Heat Showing Frequency, in 10 days after weaning the Piglets

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Abstract
Swine breeding activity is particularly important in increasing herds. In the first two gestation, sow produces not at its maximum capacity. The proportion of sows that showed estrus within 10 days, in individual boxes was 84.55 ± 1.18, and in group boxes was 87.30 ± 1.09. The difference was significant statistically point of view ($\chi 2$ test $p < 0.05$). It follows that maintenance of sows in individual boxes after weaning is superior that maintenance in group boxes through the fact that the females in oestrus stimulates the other, the movement in the box having a positive effect on the occurrence of oestrus after weaning piglets.

Keywords: heat frequency, weaning, piglets

1. Introduction

In gilts mature egg number is smaller, 12 to 16, but this number increases to the next ovulations and can even reach 30. The optimal number of mature eggs is recorded between the ages of 2-4 years of sow, number witch decreases gradually as sow get older. After weaning piglets, which was performed at 28 days, after parturition for tracking the frequency of estrus, sows were housed in individual or group boxes.
The difference between mature eggs released at ovulation and the number of pigs farrowed alive is on account of embryonic mortality that can reach 30-35% of fertilized eggs. The embryonic mortality is lower in gilts, but increases in the next pregnancy. So the number of pigs farrowed increase between the first and fourth birth and reaches its maximum at gestation 5 and 6 [1,2].
The heat at sows are more prevalent in the morning between 4 and 10 and in the evening between the hours of 7 and 22 p.m., which has a decisive role in determining the optimal timing of insemination or mating [3,4,5].
Getting the technical-economic expected indicators expected in breeding and reproduction farms of swine is conditioned by the organization breeding process and of raising and fattening the youth [6,7].
The sows are poliestric animals with sexual cycles that alternate throughout the year, but with some seasonality. In summer, the frequency of heat is lower, with a lower fertility rate. This is due to the high temperature, since a pig is more sensitive at higher temperatures than at lower temperature. In cooler months the frequency of heat increases as fertility rate, which reaches 82-85% [8,9].
In the two phases of the sexual cycle, under the action of ovarian hormones specific to each phase, in addition of changes from the genital tract is found also a particular behavior of females. Observing their behavioral manifestations during the four stages of sexual cycle, it is shown that the stage of estrus female behavior differs from that of the other stages [10-12]..
The duration of heats, when females support the mount is approximately 48 hours, with a range of

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38-60 hours. To Some sows the duration of oestrus is up to 120 hours [13,14].
To optimize reproduction on swine it is necessary the optimization of reproductive indices. To increase the number of piglets weaned per year, it is necessary to obtain a higher number of piglets by the sow. The most important factor which affects the number of pigs produced/sow/year is the number of births/sow/year. The best way to improve the reproduction is the reduction of nonproductive days, this being achieved by reducing the interval weaning-seeding.
Heats reappear on sows only after 8-10 days of weaning piglets, appearance of the first heat can be influenced by abundance or poor food; they can have adversely affect on the appearance of the first heat after weaning piglets. Both abundant food and poor nutrition is contraindicated because overweight can cause reproductive problems and a poor diet causes delaying the appearance of heats and ovulation.

2. Materials and methods

For this approach we conducted a scientific research in an operating farms of raising and exploitation of swine, regarding the expression of oestrus after weaning piglets and how the maintenance system after weaning piglets influences the frequency of estrus on sows and the results obtained from studies undertaken were performed using $\chi 2$ test.
The study was conducted in the spring season in order to minimize the influence of season on the occurrence of oestrus in gilts when low temperature influence favorable the occurrence of oestrus.

3. Results and discussion

From the datas from Table 1 we find that the frequency of oestrus after weaning of piglets and how they are influenced by the maintenance system in preparation for sowing sows, noting that the number of female exhibiting estrus depends significantly on the maintenance system.
In Table 1 we have present the proportion of sows witch have showed estrus during the first 10 days after weaning.
We recommend that after weaning piglets sows waiting for artificial insemination to be kept in common boxes, which has significant beneficial action on the occurrence of oestrus, movement encouraging them to enter in heat and the intensity of these is higher.

Table 1. Proportion of heat expression in the first 10 days after weaning

Boxes type	Proportion of heat expression in the first 10 days after weaning
Individual boxes	84.55 ± 1.18^{c}
Group boxes	85.04 ± 1.09^{A}

test χ^2 A-a $p<0.001$, A-b $p<0.01$, A-c $p<0.05$, a-a $p>0.05$

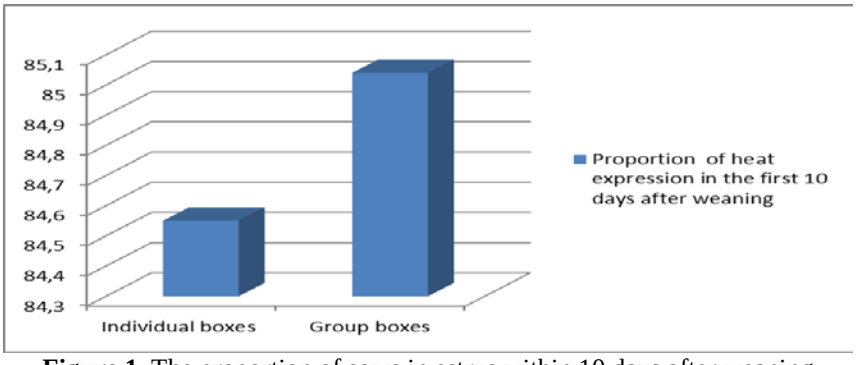

Figure 1. The proportion of sows in estrus within 10 days after weaning

The proportion of sows that showed heat in the first 10 days after weaning, by the type of boxes is shown in Figure 1.

Conclusions

Getting good results in raising pigs - a larger number of weaned piglets per sow depends on the heat manifestation and by the reducing of unproductive days especially during the waiting period for a new seeding. For intensification of breeding process it requires that after weaning piglets during the first 10 days the proportion of sows exhibiting estrus to be as high. We find that maintenance system after weaning influences the proportion of sows in heat the differences being significant between the maintenance in individual or group boxes. The best results are obtained on the maintenance in group boxes when 85.04 ± 1.09 from sows manifests estrus in the first days after weaning. We recommend that after weaning piglets around the age of 28 days sows are housed in group boxes where are obtained the best results.
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References

1. Tanaka, Y. & Koketsu, Y. A Field Study of the Associations between Behaviour and Reproductive Performance in Lactating Sows. Journal of Veterinary Medicine Science 2007, 69 (12): 1229-1233
2. Brebdan Lynch, P., Boyle, Laura, Leonard, Finola, Tergny, Annabel & Brophy, P. Studies on Housing of Pregnant Sows in Groups and Individually. Dublin: Teagasc 2000.
3. Petroman I., Untaru Ramona, Marin Diana, Breeding season influence on sows, Journal of Food, Agriculture & Environment 2013, Vol.11 (2): 305- 307.
4. Cariolet, R. & Dantzer, R. Motor Activity of Pregnant Tethered Sows. Annales de Recherche Vétérinaire 1984, 16 (2): 257-261
5. Petroman Cornelia, Petroman I, Sărăndan H., Ways of conducting puerperium in sows, Scientifical papers: Faculty of Agriculture XXXIX(2) Timişoara, România 2007, pag. 515-518
6. Petroman Cornelia, Petroman I., Pacala N., Untaru Ramona, Marin Diana, Fraiu Gianina, Avramescu Daniela, Management of sow replacement rate, Porcine Research, Bioflux 2012, Volume 2(1), June, 30, pg. 16-18.
7. Petroman Cornelia, Petroman I. , Marin Diana, Bela Angela, Untaru Ramona, Fecundity and the percentage of non returns on sows operated in summer camps, Lucrări ştiinţifice Management Agricol, Seria 1, vol. XIV (2) „Dezvoltarea rurală durabilă", Facultatea de Management Agricol, Timişoara, 20 mai 2012, pg. 467-472
8. Stančić, B., Radović, I., Božić, A. & Gagrčin. M. Sow Fertility after Conventional AI with Insemination Doses of Various Volumes and Spermatozoa Number. The Serbian Journal of Agricultural Sciences 2009, 58 (1-2): 62-66
9. Petroman I., Păcală N., Petroman Cornelia, Peţ I., Morphological and functional changes of sow ovaries after weaning and during early gestation , Lucrări Ştiinţifice Zootehnie şi Biotehnologii, Universitatea de Ştiinţe Agricole şi Medicină Veterinară a Banatului Timişoara,2000, No. 33, pp. 48-51
10. Untaru Ramona, Petroman I. , Petroman Cornelia, Marin Diana, Artificially insemination season influence upon regular and irregular returns to estrus, Lucrări ştiinţifice Management Agricol, Seria 1, vol. XIV (2) „Dezvoltarea rurală durabilă", Facultatea de Management Agricol, Timişoara, 20 mai 2012, pg. 521-524
11. Petroman I, Petroman Cornelia, Rachiciu Diana, Impact factors in the regulation offeed consumption in pigs exploited semi-intensiv, Lucrări ştiinţifice Zootehnie şi Biotehnologii, vol 40 (2), „Creşterea animalelor în perspectiva unei agriculturi sustenabile ", 10-11 mai 2007
12. Petroman I., Reproducţia suinelor, Editura Mirton , Timişoara 1997.
13. Petroman, I., Stoica, Maria-Angela & Petroman, Cornelia. Perioada puerperală la scroafă. Timişoara: Editura Mirton 1998.
14. Petroman I., Culea C., Mircea N., Petroman Cornelia, - Creşterea porcinelor, EdituraMirton, Timişoara 2002.,