to 5 days before they are expected to give birth and put in their farrowing stalls without feed pens.

During the first 15 days after giving birth the sows leave their litters 4 hours per day and are feed. This is divided into 2 hours in the morning and 2 hours in the afternoon.

Feedings in both gestating and lactating sows were given twice a day. An average of 2.5K/day/animal for pregnant sows without consideration for lactating mothers.

After the 15th day the females remain in their open air enclosures without their piglets during the entire day and return to their maternity pens only at night.

Days 17 to 20 a group of boars is left with the females during 2 hours after feeding each day.

Two matings are performed in each female during the 2nd day of heat (AM and PM), in the sows open air enclosure.

Weaning is not done at a predetermined date, even though in the majority of the cases it takes place after 35 days. The piglets weight varies between 6 and 7 Kg.

III RESULTS.-

The following is a representation of the statistical results expressed in days, per cent and numbers of piglets.

-Average interval between farrowing and mating: 32.3 days
-Fertility.....: 88%
-Prolificity (N° of piglets/litter).....: 9.68
Average prolificity based on the number of piglets from the previous lactation.

-Previous	Following
10	10.03
9	9.2
8	9

Matings performed before the 25th day farrowing.

-Interval between farrowing and mating: 22.63 days
-% of the total: 21%
-Fertility: 89%
-Prolificity (N° of piglet per litter): 9.48

Prolificity based on the number of piglets from the previous lactation in sows bred at less than 25 days post parturition.

Previous	Following
10 piglets	9.82
9 "	8.57
8 "	7.67

IV CONCLUSIONS.-

The results of fertility and prolificity as seen earlier are interesting when compared with other classic results of the interval between farrowing and first breeding which is 35.3 days. That gives a 149.3 day interval between farrowings or 2.45 farrows/year with 23.72 piglets/sow multiparous/year.

This same farm, "Navas" is involved in a national selection program and is the leading farm obtaining the best results of all of the program using the same or similar genetic material in all respects.

Three factors clearly influence this system:

1.-Grouping the mothers, with a female-female interaction. 2.-Separation of the piglets from their mothers during the day. 3.-The effect of the boars presence.

In the bibliography, normally similar management systems are found but which do not have all three factors in play at the same time: -Female grouping with their piglets after 21 days postparturition with a male present (Rowlinson et al., 1975). -Separation of the sow from her piglets by means of a bar in order to avoid continual suction and with a boar present (Guthrie et al., 1976). -Separation of the sow from her piglets for 12 hours per day from day 21 post-farrow (Smith, 1961; Oringyon, 1970). -Grouping of females with their piglets but without male presence (Guthrie et al., 1975).

In those sows bred in less than 25 days post-parturition the results show that the fertility remains high and the prolificity has a slight decrease.

This decrease may be due to the inferior ovarian activity in these sows during this period. At any rate, there is a clear increase in the productivity with 2.59 farrows/year and 24.27 piglets/sow/year.

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