MANAGEMENT OF PORK PRODUCTION IN COMMERCIAL EXPLOITATIONS

MANAGEMENTUL PRODUCȚIEI DE CARNE DE PORC ÎN EXPLOATAȚIILE COMERCIALE

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The livestock determine in the population consumption of highest nutritive value compared with the crops. The economic opportunity of livestock is determined by their ability to produce lots of meat, while short time. With the increasing requirements for pig meat are also increased demands from production quality. Thus, lean meat (most requested) must come from young animals, fattened. In the Romanian agriculture, growth of pigs is done the traditional production system (individual exploitations that are mostly subsistence), but also in technological systems based on scientific principles (exploitations connected to economic flux), under extension, based on private initiative event. In these latter exploitations, is applied method offered by science management. Breeds of pigs, becoming more efficient, requires specific conditions that may be generated by the use of technologic management. The specialization of exploitations could contribute to the rationalization of costs; they are to target a specific category of swine. In addition, pig breeders could use the methods of cooperation to form a continuous flux of activities to increase. Deficit current reduction of pig meat can be achieved by creating commercial exploitations, obtain favorable in terms competitiveness and efficiency.

Key words: pig meat, young animals fattened, science management, commercial exploitations.

Introduction

According to Romanian statistics in the field, food costs have a significant share in the total expenditure, in average accounting for 44.3%. Meat is among the food preferences of the population, whose average consumption is 61.05 kg/capita, which we approach to the average annual per capita in the countries of Western Europe (65 kg/year/capita). In the last time, there is progressively increasing consumption of meat, pig meat is the product of basic food and consumer preferences (over 50% of the total meat), with favorable economic repercussions.

In the transition to market economy, pig have been changes in terms of numbers (from 11,671,000 head in 1989 to 6,700,000 head in 2002 and 6,814,605
head in 2006 - Fig. 1; last period, the herds have increased by approx. 50%), structural (the share of the races and classes of pigs) and differentiation by type of property and the dimensional structure of holdings in which they grow. Since 2003, private exploitations have become prevalent in growing pigs (99.5% in 2006 - fig. 1).

Fig.1 - Pigs bred in Romania

Regarding the numerical distribution of the number of pigs for meat, on the regional development, South Muntenia Region is representative (19%), followed, descending, regions: NV (15%), SV Oltenia (14%), West (13%), SE (approx. 13%), NE (approx. 13%), center (11%) and Bucharest-Ilfov (2%) - figure 2.

Fig. 2 - Number of pigs for meat, distributed by region of development

Pig meat is notable by high energy value (113.90 kcal./100g the lean, the meat 221.22 kcal./100g average 368.17 kcal./100g of meat fat), protein content (20% in
lean, 14.6% fat in meat, protein value of pig meat is exceeded by the turkey and rabbit), mineral elements (Na 57 mg/100g, K 364 mg/100g, Ca 7 mg/100g, P 4.4 mg/100g etc.) and vitamins (0.52 mg/100g B1, B2 0.14 mg/100g, 2.4 mg/100g PP). Assure of pig meat consumption are from intern production and export. Therefore, there is a need for maintaining a functional relationship between demand and supply, which includes the consolidation of small exploitations and their branch on agriculture, trade capitalization exploitations, creating a farms set up on private initiative and the exercise of proper management (for efficient management of the factors involved in obtaining the production of meat pig).

Material and Method

Pigs are adaptable animals and can be reared in the traditional house system (in small exploitations, in stables or classical semicircular structures, outdoor, pasture), or quickly and efficiently, in intensive exploitations. However, the corresponding increase in meat pig, they ensure fresh tasting and excellent flavor. For choosing the most profitable system of growing and fattening pigs, shall have regard to economic and technical criteria, such as financial resources, number of animals, feed resources, farm mechanization, labor, providing energy, water, road access, veterinary health care, evacuation droppings, etc.

After the way the circuit of production, are different: the growth of closed circuit (the flow of production includes the following links: reproduction, motherhood, youth growing and fattening pigs), the increase in specialized farms (some farm produce and pig farms are only fattening them) and the growth Holding; the latter (vertically integrated) includes: associations or cooperatives of arable land, producing the necessary sources of feed, the CNF; farms producing piglets wean; strong growth of youth; fattening farms, slaughterhouses, supermarket. Each subunit is private property and their assembly is done at the level of services (supply, transportation, sales and financial operations).

To achieve this study was to use statistical observation, data analysis, analysis of management exercised in raising pigs on different exploitations.

Results and Discussion

The intensive system of fattening used in commercial exploitations is specific of the large number of fattening pigs. Most units have address this CNF's, breeding farms to produce sows F1 (Landrace x Great White), strictly defined sectors, shelter for boars, shelter for sows in preparation for the mount, sector of pregnancy, maternity, youth sector and fattening. All shelters are divided to ensure a "full everything - everything naked, to execution (after depopulation) cleaning, washing, disinfection compartments to be populated. Maternity and youth shelters are heated in winter and even in late autumn or early spring. Also, some units are equipped with slaughterhouses and factory prepared, even with stores for the sale of
products, which are not provided with such facilities to deliver fat pig slaughtering units (fig. 3).

Fig. 3 - Circuit production - processing – pigs value of meat

The influence factors of profitability in the growth and fattening pigs. In order to achieve trirasiali and hybrids tetrarasiail slaughter herds of reproduction is necessary to come from strong selection and testing of elite farms or farms of their growth in pure breed, boars terminal in acquiring specialized meat breeds (Duroc, Line synthetic 345 Periș, Hampshire etc.). The breed is that, firstly, they provide essential input on the direction of production of livestock species. Concerning pigs, there are breeds with the index of feed conversion very good, specific consumption of feed and is low and large increase in weight (Landrace, Duroc, Yorkshire etc.). Breeders need to know well the potential growth of the animal, the protein needs and (amino acids) for to adjust feed accordingly. Thus, pigs selected for meat production (with a high rate of deposit of protein and low fat deposition) requires, usually, more protein in the diet. For access to feeding, in addition to arranging proper watering and nutritious, it is necessary to ensure optimal animal density in the box. Also, is influenced ambient temperature, low temperature in piglets affects the immune system, increase of the consumption feed is inefficient, the animal consuming energy to maintain body temperature constant. On the other hand, elevated temperatures (hot in summer) cause slow growth-fattening due to decline of appetite.

Phase growth - fattening involve high consumption of feed and to increase profits, it is necessary to use cheaper feed in diet that give the best results. When buying food complete, it is important caloric intake/kg feed and the lysine: calorie. Essential vitamins and minerals in the ration increased efficiency, especially in
young animals. In cases where feed is prepared in the farm, should be well mixed ingredients (according to the manufacturer's instructions) to avoid any nutritional problems, or even toxic. However, ration, in addition to scientific formed, must be healthy and appetizing. You can also use alternative feed ingredients (wheat quality unfit for human consumption of bakery products, whey, vegetable, potato etc.), good quality, not to affect health or performance of pigs, which, because each area has their variety of alternative ingredients, some very cheap. Food is processed to achieve a certain granulosity (corn granulosity $\mu \approx 700$), allowing digestive enzymes to better interact with nutrients, thus increasing the feed conversion. Concerning the technique of feeding, differences are generated by feeding frequency, type of feed (wet or dry), age and weight of pigs. To optimize productivity, experienced breeders modify the percentages of nutrients in the diet several times during the growing-fattening pigs needs change and they are gradually during fattening. To obtain a pig of 100 kg (economic optimum weight for pig meat), efforts are needed payment for the supply of feed (65-75%), energy consumption and fuel (approx. 5%), farm maintenance (3 -5%), health and veterinary treatments (5-10%), and the acquisition of valuable animals - "the breed" (1-3%). In the case of commercial farms operating on market economy principles, and are financial charges (10%), as duties, taxes, bank interest, payment facilities, equipment etc.. Because the feed represents approx. 2/3 of the growth costs, is essential in reducing losses during cultivation, purchase, harvest, feed storage, and during feeding of animals.

A rational diet consists of the rules of nutrition, food hygiene and technology, appropriate to the animal and physiological state. It is necessary to avoid unbalanced food ration with energy, protein etc. ratios or inadequate nutrition. Switching from one intake to another or introduce new feed ration should be done in phases. Water should be given "ad libitum" fresh and hygienic. Provide front feeding properly applied technologies and strict compliance with the feeding program.

### Table 1

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight, kg</th>
<th>Increase hab</th>
<th>Place shelter m²/cap</th>
<th>Feeding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piglets infants</td>
<td>(0,8 – 2,0) → (8,0 – 10,0)</td>
<td>maternity</td>
<td>0 – 1 (57 - 62g PB)</td>
<td></td>
</tr>
<tr>
<td>Piglets wean</td>
<td>(8,0 – 10,0) → 30,0</td>
<td>nursery</td>
<td>0,4</td>
<td>0 – 1 și 0 – 2 (17 – 19% PB)</td>
</tr>
<tr>
<td>In fattening pigs</td>
<td>(25,0 – 35,0) → (&gt; 100)</td>
<td>sectot of fattening</td>
<td>0,8</td>
<td>15,7% PB – 13,7% PB**</td>
</tr>
</tbody>
</table>

Traditional weaning at 15-20 kg, weaning semiprecece 5 - 6 weeks (9 - 10 kg), early weaning from 2 days to 1 month.

** PB - Gross protein
In order to ensure operating conditions (microclimate, density and group size etc. – table 1), closer to the eco-biological characteristics of animals is necessary technologies to optimize exploitation of pigs (Dinu I., 1988).

Fattening pigs is the final phase flow technology, which ends with the delivery of animals to the slaughterhouse. This sector has the role of the young pig over a mean body mass 25-35 kg, from nursery, and the weight planned for delivery to the slaughterhouse (100-120 k).

The fattening technology is different, on the one hand, depending on the direction followed (pig meat, pig for half, bacon, pork Salami for dried pork for ham), and on the other hand, the practice of fattening (intensive semiintensiv, extensive). Technology includes shares much lower than in other sectors, a focus on feeding and resting ensure proper microclimate. To bring the pig from 20 to 110 kg live weight, consume approx. 240 kg food, 0.508 m³ of water for drinking (at normal temperature, at high temperatures, water consumption is doubled). The fattening sector, if managed competent result in positive economic results, often results offsetting some of the other sectors.

_Slaughterings situation and hence the quantity and quality of pig meat intern market._ Number of slaughtered pigs (fig. 4) and carcasses weight (fig. 5), during 2007-2008, decreased by 9.3% and respectively. 10.7%. Although, the total pigs decreased in 2008 compared to 2007, with 1%, in specialized industrial system has been an increase of 13.7%. Of the total number of pigs slaughtered about 40% came from industrial specialized units (data processed by the press release of the National Institute of Statistics and 23/2009 exhaustive statistical research, and publications of the Ministry of Agriculture, Forestry and Rural Development).

Concerning carcasses obtained, in 2007 a carcass weight was 83.04 kilograms, per total of 76.8 kilograms and housing obtained in specialized industrial units. So, the animals were slaughtered quality (slaughter weight of 100-110 kg yield of
approx. 75% low fat), which attests to start the process of adjustment to European norms in the field of slaughter animals.

The Growth strategy in pigs is to create commercial-sized farms, producing for the market and closely related to conditions of quality and price. The methods of this strategy include research and development of new models and new technologies, a particular management practice, choosing the best distribution networks and promoting quality. Forming a viable and competitive sector in pigs’ growth is sustained and that the enlargement of the European Union will continue to improve the general economic environment in which farms operate: in a bigger market production levels will increase, resulting in greater productivity and savings scale.

A common framework provided by the Single Market will increase economic efficiency of production and marketing of pig meat by improving allocation of resources, increasing competition and encouraging specialization.

European standards are powerful means of strengthening the competitiveness of EU enterprises. They help to transfer and disseminate technology for the benefit of all. Standards can improve the efficiency of Community policies in important consumer welfare, environmental protection, trade and Unic Market.

Standardization European Union assist industry to achieve a degree of importance in global markets and, at the same time, help to complete the internal market in which standards are used to support the legislation.

Standardization is considered a key strategic instrument, which because of its contribution to obtaining market access of the livestock. They application in increasing Romanian pigs exploitations will have a social impact on health protection, food safety and environmental Standards also provides technical solutions to problems of exploitations and facilitate production activities through their associations with marketing in order to take over, processing, transport and marketing of pig meat. In this way, is the concept of development cooperation and achievement pork chain (joining a solid management - marketing). Integration into European structures determining a number of changes on a production increase in the pigs (size and structure, the food system maintenance). They relate not only to large farms, characterized by applying scientific management, but also to individual exploitations, which grows a small number of pigs, where decisions are not scientifically, it recourse to tradition, skills of producers.

The new conditions on the management of production pig meat must meet size requirements, the impact on the level of expenditure zoo veterinary), demand, quality competition. Thus, regulations are:
- small breeders must ask the neighbors, if they want to grow more than three pigs, and a producer who does not appear that the acts prohibited farmer is to grow more than 20 animals;
- producers who raise pigs for sale, must comply with rules and drastic to provide them all the comfort. Thus, boars must have place to turn, smell and presence of other pigs and get clean for the rest. To better control the movement of meat,
National Sanitary Veterinary established that pigs reared in the yard may not be sold outside the locality;
- according to European standards, application of appropriate management includes determining the quantity of straw to be used as bedding in the shelter, the temperature to be ensured, and if pigs are related, the links not to hurt and to allow movement.

In the current generated by European standards, there are legal and necessary to support the pig meat, represented by the development of a program initiated by the Ministry of Agriculture, Forestry and Rural This program is considering the technical aspects (improvement of the pig population to improve the quality of pig carcasses), but also economic aspects and management (organization competitive and efficient farms in rural areas, improving the dimensional structure of farms, increase revenue from the growth of pigs, the shift from individual production to commercial production).

**Conclusions**

An agriculture developed has a strong livestock, which in some cases, is mainly in agricultural production. Livestock products offering higher value compared to crop production.

As a result, it has a greater contribution to the creation of gross value added in agriculture.

The animals convert (conversion) feed, recognized by their low value, in products of high nutritional value, which are absolutely necessary in ensuring rational human nutrition.

On the medium and long term, rehabilitation and recovery of the pig meat sector can be achieved by (MAPRD): introduction of the Community grading pig carcasses; correlation of payment with pig meat quality, alignment with EU standards regarding the granting of subsidies to balance cost recovery with the manufacturer the expenses incurred on the product.

**References**

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