



## PRODUCTION ACCOUNTING AT FOOD FACTORIES WITH THE PURPOSE OF COST MINIMIZATION

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### Abstract

*Presently the importance of fulfilling such elements of cost management as accounting, analyzing and planning grows increasingly. More and more frequently the cost management functions are integrated into the single informational system of an enterprise which represents a foundation for taking tactical and strategic managerial decisions. Production accounting is of prime importance for any enterprise. At that the system of production accounting of costs should be integrated with the system of current norms and standards in accordance with the modern economic conditions of economy management of enterprises. It should represent a complex of regulatory quantitative and cost indicators of rational using of economic resources ensuring managerial objectives. Thus, the paper is devoted to cost management on one of the types of food productions - baking industry enterprises of different production capacities (from 1.5 to 90 tons per day). In the course of the research it was revealed that over the recent years the range of output losses upon production of bakery products has expanded depending on flour moisture content, dough moisture content, mass of bakery items, baking loss value, and drying loss value; whereas the norms of flour consumption and coefficients of converting bakery products to raw materials considerably increased. Application of scientifically grounded coefficients of converting bakery products in accordance with the codes of the Russian Classification of Products by Economic Activities 2 and commodity nomenclature of the foreign economic activity of Eurasian Economic Union (CN FEA EEU) into raw materials allows food industry enterprises to decrease the tax basis by 3.4 - 4.2% and ensure production profitability at the level from 27.8% to 34.6%.*

**Keywords:** Costs; raw materials; bakery products; range; flour.

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## **I. Introduction**

Baking industry in Russia takes the key place among other branches of processing industry due to great social value of the output products. Today in Russia over 800 items of bakery products are produced on the basis of technologies developed by the Russian scholars and specialists. Production develops both at the expense of enhanced production of traditional types of products and expansion of the range of unconventional varieties [XVIII].

The baking branch experiences a problem of quality reduction and safety of wheat flour – the primary raw material for production of bakery products. The tendency of wheat flour supplies with poor baking properties to the market annually grows and is characteristic of not only Russia, but is observed throughout the world. It is associated with low quality of wheat grain caused by the worsened general environmental situation, soil depletion, low farming standards and rare renewal of grain reserves. More widespread throughout the world is the production of weak soft wheat with gluten content up to 20% and protein content of 9-12% (over 50%). As a result the Russian mills over the recent years process up to 70% of wheat grain with decreased technological properties which makes it very complicated to produce baker's flour in compliance with the Russian National Standard (GOST R) 52189–2003 “Wheat flour” [XI]. Production engineers of bakery industry encounter problems when processing such flour since it is difficult to obtain high quality bakery products in accordance with the requirements of regulatory documents. In order to resolve this problem in Russia and CIS countries different additives of direct effect (improving agents) are used in baking industry [XIV].

The strategic goal of baking industry in our country on the basis of the Concept of long-term socioeconomic development of the Russian Federation till 2020 and Food Security Doctrine of the Russian Federation is a complete satisfaction of the population's needs in safe domestic bakery products with provision of stable inner production. Satisfaction of needs at that implies the availability of products of proper quality and in the amount and range complying with preferences of population of different groups. Implementation of this goal will allow settling the objectives of food safety in the bakery sphere. The concept presumes the transition to the innovative type of development of the baking industry which stipulates improving the range of the output products with the reduction of specific costs of all types of resources [II, XV].

Over recent years structural changes in production and consumption of bread and bakery products, production techniques and raw materials consumption for production took place. As of today the market of bread and bakery products dictates strict rules for the producer. In order to gain foothold in modern economy and have profitable production one should produce not only mass varieties of bakery products but also improved functional products. It is reasonable for producers in baking industry to make quality products and rely on the peculiarities and preferences of consumers. At the same time they should base on production modernization that will introduce functional products and ensure the highest economic and social effect. Thus, in front of the baking industry in Russia there appear the priority objectives

associated with quality improvement and enhancement of food value of bakery products [1].

The main objective of rate setting is ensuring the use of technologically and economically grounded progressive norms of consumption of raw materials in production and planning with the purpose of their rational consumption, and most efficient application and fulfillment of economy regime.

The product (bread) output expresses the relation of the quantity of produced bread to the quantity of actually consumed flour.

The bread output norm - is a minimum permissible quantity of bread produced in accordance with the approved formula from 100 kg of flour. The bread output norms should be established in accordance with the achieved level of technology, applied equipment, production organization, norms of flour quality and standards for finished products.

The majority of baking industry enterprises in order to reduce production costs cannot purchase new high-technology equipment which is mostly manufactured abroad due to its high cost. As a result the following problems arose at the baking enterprises:

- baking products with different mass in one oven considerably decreases the loading thereof and productive capacity;
- high energy capacity of furnace equipment operating on continuous cycle (due to insufficient load of flow lines);
- non-concurrence of production processes with market requirements (delivery of a large number of bakery products to trade outlets simultaneously at a certain time);
- transition to batch-wise methods of dough-making (changes of fermentation expenses, growth of manual labor);
- output of different kinds of products on one line (adjustment of flour losses before mixing of semi-finished products, flour and dough mixing losses before dough handling, flour and dough handling losses before loading of dough pieces to the oven, since the dough with different moisture content and for different range of bakery products is mixed from one variety of flour);
- average values of process losses and costs specified in the earlier developed manual for bakery products do not correspond to the volume of currently produced bakery products, dough-making method and brands of the ovens used.

All these changes of the global market, structural changes in production of bread and bakery products, and quality of raw materials made it necessary to revise the current norms of consumption, create an efficient system for cost accounting and calculate the net cost of finished products.

Elaboration of coefficients for converting bread and bakery products to raw materials is impossible without the use of technologically and economically grounded progressive norms of consumption of raw materials in production and planning with the purpose of their rational consumption, most efficient application and fulfillment of economy regime.

Soil and climatic conditions of the regions where grain grows influence the chemical composition of grains. On the other hand there are different varieties of

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wheat that yield grain of different quality in one and the same area. Flour of one and the same output obtained from such wheat has a different chemical composition. Moreover, certain grains can provide the flour of different grades depending on the grinding method. Every grade of flour will differ in chemical composition and possess different baking capacity. High grades of flour containing small number of mill offal's and elastic gluten capable of resistance have good baking capacity. Low flour grades with large content of mill offal's and weak resilient gluten making washy dough upon proofing is on the contrary characterized by poor baking capacity. Baking properties of flour are also characterized by the weight yield of bread. This factor is essential for baking. In the majority of cases the weight yield of bread is higher, the higher the weight yield of the dough from this flour grade. In its turn the weight yield of dough depends on the water absorbing capacity of flour.

The cost structure of baking enterprises contain the so called hidden costs that are by no means taken into account when determining the net cost of bakery products. The lack of accounting of hidden costs results in serious consequences upon taking managerial decisions by the managers. An important aspect in the activity of modern companies of baking industry is a system monitoring, revealing hidden costs of production and taking relevant managerial decisions at all stages of the production process with the purpose of possible reduction of their level [XVI].

There appeared new products on the market of bread and bakery products with the application of different primary and additional raw materials and food ingredients: unconventional types of flour (corn flour, spelt flour, flour from triticale grain), improvers of technological process, progressive technologies and modern equipment which caused changes in the raw materials consumption norms for their production. An essential factor greatly influencing the raw materials consumption and product quality is the use of fourth grade grain (feeder grain) in milling blends by some flour producers and consequently the decrease in process parameters of flour.

Baking industry enterprises alongside with traditional grades of bakery products considerably broadened the range of non-traditional bakery products over the recent years representing the products made by original formulas including the products of functional and preventive purposes.

Promising assortment groups for modern production are functional and dietary bread, national bakery products, sweet and flaky buns, premium bread [XX].

Expansion of bread and bakery products varieties caused the development of bakeries at retail chains and the process of re-equipment of enterprises considerably reduced. New style bakery industry enterprises appeared: bakery and cake shop, economy class bakery, as well as enterprises specializing in production of tandoor bread.

Till 1996 each bakery plant produced one variety of bread on flow lines. After privatization and conversion into joint-stock companies a fight for the market outlet began. The range of enterprises considerably expanded. Flow lines turned to be under-loaded, new equipment designed for production of several varieties of products on one line was bought (rotary furnaces, dough-mixing machines of intermittent action). In order to reduce product cost, the products on flow lines were produced with smaller weight, which increased the costs of raw materials for production [X].

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The costs of raw materials in food industry are essentially influenced by the use of modern equipment, process technologies and methods of processing of raw materials, semi-finished products and finished products. Using the advanced processing methods became possible upon application of the latest process facilities that during the whole process allows observing the required process parameters of its operation, and ensuring the required indicators of quality and safety of food products. According to the scientific researches of such scholars as Simona Gadjovska and Vangelica Jovanovska from the Department of Biotechnological Sciences of the St. Clement of Ohrid University of Bitola, the Republic of Macedonia, the use of the modern equipment, advanced methods and modes of cooling and freezing of food products enables to considerably suspend the processes of bacteriological damage and decay of products and has an essential influence on the losses value upon production of food products and consumption of cooling agents depending on the type of equipment [IV].

In order to reduce production costs the majority of baking industry enterprises cannot purchase new high-technology equipment which is mostly manufactured abroad due to its high cost. As a result the following problems arose at the baking enterprises:

- baking products with different mass in one oven, which decreases the loading thereof and productive capacity;
- high energy capacity of furnace equipment operating on continuous cycle (due to insufficient load of flow lines);
- non-concurrence of production processes with market requirements (delivery of a large number of bakery products to trade outlets simultaneously at a certain time).
- transition to batch-wise methods of dough-making (changes of fermentation expenses),
- production of different varieties of products on one line (adjustment of flour losses before mixing semi-finished products);
- flour and dough mixing losses before dough handling;
- flour and dough handling losses before loading of dough pieces to the oven, since the dough with different moisture content and for different range of bakery products is mixed from one variety of flour;
- average values of process losses and costs specified in the earlier developed manual do not correspond to the volume of products, dough-making method and brands of the ovens used.

All these changes of the global market, structural changes in production of bread and bakery products, and quality of raw materials make it necessary to revise the current norms of raw materials consumption, create an efficient system for cost accounting and calculate the net cost of finished products [III].

## **II. Materials and Methods**

The main research goal is to develop scientifically grounded coefficients of bread and bakery products conversion into raw materials with due account for introduction of new technologies. Elaboration of coefficients for converting bread and

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bakery products to raw materials is impossible without the use of technologically and economically grounded progressive norms of consumption of raw materials in production and planning with the purpose of their rational consumption, most efficient application and fulfillment of economy regime.

In the course of the research there was analyzed the accounting of raw materials at really operating enterprises of the Siberian region (Table 1).

**Table 1: Characteristics of the baking industry enterprises**

Indicator name	Respondent 1	Respondent 2	Respondent 3	Respondent 4
	Characteristics of enterprises depending on the production capacity, tons per day			
	from 1.5 to 5.0		from 5.0 to 20.0	over 30 to 90
<b>Enterprise (maximum) capacity:</b>				
- t/shift	3.75	7.5	5.0	27.0
- t/day	7.5	15.0	10.0	54.0
- t/year	2738.0	5475.0	3650.0	19,710.0
<b>Actual capacity</b>				
- t/shift	2.0	2.25	3.0	19.5
- t/day	4.0	4.5	6.0	39.0
- t/year	1475.0	1642.5	2,148.0	14,290.0
<b>Volume of processed flour, t/year</b>	1080.7	1125.05	1,169.4	11,000.0
<b>Annual volume of produced items, tons</b>	1475.0	1659.0	2,148.0	14,290.0
<b>Bread, t/year</b>	1272.2	1400.7	1,807.0	11,680.0
<b>Bakery products, t/year</b>	137.8	201.3	259.0	2,152.1
<b>Kvass, dried bread, soft ring-shaped rolls, t/year</b>	32.5	18.0	38.0	335.0
<b>Flour confectionery products, t/year</b>	21.5	-	-	85.2
<b>Dough, t/year</b>	11.0	39.0	44.0	37.7

The baking industry enterprises chosen as the objects of production accounting depending on the classification and design norms can be referred to:

Respondent 1, 2 - low power bakeries;

Respondent 3 – high power bakery;

Respondent 4 – medium power bakery.

The enterprises of these types are most widespread in the Siberian region. The technological process of bread and bakery production at these enterprises is partially automated. The baking industry enterprises possess in their production structure the equipment of both Russian and foreign manufacture: Sotoriva, Basanini, Real Forni (Italian equipment), Miwe (German equipment, XLT (American equipment), PT-150, Musson, Tsiklon, (Russian equipment) etc.

When calculating the norms of bread output the following was taken into account:

- net consumption of flour and additional raw materials (fat, sugar etc.), quantity of raw materials that is contained in finished products;
- process costs upon production of bread and bakery products;
- production losses at warehouses, communications etc.

When elaborating the norms of bakery products output there were used GOST, industrial standards, process manuals, technical conditions, standards of enterprises, current formulas, reporting data on the products yield, results of the actual output control, level of losses and costs [V, IX, VI, VII, XII].

The project of new norms for bread output was developed on the basis of data on test baking that were performed at the enterprises chosen as objects for experimental studies. The baking industry enterprises under study constantly deal with development of a new range of bakery products, introduce new types of equipment, use new process schemes of bread and bakery production or fulfill other measures resulting in changes of bread output.

Technological losses are reduced to minimum, and in some cases are entirely eliminated by means of strict adherence to exploitation standards and supervision of the equipment condition, as well as improvement of both mechanisms and operation methods. Process costs and losses were determined mostly by means of a weight method. Preparation to determining the value of costs and losses included several stages:

- preparatory stage;
- determining quantitative indicators by calculation;
- test baking and measuring the consumption of primary and additional raw materials upon production of bread and bakery;
- the obtained data were analyzed and processed by calculation-analytical and experimental methods.

Before experimental studies there was made a scheme for controlling and accounting of costs and losses of flour by the stages of technological process of bread and bakery production.

### **III. Results**

The result of the research work was the development of scientifically grounded coefficients of bakery products conversion into raw materials.

Let us make a recalculation of the need for raw materials and formula for bakery product with the application of coefficients of bakery products conversion into raw materials.

Let us show the calculation of the need for raw materials on the example of production of a bakery product “Bread with germ wheat flakes” with the output rate of 3 tons per day. Planned flour consumption for bakery item production is calculated as the basic moisture content of flour of 14.5%. The moisture content of flour delivered for production varies during a year.

Let us assume that the flour with moisture content of 14.0% was supplied for production. In accordance with the data of the table “Calculation of flour

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consumption per 1 ton of bakery products by means of coefficients of recalculation of flour with moisture content of 14.6 - 14.7% and planned output” for the bakery product “Bread with germ wheat flakes” the planned flour consumption makes 667.6 kg. The coefficient of raw materials recalculation for the actual moisture content of flour 14.0% is 0.995.

Let us recalculate the need for flour with a moisture content of 14.0% for production of a bakery product “Bread with germ wheat flakes”.

The need for flour with a moisture content of 14.0% for production of bakery product “Bread with germ wheat flakes” per 1 ton is calculated by the formula:

$$P_{fl.14.0\%} = P_{fl.14.5\%} \times C_{fl.14.0\%},$$

where  $P_{fl.14.0\%}$  – is flour consumption for production of a certain type of bakery product with moisture content ( $M_{fl.}=14.5\%$ );

$C_{fl.14.0\%}$  - is a coefficient of raw materials recalculation for the moisture content of flour ( $W_{fl.}=14.5\%$ )

$$P_{fl.14.0\%} = 667.6 \times 0.995 = 664.262 \text{ kg}$$

In order to calculate the flour (fl) consumption in kg per 1 ton with the moisture content of  $M_{fl.}=14.0\%$ , the flour (fl) consumption in kg per 1 ton with the moisture content of  $W_{fl.}=14.5\%$  should be multiplied by the coefficient corresponding to the actual moisture content of flour  $C_{fl.14.0\%}$ .

The need for raw materials can be determined by the formula by calculating the consumption of all raw materials per actual moisture content of flour by using coefficients.

Calculation of the need for flour to produce the bakery product “Bread with germ wheat flakes” with the moisture content of 14.0% in kg per 3 tons can be determined by the formula:

$$P_{fl.14\%} = 3 \times 664.262 = 1992.786 \text{ kg}$$

The production calculations of the need for raw materials imply adjustment of outputs with due account for additional factors having a great influence on flour losses and costs. To such production factors can be referred the over-weight of cake bread, dough moisture content, oven loss, and drying loss that depend on the professionalism of production engineer and staff and can be adjusted in the process of production. The value of flour consumption can be calculated using the relevant coefficients of flour consumption recalculation upon over-weight, coefficients of flour recalculation depending on the dough moisture content, and the value of oven loss and drying loss.

Converting bakery products to raw materials by coefficients of flour recalculation is required for statistical calculations, determining actual volume of manufactured products, forecasting primary indicators of the branch, simplifying the calculations of net costs of products, making business-plans, budget planning, determining the need for food products per head calculated as raw materials, consolidating intra-organizational settlements and making balances of raw materials, monitoring efficient use of primary raw materials upon production of bakery etc.

Let us suppose that except for the flour moisture content of 14.0% the production of a product “Bread with germ wheat flakes” is influenced by such factors as dough moisture content – 1.0 %, oven loss – 1.0 %, drying loss – 1.0%, over-

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weight of cake bread by 5 g. Let us calculate flour consumption for production of bakery item “Bread with germ wheat flakes” with the output volume of 5 tons per day with due account for estimated losses. The coefficient of re-calculation of the actual moisture content of flour of 14.0% makes 0.995, the coefficient of re-calculation at the decrease of actual dough moisture content by 1.0% - is 1.018, the coefficient of recalculation at the increase of actual the oven loss by 1.0% is 1.011, the coefficient of re-calculation at the increase of drying loss by 1.0% - is 1.0101, coefficient of re-calculation at over-weight of cake bread by 5 g is 1.0169.

The need for flour per one ton of product “Bread with germ wheat cakes” with a moisture content of 14.0% with due account for the coefficient of calculation of the actual moisture content of flour, the coefficient of re-calculation at the decrease of the actual dough moisture content, the coefficient of recalculation at the increase of the actual oven loss, the coefficient of re-calculation at the increase of drying loss, coefficient of re-calculation at over-weight of cake bread will make:

$$P_{fl.14.0\%} = P_{fl.14.5\%} \times C_{fl.14.0\%} \times C_{Md 1\%} \times C_{oloss 1\%} \times C_{fl.} \times C_{dr.loss 1\%}$$

where  $P_{fl.14.0\%}$  - is the need for flour with the moisture content of 14.0% per one ton of the bakery product, kg

$P_{fl.14.5\%}$  - is the need for flour with the moisture content of 14.5 % per one ton of the bakery product, kg

$C_{fl.14.0\%}$  - is a coefficient of calculation of the actual moisture content of flour 14,0;

$C_{Md 1\%}$  - is a coefficient of recalculation at the decrease of the actual dough moisture content by 1%;

$C_{oloss 1\%}$  - is a coefficient of recalculation at the increase of the oven loss by 1%;

$C_{fl.}$  - is a coefficient of recalculation at the over-weight of cake bread by 5 g.

$$P_{fl.14.0\%} = 667.6 \times 0.995 \times 1.018 \times 1.011 \times 1.01691 \times 1.0101 = 702.24 \text{ kg}$$

The need for flour for production of the product “Bread with germ wheat flakes”  $P_{fl.14.0\%}$ , with the moisture content of ( $M_{fl}$ ) = 14.0 % per one ton makes 702.24 kg, therefore the need for flour for 5 tons of this product will make 3511.2 kg.

Let us calculate the need for raw materials for production of bakery products with the flour moisture content  $M_{fl} = 13.8\%$  and  $M_{fl} = 15.0\%$  using the coefficients of recalculation of the actual moisture content of flour. In order to calculate the need for raw materials per one ton of flour with the actual moisture content  $M_{fl} = 13.8\%$  and  $M_{fl} = 15.0\%$  the formula components are recalculated for the planned consumption of flour with basic moisture content of  $M_{fl} = 14.5\%$ .

After that the coefficients for flour with actual moisture content

$C_{fl.13.8\%} = 0.9930$  and  $C_{fl.15.0\%}$  are multiplied by the value of the indicator from column 3, where the formula components calculated for the basic moisture content of flour  $M_{fl} = 14.5\%$  are presented.

Recalculation of the formula of a bakery product with the basic moisture content of flour to formulas of bakery products with the actual moisture content of flour is presented in Table 2.

**Table 2: Results of recalculation of the formula of a bakery product with the basic moisture content of flour to formulas of bakery products with the actual moisture content of flour**

Raw material name	Quantity of raw materials at $M_{fl} = 14.5\%$	Quantity of raw materials per 1 t of finished Product at $M_{fl} = 14.5\%$	Quantity of raw materials per 1 t of finished product at $M_{fl} = 13.8\%$	Quantity per 1 t of finished product at $M_{fl} = 15.0\%$
Wheat flour, highest grade	100.0	737.5	732.3	741.15
Sugar	5.0	36.9	36.6	37.1
Salt	1.0	7.4	7.3	7.4
Melange	5.0	36.9	36.6	37.1
Margarine	7.0	51.6	51.3	51.9
Improver	0.2	1.47	1.46	1.48
Output, %	135.6			
Coefficient of raw materials recalculation per 1 ton of finished products		Let us calculate through the output	0.9930	1.0050

#### IV. Discussion

Scientifically grounded norm setting for consumption of raw materials - is establishing the planned measure of the production consumption thereof. For the owners and heads of enterprises it seems to be a single source of unbiased information enabling to analyze the activity of individual shifts, crews, and masters participating in implementation of technological processes of production.

When calculating the norms of bread output the following was taken into account:

- net consumption of flour and additional raw materials (fat, sugar etc.), quantity of raw materials that is contained in finished products;
- process costs upon production of bread and bakery products;
- production losses at warehouses, communications etc.

The norm of raw materials consumption per unit of product does not include:

- wastes and losses caused by the deviation from the established regulations, formulas, technologies, as well as by different kind of failures in arranging production and supply;

- wastes and losses caused by the deviation from the stipulated technical assortment, requirements of standards and technical conditions in terms of quality of raw materials and other materials;

- consumption of raw materials and other materials associated with defective products, sample testing, repair of buildings and equipment, manufacture of fitment, tools, mechanic and automation means, equipment adjustment, packing of finished products, and other kinds of consumption not referring to production directly.

The coefficients can be used in the accounting program of the enterprise. The coefficients of converting the products to raw materials will allow an efficient accounting of raw materials preventing its excessive consumption, efficient using of equipment, evaluating the organizational structure of the enterprise and performance of each shift and crew, proper calculating the net cost of finished products and efficiency of the enterprise management on the whole.

The basic outputs for each type of product and coefficients of flour moisture content, coefficients taking into account the moisture content of dough, the value of oven loss and drying loss of flour, as well as coefficients taking into account the inaccuracies in the mass of piece items are consecutively entered into the program and the program will automatically recalculate the flour consumption per 1 ton of products. Such accounting is convenient upon the output of a great quantity of assortment at the enterprise.

Under conditions of the market economy any commercial enterprise is oriented towards performance enhancement. The primary goal of the baking industry enterprises under conditions of growing competitiveness is to increase the production volumes, expand the range of products, improve their quality, as well as minimize costs and enhance the performance of competitive product manufacture [XIX].

It should be noted that often when searching for directions to enhance performance, the primary focus at the enterprise is given to the growth of sales volumes or expansion of the product range, whereas the issues of expenditures of economic resources are put on a back burner. In this respect cost management becomes increasingly relevant nowadays and is considered by us as implementation of the following elements:

- firstly, cost planning based on the production program and expenditure standards;
- secondly, cost control and regulation. On this stage cost coordination and regulation allows the enterprises to avoid non-production costs. Control ensures the comparison of standard and actual costs.
- thirdly, cost accounting and analysis. Accounting enables to generate the required information for taking managerial decisions. The analysis provides a possibility to evaluate how efficiently the enterprise resources are used, reveal the available reserves to reduce production costs and assess the influence of the factors on the extent of achieving of the planned indicators.

Net cost characterizes the extent of using the production resources and is a criterion for assessment of the production process efficiency. The role of the net cost indicator for assessment of economic efficiency of the enterprises operation is determined by the possibility of comparing the activity results with the costs for its fulfillment.

The production analysis shows that conversion of finished products to raw materials with the use of the above specified coefficients reflecting the actual consumption of raw materials results in the growth of material costs and consequently the growth of net cost for all kinds of the products being analyzed. Using obsolescent norms of raw materials consumption results in distortion of the production costs amount and financial results of the enterprise activity. Underestimation of the amount

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of production costs results in the growth of the tax basis of the enterprise and increase in tax payments.

## **V. Conclusion**

In structure of the products net cost up to 70% is taken by the element "Material costs," the primary share of material costs is accounted for raw materials. In the course of the research the amount of material costs was analyzed by groups of products as per the Russian Classification of Products by Economic Activities 2 upon the use of current norms of raw materials consumption and losses by enterprises.

It should be noted that norms of flour consumption valid till recently and presented in the "Instructions on norm setting of flour consumption (bread output) in bakery industry" developed over thirty years back are obsolescent and require revision.

The performed analysis shows that using obsolescent norms of raw materials consumption results in distortion of the amount of production costs and financial results of the enterprise activity and decrease in the input intensity of products. Understatement of material costs makes from 1.5% to 6.4%. In its turn it results in the growth of the tax basis of the enterprise and increase in tax payments.

At the same time the conversion of finished products to raw materials with the use of the above specified coefficients reflects the actual consumption of raw materials and allows the bakery industry enterprises to optimize taxation by means of decreasing the taxable basis. The performed calculations showed that the tax basis at bakery enterprises decreases by 3.4 - 4.2% which in its turn results in the decrease of tax payments of enterprises.

The product output is controlled by means of comparing the reporting data on certain names of bakery products with the planned ones and earlier actually achieved. Such comparison enables to reveal the cases of understating the output of finished products which is a hidden reserve for flour saving.

The primary reasons for excessive consumption of raw materials are usually as follows:

- violation of storage terms of raw materials which causes its irregularity and deterioration;
- increased losses of raw materials at certain stages of the technological process;
- down time, breakdowns and poor adjustment of equipment;
- improper selection of average samples of the supplied raw materials and as a result of accepting non-conventional raw materials;
- delivery of raw materials without taking into account the possibility of processing and violation of order of priority of its supply from the warehouse for production;
- economy of some components and consequently excessive consumption of other;
- write-off of shortage, losses, spoilage and defects to production costs;
- incomplete capitalization of materials and finished products.

Economy of material values can indicate the following:

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- overstated consumption norms;
- technologies improvement;
- specifying raw materials with due account for minimum deviations permitted by a standard or GOST (All-Union Standard);
- shortage of raw materials as per the valid production formulas and process requirements etc.

Checking the quality of finished products has an important value. The control is fulfilled both in the process of production and in expedition. During the inspection the control check of the product quality is performed. The product quality is studied on the data of the immediate technological accounting, for example by the journals of the grade of quality, quality certificates etc.

The factors influencing the output of finished products include: moisture content of flour and its baking properties, moisture content of dough, quantity of additional raw materials, value of technological costs and losses in the process of bread production.

Presently the importance of fulfilling such elements of cost management as accounting, analyzing and planning grows increasingly more. More frequently the cost management functions are integrated into the single informational system of an enterprise which represents a basis for taking tactical and strategic managerial decisions.

Production accounting is of prime importance for any enterprise. At that the system of production accounting of costs should be integrated with the system of current norms and standards in accordance with the modern economic conditions of enterprises. It should represent a complex of regulatory quantitative and cost indicators of rational use of economic resources ensuring managerial objectives.

The most adapted to modern economic conditions is the production accounting based on using the regulatory method of cost accounting. It enables to account certain types of production costs by the current norms stipulated by regulatory calculations; separately make operating accounting of deviations of actual costs from the current norms specifying the places of deviations and their reasons, account the changes and determine the impact of these changes on the net cost of products.

Normative method of accounting the production costs and calculating the net cost of products is intended to fulfill two functions:

- ensure operating control for production costs by means of accounting the costs by the current norms, and separately - deviations from norms and their changes;
- ensure accurate calculation of the products net cost [XIII, XVII].

The foundation for the normative method of accounting is a regulatory framework representing a complex of progressive scientifically grounded standards and norms, the procedure and methods of their generation, renewal and use. However currently applied norms of consumption of raw materials and losses are calculated when keeping planned economy and do not ensure obtaining the reliable information on production costs with due account for modern reality. Arranging costs accounting requires the improvement of earlier established norms with due account for modern

reality, and innovative development preconditions the dynamics of the current norms and standards [II].

The costs of processing industry enterprises are made basing on the peculiarities of production process, processing technology, range, production facilities, labor organization, and operation features. The complexity and duration of technological process, the condition of material and technical and financial provision, the structure of the production program, the loading level of production facilities, and the business scale have a considerable influence on costs.

An objective economic category characterizing the current costs of enterprises expressed in monetary form and directly associated with the use of raw materials, fuel, energy, main assets, and labor resources in production is a net cost of products.

It can be noted that performance of organizations depends a lot on the modern, full and reliable information on the net cost of products.

The results of our research prove that the main factor for efficiency growth of bakery enterprises is cost management that should contribute to enhancement of activity performance. Using the proposed coefficients for converting products to raw materials taking into account the branch and technological features of production enables to arrange at processing industry enterprises an efficient system of production and managerial accounting enabling to take economically justified and timely managerial decisions.

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