

Business plan for the production of poultry meat and down-and-feather raw materials

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1. Description of the project idea

1.1. Goals of the business plan

- To substantiate the profitability of the chosen activity – poultry breeding based on the existing own production facilities and disposal/sales of down-and-feather raw materials (live-deplumation) and poultry meat on the domestic and export market;
- To analyse the market and to forecast sales of the output finished goods in the course of the increase of production capacities;
- To estimate the expected financial results and to work out the financial strategy of the company in terms of payments for the credits to the bank.

1.2. Tasks of the company for the investment period

- To reconstruct the poultry house in order to provide closed technological cycle (the first stage – poultry breeding based on the purchased young birds; the second stage – home brooding of young birds with the industrial egg production by a breeding flock and further down-and-feather raw materials and poultry meat production);
- To rehabilitate and re-equip the poultry farm and relevant infrastructure, to upgrade the vehicle depot and technological equipment;
- закрепить и To enlarge the share of the regional poultry meat market based on the direct contracts with sales companies;
- To implement contracts договора-намерения and to develop distribution channels for export of down-and-feather raw materials;
- To ensure profit accumulation from production and sales in the amount sufficient for own needs and the implementation of the second stage of the production development and increase.

The chosen activity goes in line with the regional development programs for the agricultural sector of the economy of RRR region as well as with the programs for the increase of supply of the population with products of daily necessity.

Capital formation at a farming company creates the basis for the development of production in the rural area and upgrading of the agricultural technologies. Export and import operations of farming companies facilitate integration of the local agricultural manufacturers into the world economy and inure them to market economy.

2. Company

2.1. Location

The farming company "Floccus" is registered as per the Resolution N409 by the Head of the Administration of NNN region dated 22 May 1992. The company is a legal entity founded by a family. The field of activities is production and sales of agricultural products, processing of agricultural raw materials and trading торгово-закупочной деятельности (the Statute and the Resolution are attached).

The farming company "Floccus" is situated in NNN-sky region (at a distance of 110 km from NNN), has an allotted 4 hectar plot of land for the poultry breeding.

2.2. Property of the company

The farming company "Floccus" is in possession of a poultry house priced at 150 000 roubles as of 20.02.1997 (the opinion of fixed assets appraisal is attached).

The poultry house is a brick building with total area of 1.395 m² including lean-tos (building extensions), the foundation is made of stone, the floor slabs are wooden, the roofing is made of asbestos sheeting. The building is supplied with water from an artesian well, has sewage, ventilation, heating and lighting systems.

The technical equipment of the poultry house and machinery for making down-and-feather raw materials is priced at 103 700 roubles as of 19.02.1997 (the opinion of appraisal is attached).

In order to introduce new technologies of poultry breeding and making of down-and-feather raw materials it is necessary to reconstruct the fixed assets of the company and to develop the infrastructure.

3. Products and technology

The main activity is poultry breeding, namely, geese breeding for deplumation of feather and further making of down-and-feather raw material and poultry slaughter for meat after the end of down deplumation period.

Technological cycle lasts for maximum 6 months. The farm does not operation the whole year which leads to less profitability. For the time being the production capacities operate at 20 – 25% of their performance efficiency because of the lack of the required funds for the purchase of a breeding flock and poultry house reconstruction.

The main fodder is compound poultry feedstuff purchase at the manufacturers and, additionally to it, pasture fields are used for feeding the poultry stock.

The fodder supply, cleaning of the poultry house, down deplumation, poultry slaughter and bird processing are done manually.

Products

1. White goose down-and-feather raw materials received by means of live-deplumation. The structure of 1 kg of raw materials: 28-32% of down, 72-68% of feather. The raw materials are packed into the tick sacks 20 kg each. The customers are packer-shippers countrywide and in CIS-countries. The annual output of the farm amounts to - 580-630 kg of down-and-feather raw materials. There are no more similar industrial producers of down-and-feather materials (by means of live-deplumation) in the region. Production of down-and-feather raw materials at the existing poultry farms is an accompanying process and is carried out after slaughtering of birds which decreases the quality of raw materials significantly and narrows the sales market. In the private agricultural sector of N-skaya region the production of down-and-feather raw materials is not developed yet though the demand for this product is increasing both on the domestic and export markets.
2. Poultry meat – goose carcasses and by-products. Meat yield of one bird is 4 kg. The annual output amounts to 7,8 - 8,5 tons. The products are sold at the local markets in the town of N-skaya region (retail sales - 45%) to trading firms (wholesale - 40%) as well as to catering firms (15%).

Meat products are sold at average market prices in the region. Industrial production of goose meat is not developed in the region as it is not profitable when goose breeding is carried out only for goose meat production because the technological cycle of goose feeding is very long, goose breeding itself is rather labour-intensive and specific consumption of fodder is high.

When the production of goose meat is an accompanying one to the production of down-and-feather raw materials, its profitability approximates the average profitability rate of poultry farms and the farm becomes more competitive.

4. Market and competition

4.1. Market overview

The farming company Floccus operates on the regional market (sales of goose meat) as well as on the export market (sales of down-and-feather raw materials).

The sales market of meat products is segmented by the following criteria:

- Geographic area: towns NNN, BBB, PPP, RRR (with the total population around 2 mln.);
- Average income of the population: poultry meat consumption in a monthly food ration of a family for each member is 1,5 kg at market price 15,0 roubles per 1 kg is affordable and, according to the statistics, the number of people with such income is about 2,7% of the population of N-skaya region.

Hence, the market potential for goose meat is around $2.000.000 \times 0,027 \times 1,5 = 81.000$ кг a month.

According to the technological production scheme, the period of fattening-off of birds and slaughtering is three months. Thus, the market potential for Floccus during one production cycle will amount to $81.000 \times 3 = 243.000$ kg.

At present there is no import of goose meat to the selected market segment.

As a result of fodder price increase, the supplies of goose meat to the market by private farmers are also decreasing though at present they take the dominating position on the regional market.

The poultry farms in this region, namely, RRRR, NNNN, TTTT, produce chicken meat and are not in principle, competitors to Floccus in the selected market segment, which consists of consumers with high income.

The company Floccus assumes that after the implementation of the planned increase of output capacity its market share in the selected segment will amount to 15%: $243.000 \times 0,15 = 36.450$ kg annually.

The forecast of the production output and sales of goose meat is based on the following assumptions:

- Minimal output capacity of the poultry farm - 10.000 birds;
- Percentage mortality - 15%;
- Meat yield of one bird - 4 kg. Hence the maximum output will amount to $10.000 \times (1 - 0,15) \times 4 = 34.000$ kg that is less than the assumed 36.450 kg per year (15% of the market potential) and the sales forecast can be defined as favourable.

It is planned that the down-and-feather raw materials will be sold to export markets against the commercial offers obtained from the foreign trading companies and as per the agreements on intentions (copies are attached). What concerns the main requirement to the down-and-feather raw materials, namely, high quality, the company Floccus ensures it to the utmost as live-deplumation of geese provides the high technological characteristics of the product.

The previous experience of the poultry farm in sales of down-and-feather raw materials helped the personnel obtain the required qualification and complete the technological equipment according to the requirements to the product quality for export.

The forecast of the production and sales of down-and-feather raw materials is based on the stated demand and the following assumptions:

- down-and-feather yield of one bird during one deplumation - 100 r;
- annual number of deplumation cycles - 3;

- maximum output capacity of the poultry farm - 10.000 birds;
- mortality factor - 0,15.

Then, the maximum production capacity will amount to: $10.000 \times (1 - 0,15) \times 0,1 \times 3 = 2.550$ kg that is less than the estimated and confirmed demand, in particular, 3 tons of down-and-feather mass (see attachment) and thus the sales of the product during the investment period is guaranteed.

4.2. Raw material market

The raw material (fodder) base for the poultry farm Floccus are:

- Private pastures;
- Crop acreages for green material growing (grass);
- Mixed fodder producers.

As per the established contacts and contracts with the grain elevators in towns NNN, PPP, TTT, RRR the firm Floccus purchases mixed fodder from them.

The company buys mixed fodder at wholesale prices. As of the period of analysis, the price for 1 kg was 0.2 - 0.25 roubles.

As the average daily fodder consumption per one bird is 200 g, the number of birds in a flock at one technological cycle amounts to 10000 at mortality factor 0,15 and the duration of the production cycle is 180 days, the annual mixed fodder consumption will be: $10.000 \times (1 - 0,15) \times 0,2 \times 180 = 306.000$ kg/year, that amounts to: $306.000 \times 0,2 = 61.200$ roubles.

5. Marketing and sales

As per the preliminary negotiations, the company plans direct distribution of goose meat products to JSC Lavr (a former meat-processing plant), N-sky cannery and some small-scale processing enterprises of N-skaya Oblpotrebkooperatsiya (a consumer cooperation union).

As the company Floccus is a sole goose farm in the region, it can maintain the planned 13 - 15% market share due to the expansion of distribution channels of poultry meat.

The company Floccus plans to sell down-and-feather raw materials to export market within the investment as well as post-investment period. The domestic consumers of down-and-feather material are supplied by domestic poultry farms with raw stuff of low quality and at relatively low prices and it is forecasted that the situation will not change significantly in the next 5 years. Under such conditions Floccus plans sales of down-and-feather raw stuff to export markets for the next 3-4 years. The prices for these raw materials at export markets are higher than the sales price offered by Floccus, hence the company considers sales of this product to be stable within the forecasted period.

In case of unfavourable business environment (household income decrease, sharp increase of goose meat import and unpredictable entry of competitors to the market) the company has shaped a strategy of price discrimination. The company Floccus can afford this strategy by way of decreasing the profit share in the price in view of considerable margin of financial stability of its business and the possibility to vary product assortment.

6. Production plan

6.1. Revenue calculation

Initial data:

- Poultry farm capacity -10.000 birds at a time.
- Products: goose down (main product), goose meat, by-products.
- Production cycle for goose meat - 6 months (180 days) from the purchase of young birds till slaughtering.

Down production cycle:

- 1 stage - 50 days (the first deplumation);
- 2 stage - 40 days (the second deplumation);
- 3 stage - 40 days (the third deplumation).

Down yield from one bird per one deplumation - 100 g.

Mortality factor - 15%;

Number of cycles per year - 3;

Annual plan of down production: $10.0 \times 3 \times (1 - 0.15) \times 0.1 = 2.550$ kg/year

Meat yield from one bird (meat bypass not included) – 4 kg;

Mortality factor -15%;

Number of cycles per year (180 days) - 1;

Annual plan of poultry meat production:

$10.000 \times 1.0 \times (1 - 0.15) \times 4 = 34.000$ kg

Annual revenue for down (at wholesale price for down - \$30 per kg): $2.550 \times 30 = \$76.500 = 432.225$ py6.
(at exchange rate \$1 = 5.65 roubles)

Annual revenue for poultry meat (at wholesale price for 1 kg - 15 roubles): $34.000 \times 15 = 510.000$ roubles.

Total annual revenue of the company: $432.225 + 510.000 = 942.225$ roubles.

Single tax on gross produce of a farm - 10%: $942.225 \times 0,1 = 94.223$ roubles.

Revenue after tax: 848.003 roubles.

6.2. Calculation of manufacturing costs

Tangible costs

Purchase of young birds:

- Price for one young bird (day-old gosling) - 6 rouble;
- Costs of one purchase: $10.000 \times 6 = 60.000$ roubles;

Annual costs of mixed fodder:

- Fodder consumption per one bird a day (annual average) - 200 g;
- Price for fodder - 0.2 roubles per 1 kg;
- Annual fodder consumption (180 days) considering mortality factor 15%: $0,2 \times 180 \times 10.000 \times (1 - 0,15) = 306.000$ kg;
- Annual fodder costs: $306,0$ tons \times 200 roubles per 1 ton = 61.200 roubles.

Wages costs:

- Monthly wages costs per one farm worker -150 roubles;
- Monthly wages costs per one administrative worker - 250 roubles;
- Annual number of farm workers – 7, annual wages costs for them : $150 \times 12 \times 7 = 12.600$ roubles;
- Annual number of administrative workers – 2, annual wages costs for them: $250 \times 12 \times 2 = 6.000$ roubles;

Total for wages costs annually: 18.000 roubles.

Annual fuel and energy costs:

- Energy consumption for washing and drying of 1 kg of raw materials - 0,7 kW;
- Total weight of raw materials - 2.550 kg;
- Price for 1 kW - 0.426 roubles;
- Energy consumption for industrial needs: $2.550 \times 0,7 \times 0.426 = 761,66$ roubles.

Annual transportation costs:

- Costs for internal transportation - 28.000 roubles;
- Costs for container transportation (XXX – New-York):
 - container 5 tons - \$5000 = 28.250 roubles;
 - packaging – tick sacks, price for 1 sack - 30 roubles; capacity - 20 kg of goods): $2.550: 20 \times 30 = 3.825$ roubles.
- Customs costs (FOB - XXX): $432.225 \times 0,0015 = 648,34$ roubles.
Total transportation costs: 60.723 roubles.

Annual costs of outsourced services: 12.000 roubles.

Depreciation (5% of fixed assets costs): 205.000 roubles \times 0,05 = 10.250 roubles.

Total for annual costs: 222.935 roubles.

6.3. Calculation of profit and rate of return

1. Revenue - 942.225 roubles;
2. Revenue tax - 94.223 roubles;
3. Revenue after tax 848.003 roubles;

4. Costs - 222.935 roubles;
5. Interest payments (annual interest rate 24%) 33.600 roubles;
6. Income 591.468 roubles;
7. Cost effectiveness (IRR) - 2,3.

7. Investment and operation plan / financial requirements

The investment plan of the farming company Floccus consists of two stages:

- First stage: increase of output capacity to 10.000 birds at a cycle (at a time) on condition of yearly purchase of young stock;
- Second stage: organisation of home breeding of young birds at availability of a breeding geese stock.

The present business plan is mean to substantiate the implementation of the first stage of the company development and the preparation of the farm to the second stage.

Table 7.1. Investment media

Assignment of investments	Source of funds		Amount, thous. of roubles
	Internal funds	Borrowed funds	
1. Purchase of production facilities and equipment	80,0		80,0
2. Purchase of young stock	30,0	30,0	60,0
3. Capital construction and reconstruction:			
- water tower	15,0	30,0	45,0
- reconstruction of production facilities:		20,0	20,0
4. Purchase of equipment and machines:			
- tractor		40,0	40,0
- stock feeder		20,0	20,0
- machine for dry poultry deplumation	18,0		18,0
Total investments:	143,0	140,0	283,0
Among them fixed assets - 223,0 ths. roubles			

Thus, investment media of the first stage of development are as follows (see table 7.1):

- Reconstruction of the production facilities;
- Construction of the water tower;
- Purchase of the equipment and machines;
- Purchase of the young stock for the annual production output.

The total amount of investments of the first project stage - 283.0 ths. roubles, among them the internal funds - 143.6 ths. roubles and borrowed funds -140.0 ths. roubles.

The planned capacity of the farm - 10.000 birds at a time.

Production cycle for meat products - 6 months (180 days): from the purchase of the young stock till slaughtering (one cycle a years).

Down production cycle (one cycle a year):

- 1 stage - 50 days (the first deplumation);
- 2 stage - 40 days (the second deplumation);
- 3 stage - 40 days (the third deplumation).

The planned technological scheme with one production cycle a year (the first development stage) provides for the possibility of technical maintenance and reconstruction of fixed assets that is displayed in the operation schedule (see table 3.2).

Table 7.2. Operation schedule of the investment period

Quarters	Периоды инвестирования											
	1-й год				2-й год				3-й год			
	1	2	3	4	5	6	7	8	9	10	11	12
1. Conclusion of sales contracts for down-and-feather raw materials	+					+						
2. Placement of contracts for the purchase of young stock and mixed fodder						+						
3. Obtaining of credit			+									
4. Delivery of young stock and fodder			+	+	+	+	+	+	+	+	+	
5. Reaching 50% of production capacity			+	+	+	+						
6. Sales					+	+		+	+		+	+
7. Contacts with subcontractors and suppliers			+					+				
8. Reconstruction and construction				+		+	+		+	+		
9. Delivery of equipment and machines. Settlements with suppliers					+	+			+	+		
10. Settlements with subcontractors.							+				+	
11. Reaching 75% of production capacity							+	+	+	+		
12. Reaching 100% of production capacity											+	+
13. Settlements with creditors								+				

The delivery and installation the technological equipment is to be carried out after the first production cycle as within the first cycle considerable fund are invested into the purchase of the young stock and fodder. Besides, part of the borrowed funds is allocated as a reserve for ensuring the stable development and is meant for further purchase of the technological equipment, machines and for construction works within the second investment stage (see table 7.2).

After the second investment cycle the company can continue further capital construction, purchase of technological equipment.

At the end of the investment period (3rd year) the construction of the infrastructure will be completed, the technological equipment will be rehabilitated and production facilities will be repaired (see table 7.2).

8. Risk analysis and calculation of efficiency

For the moment of credit settlement (8 quarter) the safty factor of the company is: $391,0 : 140,0 = 2,79$, that means a considerable quarantee of credit repayment.

Commercial risk is defined by the propability to loose current assets at the forecasted break-even point (5 quarter) and equals to: $74,3 : 22 = 0,34$.

Cost effectiveness after credit repayment is: $324,0 : 135,9 = 2,38$.

Investment profitability (12 quarter) is: $1.287,0:265 = 4,86$.

Investment risk for the moment of credit repayment (8 quarter.) is: $140 : (391 + 140) = 0,26$.
Payback period of borrowed funds is: $140 : 180,7 = 0,77$ year.

Conclusion

The present business plan has been worked out in order to substantiate timely and in-full repayment of borrowed funds and interest payments out of the profit generated from the production and sales activity of the company – project initiator.

The positive factor for a creditor is the fact that the amount of internal investment is comparable to the borrowed funds for the intended project.

Other conditions being equal, the business plan shows that the project is profitable and that within a short period it is possible to accumulate net profit sufficient for credit repayment and maintain a considerable margin of financial stability.