WAYS OF GROWTH AND OPERATION IN THE DIFFERENT SYSTEMS OF PIGLETS AND SWINE YOUTH

PANICI GORAN [1], DANCIU GHEORHE[1], BRAD IOAN[1], PETROMAN CORNELIA[1], MARIN DIANA[1], VĂDUVA LOREDANA[1], PETROMAN IOAN[*1]

[1] Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara, Faculty of Management and Rural Tourism, Timisoara, Romania

*Corresponding author's e-mail: i_petroman@yahoo.com

Abstract: *Among the main goals of managers from swine farms is also the way to keep alive all the pigs produced in calves, making optimum weights at weaning, obtaining high average daily highs with good conversion indexes and carcasses with high percentage meat in conditions of increased economy. In order to reduce the losses incurred at piglets and young pigs at farm level, a number of management measures need to be implemented to improve the efficiency of the exploitation. In order to reduce unproductive days in sows, it is necessary to wean piglets at younger ages but not less than 21-25 days because even shortening the sows do not show estrus. The feeding of the swine youth will take into account regardless of the exploitation system, the physiological needs, the production of the genetic material and their welfare, in order to express their productive capacity to the true value.*

Key words*: exploitation system, swine, bay piglets, youth swine.*

INTRODUCTION

The main purpose of any manager operating in a holding of breeding and exploitation of swine is in the case of growing piglets and exploiting the young pig, keeping as many piglets as possible until weaning and achieving large weight increases during the youth period with good conversion indices. The main causes of losses in infant piglets are multiple, including: [1,3,9,10,12,17]

- crunching during lactation due to poor performance technology;
- causes of embryonic mortality, which contribute to low prolificacy;
- low birth weight due to non-control of nutrition during gestation;
- diseases due to non-control of microclimate factors;
- the lack of assurance of milk needs in the first week of life;
- fetophobia due to changes in sows behavior;
- various gastrointestinal diseases;
- other unknown causes.

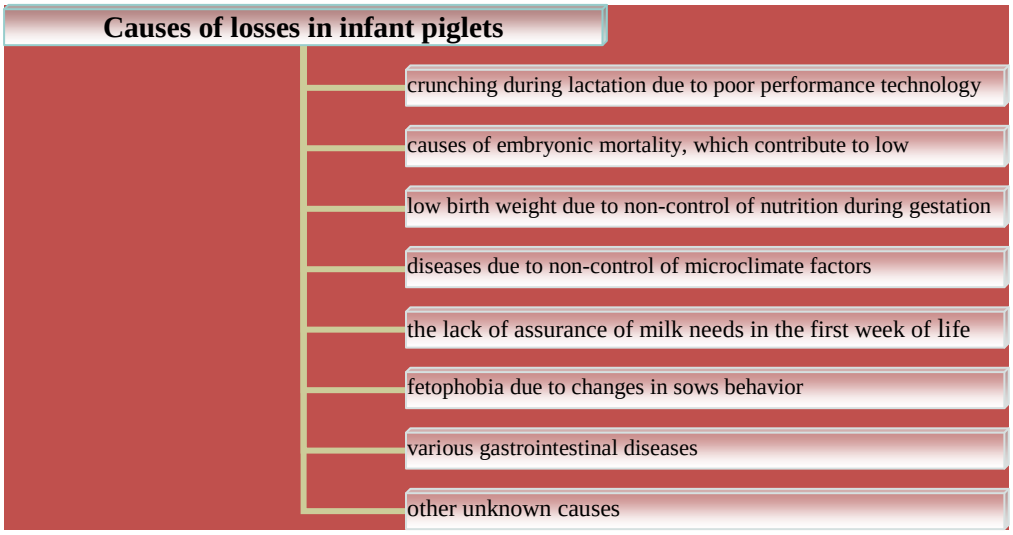

Figure 1. Causes of losses in infant piglets

In order to avoid infant losses, are needed measures through which to be improved:

- exploitation technology in maternities by building boxes to prevent piglets crushing;
- the construction of separate spaces for the detection of infant piglets;
- ensuring different microclimate conditions for sows and separately for piglets;
- feeding with lactogen fodder and with a high degree of digestibility;
- early feeding of infants with concentrated fodder from 5-6 days;
- establishing the optimal weaning age of piglets, not over 25-28 days, to improve breeding index of sows;
- improving the management of sows and piglets exploitation in maternities. [2,7,8,11,13,14]

Piglets that do not consume sufficient concentrated fodder in addition to breast milk after weaning will not achieve moderate daily increases in economic conditions and will not reach the optimum weight of 30-35 kilograms on switching to the fat category before the age of 100 days, which will have an unfavorable effect on their production for meat production and reaching the dead weight of slaughter to 150 days in the super-intensive exploitation system. Very often, weaned, weighed piglets in the youth period are infested with various parasites, which prevent normal operation, and a series of prophylactic measures are required in the first month after weaning, such as: [4,5,6,15,16]

- de-mining of youth;
- distribution of weaned youth in heated shelters;
- formation of groups based on weight at their weaning;
- feeding with feed with the same nutritional value as in the infant period;
- gradual transition from pre-starter feed to starter;
- implementing the most economical exploitation technology according to the economic possibilities of the farm;
- the use of high performance of biological material resistant to exploitation and diseases.

MATERIALS AND METHODS

In order to develop economic technologies for breeding and exploitation of swine in different exploitation systems within the framework of this scientific research, we carried out studies on the methods of growth and exploitation in order to propose the most efficient methods of growth for small and medium and exploitation, which contributes to increased meat quantities and improves farm profitability regardless of the exploitation system.

RESEARCH RESULTS

Piglets at birth have a weight between 0.870 and 2.310 kg with an average of 1,200 1,300 kg and is particularly influenced by:

- sowing nutrition during the second gestation period;
- the age of the sow;
- individual peculiarities of the sow.

However, there is a close correlation between the percentage of piglets' survival to weaning and the average weight at calving and between calf weight and average weight at weaning. Pigs weighing less than 1 kg at birth in 58% are lost during the lactation period, while piglets with high weight at birth survive in numbers and have a high average weaning weight as it results from the data presented.

Table 1.

The influence of weight at calving on average daily weight gain

The weight at calving (grams)	Weight at weaning (kg) at 4 weeks	Piglets weaned out of those calved(%)	Daily average increase (grams)
			During breastfeeding
1000,0	7,112	58,15	218,285
1150,0	8,440	87,88	265,714
1362,0	8,915	94,56	282,678
1589,0	9,053	95,12	287,607

It is noted that in the first part of life, piglets capitalize very good the milk with a rapid growth rate, increasing body weight from birth nearly 5 times up to age 30 days. In the first 10 days of life, breast milk is the only food that ensures both the need for vital functions and growth. In the first 6 days, the piglets suck 16-18 times per day a day. Throughout the lactation period, a piglet consumes 31-37 kg of milk and consumes 2.8-3.8 kg of breast milk to achieve one kilogram of weight. Most sows in the first two weeks of breastfeeding produce the necessary milk for the normal growth of piglets, but after this period, milk production decreases, while the needs of nutrients to ensure the growth rate increase. If there is no supplemental feeding with concentrated feed, there is a growing stagnation. In addition to feeding nutrition, the nutritional value must be taken into account, not only by their nutritional value, but also by their digestibility and taste.

The supplementary feeding of the piglets starts on the fifth day from the calving in the intensive system and 10 days in the household system. Depending on the exploitation system, fodder is as follows:

- In the intensive system: on the fifth day, pre-seeded granulated feed is initially distributed in small quantities in special feeders, and the amounts are increased depending by the consumption as at 15 days the feeding to be at discretion, to fill the vital functions and increase when breast milk no longer covers the necessary;

- In the household system: when there is not pre-starter feed available, the supplementary feeding is made with roasted barley or roasted soybeans, which is administered from the age of 8-10 days. Besides the grains grinded in the troughs, coal is also administered and mineral supplements. Good results are obtained when supplementary feeding is introduced the cow's milk and for the supply of vitamins, green fodder, chopped carrots and seasonal lucerne meal are administered.

Weaning being a critical phase in the life of piglets, due to the elimination of milk from daily food and separation by sow in industrial growth, accumulate several stresses:

- moving to another shelter;
- batching for uniformity of batches depending on the size of the box;
- twinning;
- setting group hierarchies.

Research from the field highlights that the average daily gain is reduced by 60% in the first 5 days after weaning piglets if this activity is not well managed compared to breastfeeding. To reduce these inconveniences regardless of the operating system, we recommend to be implemented the following measures in farms:

- construction of shelters which to maintain the same conditions as maternities;
- designing boxes with adequate capabilities to reduce weaning stress;
- preparation of piglets by habituation with concentrated fodder;
- providing feed with the same nutritional value as in the lactation period;

Weaning technology according to the breeding system can use the following methods:

a) removing on the same day the sow and piglets from birth box;

b) removing the sow from the birth box and keeping the piglets in the box;

c) separation of the sow in the last period of lactation from piglet and breastfeeding of the piglets 3-5 times a day in the household system.

Regarding the age at which weaning can be made, we propose the following variants:

- traditional weaning at 56 days in the household system;
- semi-fast weaning at 35 days in semi-intensive system;
- early weaning at 25-28 days in the intensive system;
- ultra-fast weaning at 21-24 days in the ultra-intensive operation system;
- weaning to obtain free-range piglets by performing Caesarean operation at 112-113 days of gestation.

We propose a farm management system for two piglet weaning systems, in order to improve breeding clues for weaned sows at 21 days and 56 days:

- traditional weaning at 56 days piglet age:

a) breastfeeding for piglets 56 days;

b) the sowing period for a new gestation 11 days;

c) 115 days gestation. There is a sown index of sows per year of 2,005 and a proliferation of 10,50 piglets per calving per year is obtained in this system 21,05 piglets.

- ultra-high weaning in super-intensive system at the age of 21 piglets:

a) breastfeeding for piglets 21 days;

b) the period of preparing the sows for sowing 8 days;

c) gestation period of 115 days. The index of using sows per year will be 2,535 calves per year and at a proliferation of 12,85 piglets per calving per year per sow can be obtained 32,125 piglets per year.

Table 2.

Comparative results of two weaning systems

Item	Calving of sow per year (number)	Piglets obtained per year (heads)
Weaning at:		
56 days	2,005	21,050
21 days	2,535	32,125

For the growth and exploitation of the swine youth according to the exploitation system we propose:

• exploitation of youth in calving boxes up to 8 heads until 100-120 days in unmodified units;

• exploitation in batteries or on the ground;

• exploitation of young people in heated or unheated special boxes of 200 heads;

The feeding of piglets in industrial exploitation, both in batteries and in boxes on the ground, with or without under floor heating, it is made with compound feed in granular or flour form. Feed management is done, mechanized in industrial units and manually in smaller household units.

In the first 5 days of the crèche, the change is made to the new feed used for for the crèche period. In the first 2 days of the crèche piglets receive all pre-starter feeds , and in the next days to replace, gradually, every day, 25% of starter pre-starter feeds specifically for young people. Feed is administered at discretion, taking into account daily consumption.

CONCLUSIONS

The managerial measures that must to be implemented in any holding by raising swine irrespective of the exploitation system are meant to reduce livestock losses in both infant and young pigs. Getting good results in growing piglets, heavy weights at weaning at 21-25 days has effects on the sow use index of 2.5 calving per year and more than 32 pigs in industrial exploitation. In exploitation in household system through a high performance management, the annual sow use index may be 2 fetuses/year and over 21 piglets can be obtained. Technology implemented under the exploitation system can help achieve economic performances and make it profitable for farm work if piglets weigh more than 1 kilogram at weaning and this is done at 21-25 days of age.

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