

## THE INFLUENCE OF SEXUAL USE OF THE PIGS MALES ON THEIR SPERMOPRODUCTIONS

### CERCETĂRI PRIVIND INFLUENȚA DE EXPLOATARE A VIERILOR ASUPRA SPERMOGRAMEI

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The pigs rearing depends of the level of hold selection work and of the reproduction as wile it depends of the artificial insemination. The efficiency of artificial insemination depends of the reproductions' quality. The large number of the boars which have to be used in the reproduction process do not correspond to the enquirements because their low sperm quality. One of the most important cause of the boars is their wrong rearing, their late testing. The aim of the experiments was to elaborate the optimal methods of growing using, and effective methods of boars testing grown for the reproduction of the Moldovenesc meat type breed. The held experiments allow to develop the growing technology and boars using in industrial farm what include: the young boars males selection at the age of 3 month, the free feeding, their maintenance, in the groups by 4 – 6 piglets until six month age, and beginning with five month age the young boars males are trained for the sperm collecting.

**Key words:** boar, sow, breed, semen material, mobility, concentration, volume.

#### Introduction

The intensification of pig's rearing substantially depends on the level of selection - breeding work and to the reproduction of the livestock, by means of wide application of artificial insemination. Efficiency of artificial method insemination in many respects depends on quality of the of male pigs using. A plenty of the male pigs which have been grown up for the breeding purposes, are not used because of their weak sexual activity and poor quality of spermoproductions till the age of one year. The reasons of it is wrong cultivation, late terms of an estimation and use of grown up repair young growth. The carried out researches have been directed on the development of optimum modes cultivation the sexual operation and effective methods of estimation of young piglets the local meat - gammon type of pigs. On the bases of the lead researches the technology of cultivation and use of the male pigs for their operation in the

large industrial farms which includes selection of the young males at 3-month's age free feeding the maintenance groups (on 4,6 goals) up to 6 months age and from 5-month's age the young males accustom to develop the conditioned reflex on a place for the capture of the sperm.

### Materials and Methods

Research were held on a complex cultivation and had got fattened pigs at joint-stock company " Marculesti-Combi ". For experience there were chosen the animals analogies by origin, by alive weight, age and development in quantity of 12 goals. The age of boars to the beginning of experience was 3 months, the average of alive weight was 30 kg.

Feeding of the animals up to 6-month's was spent under the following scheme: animals of control group received mixed foddors on norms, on the average on 2,5 kg per head in day. Boar skilled groups (1 and 2) were fed in plenty rate norm with mixed fodder. From 5 monthly age boars all groups of pigs fed equally. The maintenance of animals during cultivation in 1 skilled group and control group was group (on 4 heads), in 2 - individual. From 6-month's age animals used active physical exercise on a mechanical simulator. Time of display of sexual reflexes for boars is considered to be from 3-month's age. For revealing an optimum mode of use of the male pigs - manufacturers have been formed three groups of male pigs by 5 goals in everyone. Sperm received in 3-5 and 7 days.

### Results and Discussions

The held researches, showed that sexual reflexes at the boars have started to be shown at the age of 3 months, the first ejaculates have been received at 5-month's age (table 1).

Table 1

Spermoproductions boar (  $\bar{X} \pm S \bar{x}$  )

Index	Age, months					
	6	7	8	9	10	11
Volume, ml	96±3	110±2*	140±9**	165±5***	180±5***	207±6***
Concentration, mlrd/ml	0.104±0.02	0.150±0.03*	0.226±0.02*	0.235±0.01*	0.220±0.01*	0.200±0.02*
Mobility, %	55	60	65	65	70	77
The number of ejaculated sper.	10.6±0.4	15.98±0.6*	31.5±5.0**	38.63±1.8***	41.96±1.8***	42.29±3.9***

The ejaculate at the age of 5 months was characterized by small volume. With the years the given parameter changes and to 7-month's age reaches the size

120 ml, at 9 month of 165 ml and at 11 monthly age the boars in 2 times allocated the of sperm, than in 6 months ( $P < 0, 001$ ).

With increasihe the age of the animals, spermatozoon concentration in ejaculate raised also and to 11 monthly age it was above in 2 times higher in comparison with a similar parameter at 6-month's male pigs ( $P < 0, 001$ ).

The mobility of spermatozoon's with the years of the male pigs has also improved. If in 6 months it has reached to 55 % and in 8 months to 65 % and to 11 months reached to 77 % ( $P < 0, 001$ ).

The quantity of ejaculated spermatozoids, describing spermatogenesis and physiological full value of sperm, with increase of boar age authentically raised. Their total increase has made  $10,6 \pm 0,4$  billion to 6 monthly, at 7 month age it was  $15,98 \pm 0,6$ , at 8 month age it was  $31,5 \pm 5,0$  or in 3 times, to 11 months it in creased in 4 times, in comparison with that parameter at 6 month age. In comparison with that parameter at 6 monthly age to 11 months has been increased in 4 times.

The intensity of the boars cultivation was rendered with significant influence on them spermoproduction (table 2).

Table 2

The boars spermoproduction of in dependence on the rise technology  
( $\bar{X} \pm S \bar{x}$ )

Group	n	Volume, ml	Mobility, %	Concentration, mlr/ml	The number of ejaculated sper.
I	82	$220 \pm 4^{***}$	71	$0.250 \pm 0.05^{***}$	$53.98 \pm 1.2^{***}$
II	108	$193 \pm 4^{**}$	62	$0.187 \pm 0.04^{**}$	$35.03 \pm 1.0^{**}$
III	103	$175 \pm 4$	61	$0.176 \pm 0.03$	$31.10 \pm 10 \pm 1.0$

The quality of the spermoproductions of the boars the from skilled group was above authentic. The volume et ejaculate on these group has the average 250 ml, in was on 20 % above the control group. The concentration was above, than in the control group, on 42 %, the mobility - 15 %, the total mobile spermatozoon was almost in 2 times.

In the second skilled group where the boars contained individually, the parameters of spermoproductions were below than in the first skilled group, but they have an excellent data on control group ( $P < 0, 001$ ).

The mode of the young boars using was, were maintained in three modes, there was an essentially influence on their spermoproductions (table 3).

The sperm of the male boars used with a mode-once in three days had the lowest parameters. The average of the volume ejaculate on this group has made 11%, the concentration - 93 %, total spermatozoon's in ejaculate has been - 34 % in relation to the group with a mode of the use once a week. The difference in all cases is authentic.

Table 3

The boars spermogramme in dependence of the regime of their using ( $\bar{X} \pm S \bar{x}$ )

The lenght (duratied) of the rest	N	The ejaculate, volume	Mobi- lity, %	Concent ration, mlrd/ml	Spermato- zoon ejaculated , mlrd	Sperma- tozoons viable in ejacula- tion, mlrd	Absolut index of viability
3	8	113± 3*	56	0.192± 0.01	20.6± 0.8***	9.8± 0.69***	189± 11.2***
5	7	116± 2.9***	65	0.234± 0.01	25.2± 1.1***	14.3± 0.7***	229± 14.0***
7	6	184± 4.1	70	0.205± 0.01	38.3± 1.0	25.8± 0.9	281± 13.1

\* -  $P \leq 0,5$ ; \*\*\* -  $P \leq 0,001$

It is necessary to note that at the mode of the use of times in 7 days the spermatozoon's mobility decreased from 70 % to 56 % in group of the male pigs from modes use of 1 times in 3 days

The operation of male pigs once in 5 days has yielded more favorable results: parameters of quantity and quality spermoproduction surpassed the similar animals, used ones in 3 days. Comparing the obtained dates with the dates the uses received at a mode once a week have shown that in this group of the animals the ejaculate volume has made 65 %, the mobility of spermatozoon's was 88 %, total spermatozoon's - 62 % though concentration of spermatozoon's was the highest.

In the group of the male boars with a mode of use once in 7 days the parameters of the spermoproduction quality were the highest: the ejaculated volume 184 ml, the mobility of 70 %, the quantity of mobile spermatozoon's was 25,8 billion.

On the basis of the lead researches the technology of cultivation repair boars and is offered to their estimation on quality spermoproductions. It is offered to select boars from 3 month age. During their first period it is necessary to grow up to alive weight of 100 kg, at 6 month age with a daily average additional weight 800 the maintenance of animals should be in groups on 4 - 6 goals, with out walking.

### Conclusions

1. The maintenance of the boars up to 6 month age in groups and in individual machine tools influences the quantity and the quality of received sperm. The parameters of volume ejaculate, the concentration spermatozoon's and their mobility wore above at the male pigs containing in groups on 4-6 goals.

2. For reproduction the male pigs can be used at 7-8 month age when the ejaculated volume and the spermatozoon's concentration correspond to the technology requirements.

### **Bibliography**

1.**Antoniuc V.S.** *Biotehniceskije sposobâ povâşenia âfectivnosti oplodotvorenia seliscohozeistvenâh jivotnâh.* Minsk, 1988, p.132.

2.**Boroniuc G.V.** *Specificul modificărilor reacțiilor fiziologo-biochimice ale spermei diferitor specii de animale în procesul conservării și elaborării metodelor de sporire a criorezistenței.* Chișinău, 1998, p.31.

3.**Darie G.** *Adaptivnâi potențial i vosproizvoditelinaea funcția jivotnâh.* Dubrovița, 1998, p.30.

4.**Nauc V.A.** *Structura i funcția spermiev seliscohozeistvennâh jivotnâh pri crioconservații,* Chișinău, 1991, s.243.