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METHODS FOR IMPROVING THE MANAGEMENT OF SWINE PRODUCTION SYSTEMS

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Abstract: Choosing the type of pork production management is made depending on the existing resources in the area, market needs, knowledge, training in the breeder's field, the ability to invest in the material base and the profitability of the system. The profitability of the production system is influenced by factors economic conditions, the price of fodder used for fattening, the evolution of the meat price on the market, human resource expenses, the price of energy and the achievement level of some technological parameters foreseen by the implemented farm management. Professional farms that have a technological flow and are integrated in the meat chain, if they have implemented the best production management, produce appreciable quantities of meat in economic conditions, if they produce their own biological material for fattening or procure it from the units of selection and improvement specialized in the production of commercial meat hybrids.

• Introduction

Swine meat production is carried out today in different production systems in different types of professional or non-professional farms integrated or not integrated in the meat chain. These swine farms can be:

- ☐ non-professional, where they exploit:
 - a. small number of fattened animals for self-consumption and the local market;
 - b. procures its genetic material from other producers;
 - c. the genetic material is adapted to exploitation in conditions of non-assurance of a balanced nutrition and the maintenance is done in improvised spaces;
- ☐ large professional with closed circuit, where exploitation is of industrial type;
 - a. have a sector of industrial reproduction, maternity, youth growth, fattening;
 - b. processes its production in its own slaughterhouses;
 - c. have their own distribution and utilization logistics.
- ☐ super-intensive professional, where the pork production activity:
 - a. is foreseen;
 - b. good economic results are obtained;
 - c. production is integrated;
- ☐ specialized in obtaining commercial pigs. They produce small amounts of meat by slaughtering sows.
- ☐ for the selection and breeding of breeds, used in the production of breeders needed for commercial hybrids. The quantities of meat obtained are small and result from the slaughter of animals that do not correspond to the selection.

• Material and method

Within this scientific approach, the aim of the research undertaken in professional swine farms integrated in the meat chain, was:

- analysis of meat production;
- achievement of technological indicators;
- finding solutions to improve sectoral management on meat sector;
- proposal for the implementation of the most cost-effective production system to ensure the achievement of the best technological indices in obtaining meat according to the financial strength of the professional farm and the needs of the meat market, which will make the farms performant.

• Results and discussions

We propose for implementation a system of integrated meat production in a closed circuit, with the following technical indicators expected to ensure profitability for the entire meat supply chain:

- the age of 185 days when the sows enter breeding;
- utilization index: 2.5 calvings/year;
- Service interval = period of preparation for insemination (7 days) + lactation period (28 days) + gestation (113 days) = 148 days
- non-productive interval of the sow: 10 days/year;
- birth rate: minimum 95%;
- Birth rate: Sows inseminated/sows farrowed x 100
- live piglets/sow/year: 36 heads;
- weaned piglets/sow/year: 35 heads;
- fat pigs at the slaughterhouse/sow per year: 34 heads
- average delivery weight 100;
- quantity of meat delivered/sow/year: 3400 kg;
- fattening and finishing period 148 days;
- exits from the herd from birth to arrival at the slaughterhouse: 7%.

Figure 1. Microclimate criteria

No.	Item	Value
1.	Temperature depending on the season	14-16 °C;
2.	Humidity	60-75 %;
3.	Air current speed:	
	Summer	1,00 m/second;
	Winter	0,50 m/second;
4.	Gas concentration:	
	Carbon dioxide	3,000 ‰;
	Ammonia	0,020 ‰;
	Hydrogen sulphide	0,012 ‰;
5.	Ventilation rate m.c. /head /hour	
	Summer	80,0;
	Winter	20,0

• Conclusions

Improving the management of production systems requires conducting analyses to choose the most effective technological solutions for the entire chain of production, processing, distribution and utilization of swine meat. Choosing the most profitable production system depends on the qualification degree of the human resource, the financial strength of the company to invest in the improvement of the material base and the demand on the swine meat market.