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Research Article

POULTRY MEAT PROCESSING: ECONOMIC EFFICIENCY, MANAGEMENT AND DECISION MAKING

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Abstract:

The processing of poultry meat has a number of significant advantages over other processing branches of livestock raw materials, both in terms of cheaper raw materials and in terms of the extensive marketing of manufactured products. The price policy of processing poultry meat is also cost-effective. In addition, poultry processing provides the population with highly nutritious dietary foods. Monitoring various complex factors is a serious problem in the modern processing industry of agricultural products and the diversity of raw materials. Therefore, a continuous analysis of all factors affecting the processing industry should be carried out and evaluated, managed and made competent decisions. The introduction and justification of the effectiveness of the organization of the poultry meat processing plant in the existing organization is reflected in order to increase competitiveness and a competent approach to business.

Key words: processing, poultry meat, raw materials, agriculture, costs, economic efficiency, management.

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INTRODUCTION:

Today, the bird ranks second after pork in the world structure of meat of all animal species. Poultry meat will occupy the first place in 2020. According to the FAO of the United Nations, the annual meat gain will be in 2011-2025: 3.1% for poultry, 2.6% for pork, 1.3% for beef, and 0.2% for other types of animals. The USA, China, Brazil and Russia are the poultry meat producing countries.

Rational management of the economic subject of business is a vital need of any organization [1,2]. The current socio-economic situation and the level of economic development require new tools in the field of management and decision-making [3,4].

The problems of management, analysis and development efficiency of the poultry industry as well as the processing of poultry raw materials are highlighted in the works [5, 9,13,14,16], but it needs to be developed and supplemented for small businesses.

In accordance with the State Program for the Development of Agriculture and Regulation of Agricultural Products, Raw Materials and Food for 2013-2020, dated July 14, 2012, the main objectives of the development of priority agricultural sectors are:

- 1) increasing the volume and improving the quality properties of production, as well as the processing of the main types of agricultural products;
- 2) increasing the export potential of agricultural products and products;
- 3) the formation and development of socially important sectors of agriculture, ensuring the saving of the usual way of life and employment of the population;
- 4) the alignment of imbalances in the agro-industrial sector through state support;
- 5) assistance in the establishment and development of the infrastructure of the agro-industrial complex;

6) maximizing the efficiency of regulation of the markets for agricultural products, raw materials and food;

7) increasing the level of profitability in agriculture to ensure its sustainable development;

8) improving the quality of life of the rural population;

9) the development of biotechnology, the development of agricultural land reclamation;

9) development and development of biotechnology and land reclamation of agricultural land;

10) ecologically regulated introduction in agricultural production of land, water and other natural resources, improvement of soil fertility to the optimum level.

“Processing of cattle by-products and their trade” is the main type of operating organization on the basis of which it is planned to organize the processing of poultry meat. A poultry processing plant can be introduced into this organization; In our opinion, today this direction is a profitable industry for the development of the organization as well as for the whole industry. It is quite possible to occupy a place in the grocery market for the processing of poultry meat due to a decrease in imports, low-quality meat semi-finished products [8, 15, 17, 18].

Certain solutions and approaches are needed for sustainable development and the functioning of processing organizations that provide a balanced solution of socio-economic problems and problems. Problems of preserving a favorable environment and the potential of natural resources to meet the needs of present and future generations of people are also priorities [6, 7, 10].

In addition, an important role is played by the environmental component of the organization - environmental sustainability. Environmental sustainability characterizes the ability of an organization to rationally use natural resources, apply resource-saving and energy-saving technologies, and reduce the negative impact on the environment [11,12]. The following indicators (table 1)

characterize the environmental component of the organization's sustainable development.

Table 1. Indicators characterizing environmental sustainability

N	Indicators	Calculation formula	Characteristic
1	The share of environmental payments in net profit, %	Environmental Payments / Net Income	Characterizes the level of environmental payments in net profit.
2	The cost level for environmental studies in % of net profit	Environmental Research Costs / Net Income	Characterizes the level of costs for environmental studies of the enterprise.
3	The cost level for the restoration of soil fertility per 1 ha, thousand rubles/ha	Soil restoration costs / Agricultural land area	Shows the cost of the enterprise to restore soil fertility

The number of sales of chicken and turkey meat is increasing every day, compared with the sale of pork or beef. First of all, consumers are interested in the low price of poultry meat and their excellent taste. In addition, poultry meat has dietary properties and high protein content; therefore, this product becomes very desirable at its low cost.

Therefore, profits from the processing of poultry meat will pay back all the costs of starting a business.

Consider the method of processing poultry meat in Figure 1.

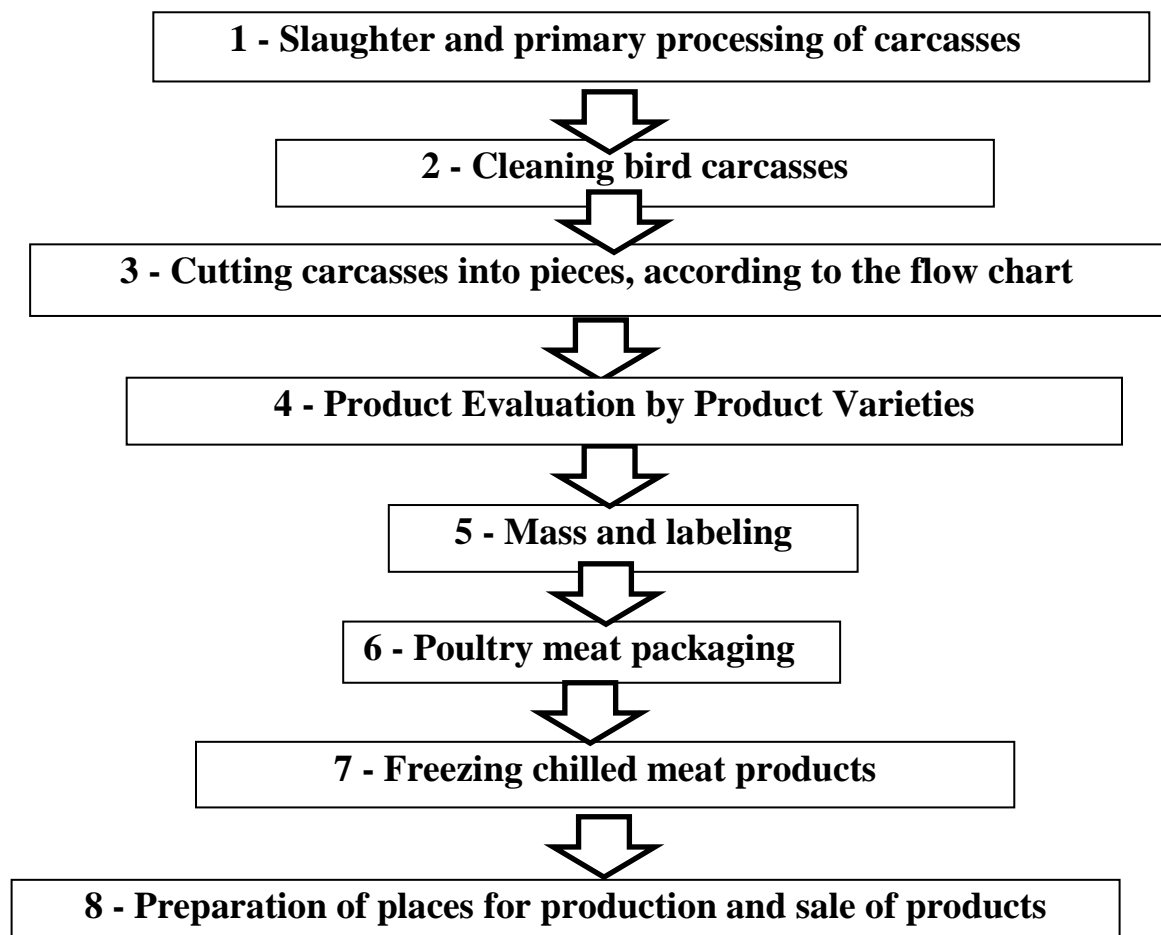


Figure 1. Methods of processing poultry meat.

Today, organizations (mini poultry processing shops) can conclude long-term supply contracts between farmers and peasant farms. If the quantity of supplied raw materials is not enough to ensure the volume of the planned production, it will be necessary to consider the issue of creating your own database of poultry producers. If you have the necessary amount of cash, it will be easier to set up your own fattening organization.

Products of the poultry processing plant will be as follows:

- bird carcasses;
- natural bird fillet;
- poultry fillet in breadcrumbs;
- chicken legs, turkey;
- chicken breast;
- thighs, chicken drumstick, turkey;
- smoked poultry meat products;
- Soup sets of legs and heads of chickens;
- offal of chickens and turkeys (liver, heart, ventricle).

The equipment that will be needed for processing poultry meat in the workshop is listed below.

Table 2. Equipment for processing poultry meat and shop equipment

No	Equipment	Quantity, pcs	Price for 1 pc, rub.	Cost
1	Scales for acceptance of raw materials	1	14 500	14 500
2	Trolley complete with 8 plastic boxes for meat products	4	4 000	16 000
3	Knives for deboning poultry meat	3	5 000	15 000
4	Special scissors for narrow cutting	2	1 000	2 000
5	Scissors for cutting limbs to large birds	1	3 000	3 000
6	Bird feathering machine	1	30 000	30 000
7	Polypropylene cutting tables	4	1875	7500
8	Circular saw for cutting poultry carcasses, with a capacity of 400 pieces per hour	1	56 000	56 000
9	Scalding equipment for poultry	1	16 000	16 000
10	The device packing in a thermal film	1	4 500	4 500
11	Electronic scales for packaged goods	1	500	500
12	Chest freezing capacity of 472 liters	1	16 500	16 500
13	Shock Freezer Cabinet	1	138 000	138 000
	Total	x	x	319 500

Thus, the cost of equipment for processing poultry meat will be 319,500 rubles.

Staff and salary costs.

It is worth hiring the following workers in a work shift for our poultry-processing workshop with a capacity from 400 kg to 2 000 kg:

- 1) Director - 1 person - will take and weigh the raw materials.
- 2) Employee No. 1 - 1 person - will be engaged in the acceptance of raw materials, preliminary washing, loading into the machine for scalding, feeding raw materials to the cutting tables, cleaning up the remains of lint and feather. It can also work on a circular saw for cutting poultry carcasses.
- 3) Employee # 2 - 1 person - will manually chop bird carcasses and sort offal.
- 4) Employee №3 (together with the director) - 1 person - will be engaged in vacuuming and

packing of finished products, weigh and mark, and also determine them by freezing chambers and freezers. He will do this with the director.

- 5) The driver (along with the director) - 1 person - will be engaged in loading the goods into the car, the expedition, and receive the proceeds.

The salary for the shop workers is 28,000 rubles; this is the average salary in the republic. In order for the workshop to work in 2 shifts, we should hire three more workers. It is necessary to add another 84,000 rubles to the payroll. Also for further work, we need an accountant. The average price for the services of the company for the maintenance and submission of accounting reports is 3,000 rubles. Total salary fund is 227 000 rubles per month.

Consider the distribution of investments in more detail in Figure 2.

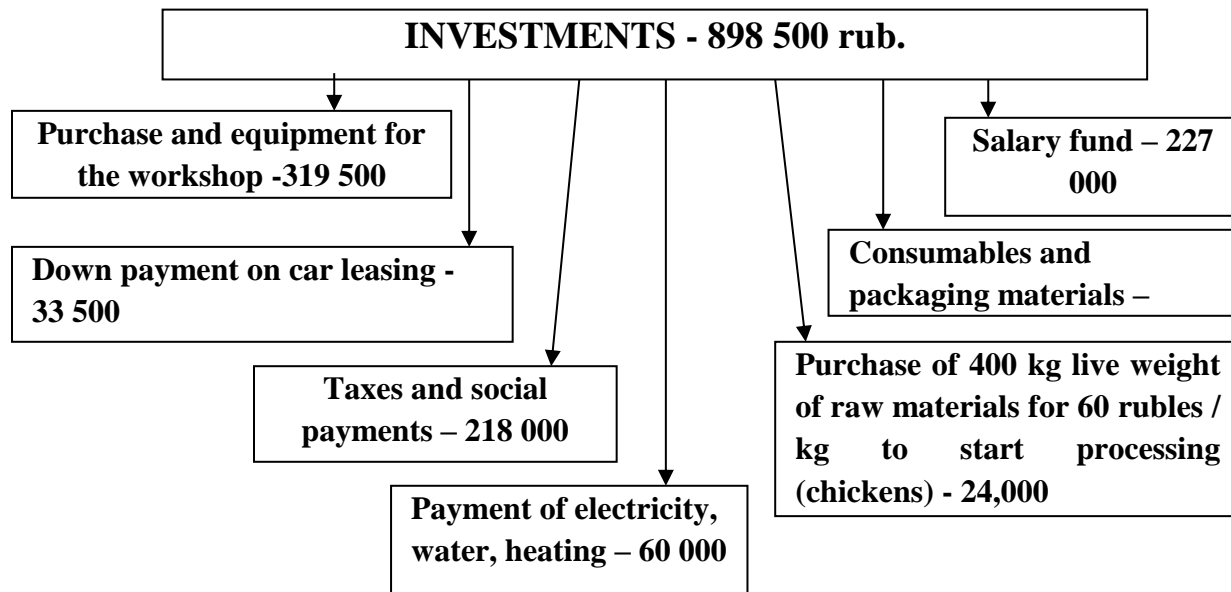


Figure 2. The distribution of investments

So, we will need about 898 500 rubles (initial investment) in the first month with a planned sales volume of 60 tons of meat per month.

Calculations of the payback of the workshop are considered in tables 3,4,5.

Table 3. The cost of production per ton of poultry meat

No	Indicators	Cost (in rubles)
1	The wholesale price of chickens with a live weight of 60 rubles / kg, taking into account the own delivery of 5% surcharge per 1 ton	63 000
2	Packaging costs	2 900
3	Production costs: <ul style="list-style-type: none"> • salary • taxes and social benefits • payment of electricity, water, heating • costs for sanitary processing shop 	4 000 3 000 2 000 2 000
4	Total	76 900

According to table 3, it can be concluded that it is necessary to incur costs associated with the purchase of chickens, as well as the purchase of packaging materials and production costs for the performance of one ton of poultry meat.

Table 4. Fixed production costs

No	Indicators	Cost (in rubles)
1	Depreciation of poultry meat processing equipment	155 180
2	Wage	3 324 000
3	Payment of electricity, water, heating	720 000
4	Taxes and social benefits	2 040 000
5	Advertising and Shipping	232 800
6	Total	6 316 800

Table 4 identifies fixed costs that do not change with changes in the production of poultry meat. This volume of production includes the cost of production, namely, depreciation of equipment, wages, social contributions and material costs.

Table 5. Variable production costs

No	Indicators	Calculations (in rubles)
1	The cost price of one ton of production is 76900 rubles, we multiply by monthly productivity 60 tons, and by 12 months	$76\,900 \times 60 \times 12 = 55\,368\,000$
2	The planned annual revenue from the sale of processed poultry meat, with an average retail price of 120 rubles per kg.	$720 \times 120\,000 = 86\,400\,000$
3	Profit is taken as the difference between annual revenue and cost of production.	$86\,400\,000 - 55\,368\,000 = 31\,031\,000$

Table 5 shows the variable costs, which are the most important indicator of the enterprise. This data is used to create plans for finding ways to reduce total costs.

Summing up the results on tables 3,4 and 5, we can conclude that the payback period of the processing plant for poultry meat is 3 years. Consequently, it can be concluded that the prospects for such a combination of processing poultry meat (raw materials) and the production of finished products is beneficial for business. Since this business gives excellent profitability with relatively small cash investments. Consequently, the proposed management methodology contributes to the development of specific mechanisms for managing business processes.

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