The method of charging on indirect costs and recognizing them as costs of the period in a long production cycle

Recebimento dos originais: 21/05/2019
Aceitação para publicação: 27/12/2019

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Abstract

The article examines the procedure for accruing and writing off indirect costs of a long production cycle. Agriculture has been chosen as the branch of the research, as the most widespread branch characterized by a long value stream, in particular, in plant growing. Many methods of accruing and writing off the indirect costs, which modern science and practice have, have not been developed on the basis of characteristics of the production activity under consideration. The purpose of this study is to develop a methodology for accruing and writing off indirect costs based on a cause and effect relationship in a long production cycle. The distinctive fundamental characteristics of accruing and writing off indirect costs of the long value stream, which are the basis for their management, have been identified. The conclusion is drawn that it is impossible to recognize the costs studied as expenses of the reporting period - the month when they arise. The recommended technique assumes the need for their accumulation depending on the processes they provide: during a long period of planning and preparation, during the production cycle or during the storage period of the products, reflecting and controlling their value in the work in progress. Indirect production costs according to cause and effect relationships should be recognized as expenses of the period at the end of the value stream - the moment of selling products, the production of which they provided. When selling products, the cost of selling should be included in the total cost of production sold (or directly recognize as the costs of the period according to the Direct-Costing system) as a total amount, and storage costs by allocating the cost of the month to the volume of sales and unrealized balance. For the implementation of the methodology, the Graph of value streams has been developed. The application of the recommended methodology will allow for the most accurate monthly accounting and allocation of indirect costs for objects of costing according to the processes they provide, as well as expense and recognize the expenses of the period in a timely manner.

Keywords: Cost accounting. Accrual of indirect costs. Costs of the period. Long production cycle.

1. Introduction

Agriculture is the most common industry with a characteristic long production cycle. Seasonality of production, dependence on climatic conditions, biological features of growing crops, including the period from sowing to ripening in several months, determine the features of the implementation of costs and their management.

Modern science has many methods of accruing and writing off costs based on the needs of the management of various organizations (Abbas et al., 2012) (Spatayeva, 2015). However, their widespread application is not observed in agriculture. One of the drawbacks in management is the lack of an administrator's concept, and considering accounting only for tax purposes, therefore the information for management purposes is not properly structured (Oliveira et al., 2018), (Balzan et al., 2017).

An important issue in management work is determining the procedure for taking into account indirect costs and recognizing them as expenses of the period.

In addition, the available methods of accruing and writing off indirect costs were initially not developed on the basis of the characteristics of agriculture.

Cost management at the enterprise with a long production cycle requires the development of specific methods to accrue and expense indirect costs that meet the specifics of production.

2. Theory

Many authors recognize the fundamental impact of working conditions in agriculture on the implementation of management functions, considering the peculiar risks and restrictions of organizations (Oliveira et al., 2018) (Balzan et al., 2017) (Brizolla et al., 2017).

According to Zeki Doğan et al. (2013), certain expenses of agricultural enterprises relate to the budget of the next month or even the next year. In other words, sales proceeds of the production process, which presuppose certain costs, may relate to the following terms or years (for example, the costs associated with the use of fertilizers, pollination of plants, etc.)

The authors mainly consider the possibility of applying modern methods of cost management at agricultural organizations by adapting to the conditions of activity.

The most common method in such studies is Marginal costing (KTBL, 2017) (Kovačević et al., 2017) (Brizolla et al., 2017).

According to Padoveze (2006), it is based on the concept of behavioral cost analysis, which involves dividing it into fixed and variable costs.

At the same time, the authors explain that fixed indirect costs are written off as they arise in the period and are recognized as expenses of the period in the profit-and-loss report regardless of the number of units sold (Oliveira et al., 2018), (Fajardo, 2017). The advantage of these actions is explained by the fact that there is a risk of the so-called profit manipulation in Absorption costing, when the profit for the period can be increased by creating reserves, i.e., increasing production, even if there is no increase in demand for the product (Storey, 2002) (Drury, 2008) (Li et al., 2010). However, reducing the undesirable effects of stockpiling should be a separate area of management work focused on stabilizing the financial condition of the organization. At the same time careful planning and control should be implied, and not recognition of expenses as expenses of that period in which the expected income provided by them is not yet reflected.

Another common method, adapted by the authors for the agricultural production, is Activity Based Costing (ABC), making possible to allocate indirect costs properly and generate the most accurate information for management (ACCA, 2018) (Perčević et al., 2016). The distribution of costs among cost objects (products) is carried out according to the cost of each operation: seed preparation, plowing, fertilizing, planting, protection from pests, and harvesting (Balzan et al., 2017). The ABC method was created to facilitate strategic analysis of costs, consumption and resource allocation based on a cause and effect relationship (Balzan et al., 2017).

Indeed, cost management must adhere to one of the general principles of cost accounting, determining that costs should be as closely related to their causes (Vinesh et al., 2011).

In addition, one of the most fundamental accounting rules, the matching concept, should be taken into account. It requires that expenses are recorded during the same periods of time as income received as a result of their occurrence. In this case, most of the revenue can be divided in accordance with the cost of sales and operating expenses, which are the costs of doing business (Li Alan, 2019). Such costs are also associated with daily activities of companies, which affects whether it can work and generate income (Brookins Miranda, 2019).

As Foltinova et al. (2014) fairly considers, the business information system should be at such a level that management could use reliable information on any costs of an enterprise,

the reasons for the formation of costs and the cost structure for individual parameters. The availability of such information is essential for effective financial and operational management.

Therefore, before adapting any method of cost management under the conditions of agriculture, it is necessary to consider the relevant features of their formation. The purpose of this study is to develop a methodology for accruing and expensing indirect costs based on a cause and effect relationship in a long production cycle.

3. Methods

Indirect costs, including fixed costs, must be considered in conjunction with production. Most of them are impractical without the implementation of the production process. For example, general business costs involve the use of labor resources of the managerial apparatus, as well as the material and instruments of labor to ensure their work and the work of the entire enterprise as a whole. In turn, the appropriateness of these indirect costs is to ensure the production process.

A cause and effect relationship necessitates a comparison of the corresponding period of production with the time of the accrual of indirect costs and their recover as expenses of the period.

The accrual of indirect costs, including fixed costs, is usually done once a month at a time. Recognition of indirect costs as expenses of the period should be based on the principle of matching income and expenses, that is, recognizing expenses in the period when the organization receives income, or there is confidence in receiving economic benefits in the future.

Proceeds from the sales of products of labor are the income from ordinary activities. Hence, it is necessary to recognize indirect production costs as expenses of the period when the cost of goods sold, the production of which was ensured by the implementation of these indirect costs. Obviously, this period corresponds to the end of the value stream - the moment of sale.

The essence of indirect production costs necessitates their comparison in time with the state of direct production costs (Figure 1).

If the production cycle (PC) has not yet been completed at the reporting date, then the indirect costs that ensure it will form the work in progress. In the same state, it is necessary to

reflect the costs that ensure the upcoming production cycles that have not begun yet. Moreover, if the calculation of the cost does not imply the inclusion of certain indirect costs in its composition, in the situation under consideration they form the value of the costs in the work in progress in isolation.

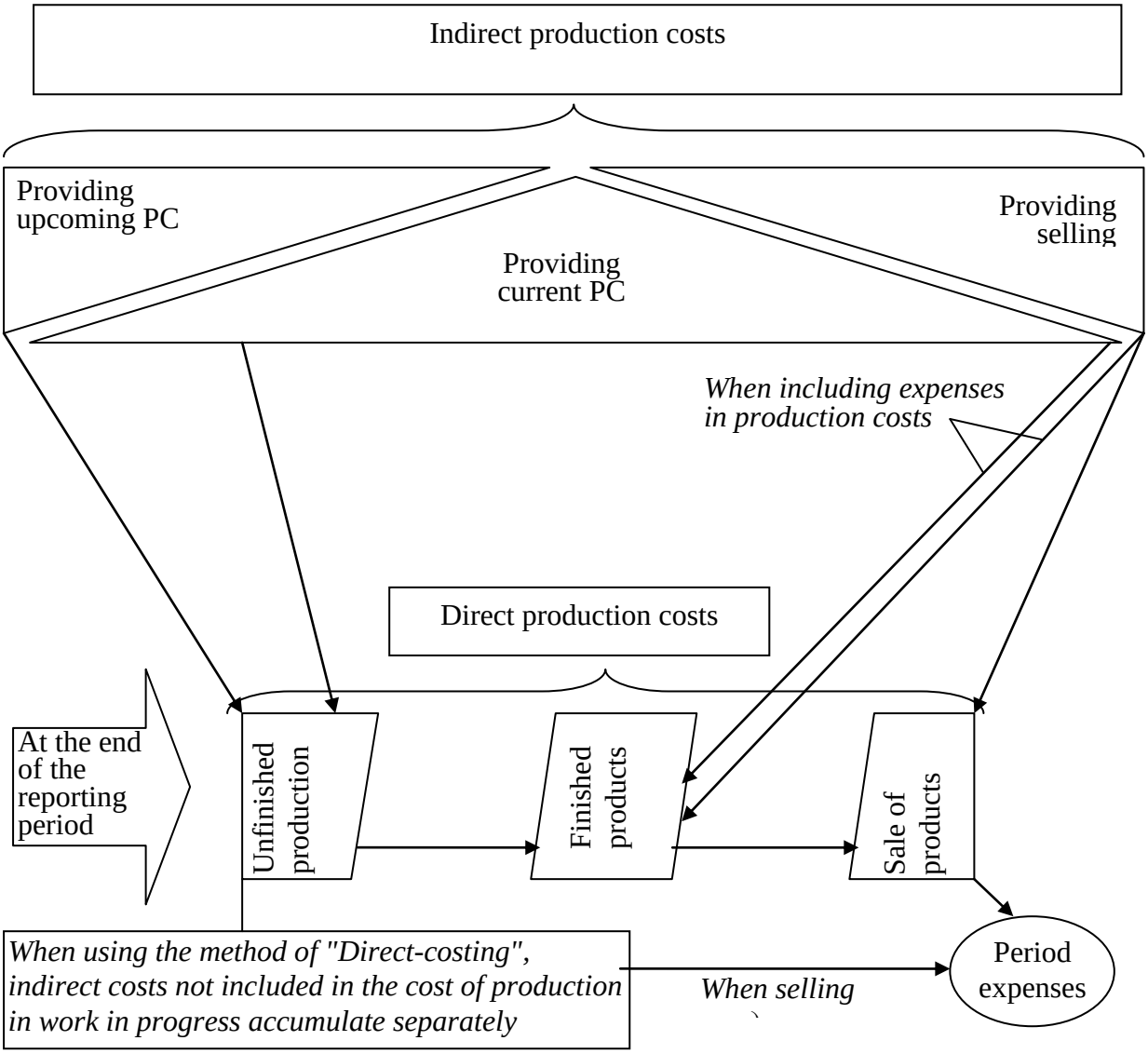


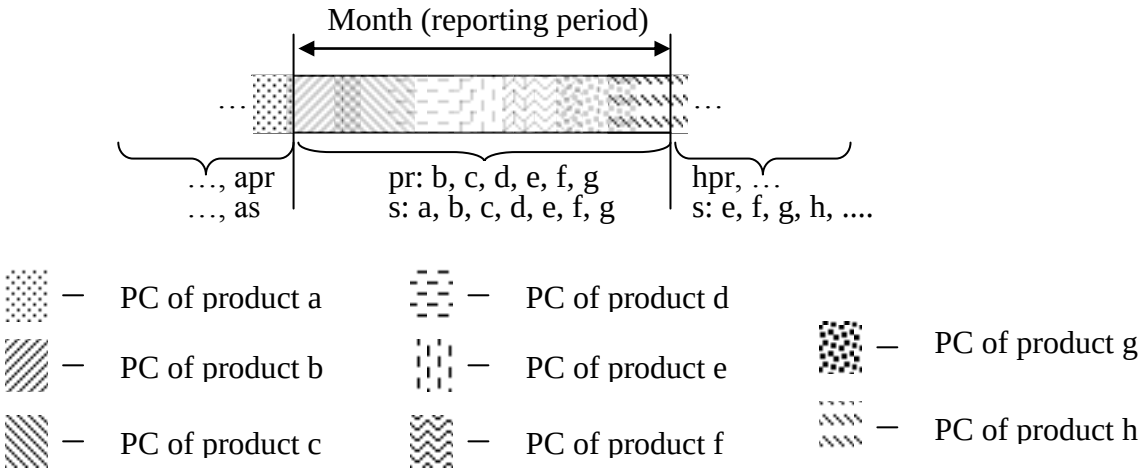
Figure 1: Comparison of the state of indirect production costs with the state of direct production costs in time

If the production cycle is completed, the indirect costs that ensure it are to be distributed between the costing objects or separately remain as part of the costs in work in progress (if their value is not included in the cost of labor).

Only when selling products, the production of which provided indirect costs, their value belongs to the expenses of the period.

The option of cost accounting for the sale of products is chosen by the organization independently. When being formed they immediately go into the expenses of the period. When choosing the option of including them in the cost of products of labor, the final cost estimate can be carried out only after its sale. The option is optimal if the time interval between the moment of getting the products and their selling is relatively small or absent. With a significant or uncertain time separation, the inclusion of the cost of sale in the cost of the product of labor will lead to some delay in accounting, reducing the efficiency of analytical work and management decisions. In this case, it is optimal to take into account the amount of business expenses in isolation.

Thus, indirect costs should be recognized as expenses of the period to complete the value stream that they provide and to sell the product of labor. In this regard, it is necessary to compare the period of recognition of costs as expenses (reporting period) with the period of the value stream implementation (Figure 2, Figure 3).

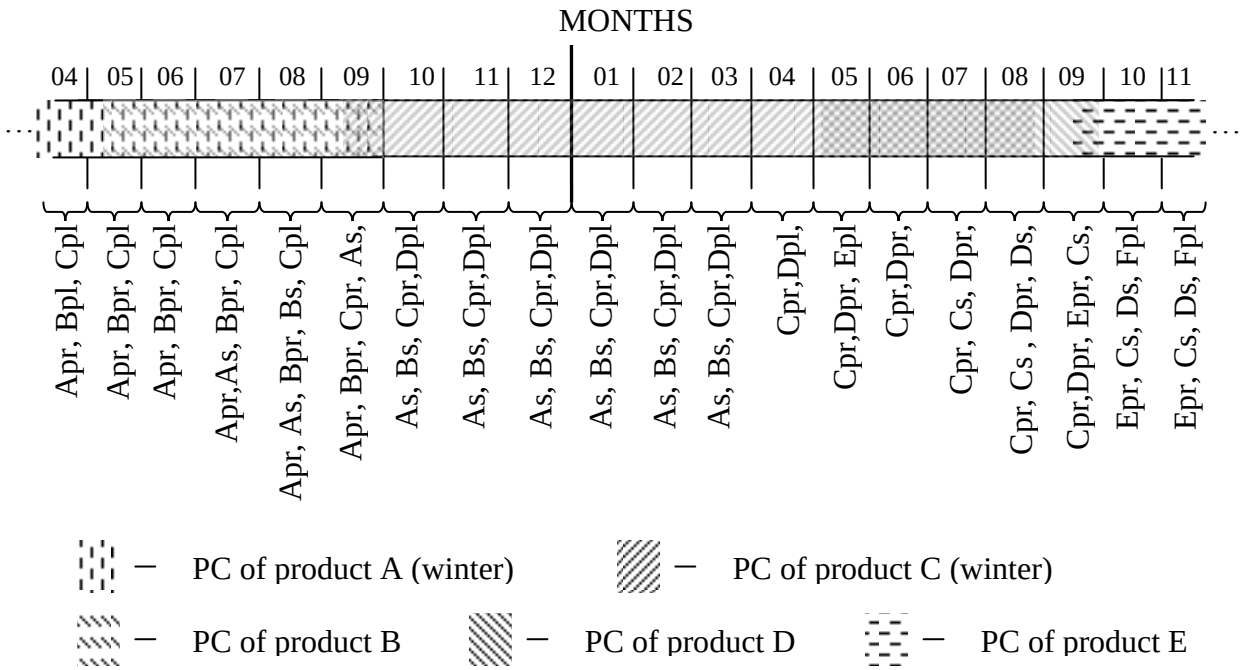


pr – indirect costs that provide PC of the listed types (or batches) of products (b, c, d, e, f, g) - objects of costing;
s - indirect costs that ensure the storage and sale of listed types (or batches) of products;
apr - indirect costs that provide PC of product a;
as - indirect costs that ensure the storage and marketing of product a;
hpr - indirect costs that provide PC of product h.

Figure 2: Comparison of the period of occurrence and recognition of indirect costs with the production cycle carried out within a month

If the value stream and the sale is carried out within a month, then indirect production costs, as a rule, can be recognized as expenses of the reporting month. They provide several production cycles (pr), as well as storage and sale (s) of various types (batches) of products, respectively, during the sale of which they can be recognized as expenses of the period. And if products remain in stock, they can either be included in production costs or be taken separately until the recognition of costs (time of selling products).

At the same time, the indirect costs associated with planning non-durable (several days) streams for the creation and sale of specific types (batches) of products in the related months of industrial production have, as a rule, a continuous, one-type character and an insignificant difference in value (mainly are included in remuneration of the labor of the managerial personnel). In this regard, it seems that it is quite acceptable to recognize them as expenses of the month of actual implementation.



Apl, Bpl, Cpl, Dpl, Epl - indirect costs, ensuring the planning and preparation of production, respectively A, B, C, D, E;
Apr, Bpr, Cpr, Dpr, Epr – indirect costs, providing PC of products, respectively A, B, C, D, E;
As, Bs, Cs, Ds, Es - indirect costs that ensure the storage and marketing of products, respectively A, B, C, D, E.

Figure 3: Comparison of the period of occurrence and recognition of indirect costs with the production cycle carried out for several months (for example, grain crops)

Modern practice provides for the need to allocate indirect costs between the reporting periods during which they provide production. For this purpose, the procedure for recognition and subsequent equal recover of expenses of future periods is used, and also reserves of forthcoming expenses can be created by their equal accrual during the production cycle (Mizikovsky et al., 2017) (Polikarpova et al., 2018).

However, the question of recognition of indirect costs as costs, ensuring a production cycle of several months, still lacks proper attention. On the example of the production of grain crops (Figure 3), let us highlight the distinctive features of the implementation of indirect costs, based on their causal connection with the production and sale of specific products:

- the duration of the production cycle determines the implementation of indirect costs ensuring it for many months;

- planning and preparation of the production cycle also takes a long period, causing the occurrence of supporting costs of this process;

- at the end of the production cycle, the process of products storage is started for subsequent sale, which is also a separate process. The storage period often takes several months, causing the costs to ensure the safety of products in stock. Costs that ensure the sale of products relate only to their volume sold;

- features of the production of certain types of products often cause a partial coincidence of their production cycles, as well as the period of the planning process and the preparation of production, or storage and marketing of a homogeneous product with the production cycle of another one.

These features substantiate the fundamental differences in the accrual and expense of indirect costs of a long-term value stream:

- the impossibility of monthly recognition of indirect production costs as expenses of the reporting period - the month when they arise;

- the need to accumulate indirect production costs (pr) during the production cycle (and the cost of storing finished products (s) - during the storage period), reflecting and controlling their value in progress, including at the end of the year;

- indirect costs that ensure the planning and preparation of the production of outputs (pl) should also be accumulated over a long period of planning and preparation, with subsequent writing off by allocation to the cost of production or recognition as expenses of

the period when outputs are sold and the accumulated value will also be the cost of work in progress at the end of the period;

- the need for a clear delimitation of indirect costs, firstly, according to specific value-creating streams, secondly, to costs ensuring:

  · planning and preparation of production;

  · the production cycle;

  · storage and sale of finished products, which, in turn, should be distinguished, respectively: storage costs and sales costs;

- when selling products, the cost of selling must be included in the total cost of the sold volume of production (or directly recognized as the costs of the period according to the Direct-Costing system) as a total amount, and the cost of storage - by allocating the cost of the month to the sales volume and unrealized balance.

4. Model and Results

The management of the indirect costs of the long-term value stream should be based on the specified principal characteristics. To do this, it is necessary to establish a monthly plan for each costing object and track the actual processes: planning and preparation of the production cycle (Pc.), production cycle (Pr.), Storage (St.) and sales (Sal.) of finished products. Table 1 presents a fragment of the recommended Value Flow Graphics that meets management needs.

Table 1: Fragment of the recommended Value Flow Graphics

Month, year	Product (crop)	Ongoing process	
		Plan	Fact
09.2018	Winter barley 2018 yield	Pr., St., Sal.	Pr., St.
	Rape 2018 yield	Pr., St., Sal.	Pr., St., Sal.
	Winter wheat 2019 yield	Pr.	Pr.
10.2018	Winter barley 2018 yield	St., Sal.	St., Sal.
	Rape 2018 yield	St., Sal.	St., Sal.
	Winter wheat 2019 yield	Pr.	Pr.
	Spring wheat 2019 yield	Pc.	Pc.
11.2018	Winter barley 2018 yield	St., Sal.	St., Sal.
	Rape 2018 yield	St., Sal.	St.
	Winter wheat 2019 yield	Pr.	Pr.
	Spring wheat 2019 yield	Pc.	Pc.

12.2018	Winter barley 2018 yield	St., Sal.	St., Sal.
	Rape 2018 yield	St., Sal.	St., Sal.
	Winter wheat 2019 yield	Pr.	Pr.
	Spring wheat 2019 yield	Pc.	Pc.
01.2019	Winter barley 2018 yield	St., Sal.	St., Sal.
	Rape 2018 yield	St., Sal.	St., Sal.
	Winter wheat 2019 yield	Pr.	Pr.
	Spring wheat 2019 yield	Pc.	Pc.
02.2019	Winter barley 2018 yield	St., Sal.	-
	Rape 2018 yield	St., Sal.	-
	Winter wheat 2019 yield	Pr.	Pr.
	Spring wheat 2019 yield	Pc.	Pc.
03.2019	Winter barley 2018 yield	St., Sal.	-
	Rape 2018 yield	St., Sal.	-
	Winter wheat 2019 yield	Pr.	Pr.
	Spring wheat 2019 yield	Pc.	Pc.
04.2019	Winter wheat 2019 yield	Pr.	Pr.
	Spring wheat 2019 yield	Pc.	Pc.
	Winter rye 2020 yield	Pc.	Pc.
05.2019	Winter wheat 2019 yield	Pr.	Pr.
	Spring wheat 2019 yield	Pr.	Pr.
	Winter rye 2020 yield	Pc.	Pc.
06.2019	Winter wheat 2019 yield	Pr.	Pr.
	Spring wheat 2019 yield	Pr.	Pr.
	Winter rye 2020 yield	Pc.	Pc.
07.2019	Winter wheat 2019 yield	St., Sal.	St., Sal.
	Spring wheat 2019 yield	Pr.	Pr.
	Winter rye 2020 yield	Pc.	Pc.
08.2019	Winter wheat 2019 yield	St., Sal.	St., Sal.
	Spring wheat 2019 yield	St., Sal.	Pr., St., Sal.
	Winter rye 2020 yield	Pc.	Pc.
09.2019	Winter wheat 2019 yield	St., Sal.	St., Sal.
	Spring wheat 2019 yield	Pr., St., Sal.	Pr., St., Sal.
	Winter rye 2020 yield	Pr.	Pr.
10.2019	Winter wheat 2019 yield	St., Sal.	St., Sal.
	Spring wheat 2019 yield	St., Sal.	St., Sal.
	Winter rye 2020 yield	Pr.	Pr.
	Corn 2020 yield	Pc.	Pc.
11.2019	Winter wheat 2019 yield	St., Sal.	St., Sal.
	Spring wheat 2019 yield	St., Sal.	St., Sal.
	Winter rye 2020 yield	Pr.	Pr.
	Corn 2020 yield	Pc.	Pc.
12.2019	Winter wheat 2019 yield	St., Sal.	St., Sal.
	Spring wheat 2019 yield	St., Sal.	St., Sal.
	Winter rye 2020 yield	Pr.	Pr.
	Corn 2020 yield	Pc.	Pc.

In addition to the tabular part, the graph must contain the necessary details: information about the organization, the period of preparation, the signature of the compiler (for example, the chief agronomist), etc. In the example of the Graph, this is the PC of winter wheat. The graph may contain for clarity a picture, like Figure 3. The use of the Graph will allow for the most accurate monthly accounting and allocation of indirect costs for costing objects according to the processes they provide, as well as to write off and recognize the expenses of the period in a timely manner. These distinctive characteristics of the indirect costs of a long-term value stream predetermine the appropriate method of their calculation and write-off. An example of the results of applying the methodology in comparison with the conventional method is presented in Tables 2 and 3.

Table 2: The accrual and recognition of indirect costs for the production and sale of winter wheat as costs of the period every month according to the accepted methodology and according to their functional participation in the provision of the PC and sales, thousand rubles

Costs for the production and sale of winter wheat using various methods	from previous periods (costs in NP)	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	January	Total
According to the generally accepted method: - accrual of direct production costs	-	2,437.4	-	112.7	56.0	40.4	-	142.4	339.0	2,412.9	616.8	2,707.7	1,860.0	-	-	-	-	-	8,287.8
- accrual of indirect costs	-	-	-	-	-	431.3	473.0	516.1	445.7	531.9	585.1	559.3	560.7	530.5	498.9	474.7	481.7	-	6,088.9
Monthly accrual of indirect costs according to the processes they provide, incl.:	1,343.1	272.6	305.0	292.4	300.9	369.3	437.2	516.1	299.9	325.3	373.3	350.3	352.6	149.1	144.3	128.5	130.3	120.8	6,211.0
- planning and preparation of PC	1343.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,343.1
- realization of PC	-	272.6	305.0	292.4	300.9	369.3	437.2	516.1	299.9	325.3	373.3	268.3	268.0	-	-	-	-	-	4,028.3
- storing the products	-	-	-	-	-	-	-	-	-	-	-	82.0	84.6	88.6	86.3	85.6	86.0	80.9	594.0
- the sale of finished products	-	-	-	-	-	-	-	-	-	-	-	-	-	60.5	58.0	42.9	44.3	39.9	245.6
Costs for storage of finished products recognized as expenses of the period	-	-	-	-	-	-	-	-	-	-	-	-	-	62.9	87.3	93.5	141.8	208.5	594.0
The total amount of indirect costs recognized as expenses of the period	-	-	-	-	-	-	-	-	-	-	-	-	-	1,446.6	1,413.7	1,074.7	1,155.0	1,121.0	6,211.0

Table 3: The accrual and recognition of indirect costs for the production and sale of spring wheat as costs of the period every month according to the accepted methodology and according to their functional participation in the provision of the PC and sales, thousand rubles

Costs for the production and sale of winter wheat using various methods	from previous periods (costs in NP)	January	February	March	April	May	June	July	August	September	October	November	December	January	Total
According to the generally accepted method: - accrual of direct production costs	-	-	-	-	1,256.2	1,302.5	1,785.3	1,698.6	1,678.3	1,308.6	-	-	-	-	9,029.5
- accrual of indirect costs	-	469.9	515.3	562.3	485.6	579.5	637.5	609.3	610.9	578.0	543.5	517.2	524.7	-	6,633.7
Monthly accrual of indirect costs according to the processes they provide, incl.:	1,195.3	383.9	432.0	542.1	302.0	360.5	396.5	379.0	380.0	359.5	129.3	124.1	124.8	108.3	5,217.3
- planning and preparation of PC	1,195.3	383.9	432.0	542.1	302.0	-	-	-	-	-	-	-	-	-	2,855.3
- realization of PC	-	-	-	-	-	360.5	396.5	379.0	263.4	231.4	-	-	-	-	1,630.8
- storing the products	-	-	-	-	-	-	-	-	72.6	73.2	73.0	74.0	72.9	72.3	438.0
- the sale of finished products	-	-	-	-	-	-	-	-	44.0	54.9	56.3	50.1	51.9	36.0	293.2
Costs for storage of finished products recognized as expenses of the period	-	-	-	-	-	-	-	-	10.9	22.4	53.7	74.7	120.5	155.8	438.0
The total amount of indirect costs recognized as expenses of the period	-	-	-	-	-	-	-	-	166.3	306.9	660.4	890.1	1,406.1	1,787.5	5,217.3

In the first one, the information is systematized by months, starting with the month of the start of production (sowing) of winter wheat and in the second, since the beginning of the calendar year, that is, several months before the start of spring wheat production. A separate column shows the total amount of accumulated indirect costs in goods in progress (GP) - for the preparation and planning of a PC before the beginning of the period under review.

According to the generally accepted method for the production of a particular type of product, indirect costs were attributed to the limitation of the period of their implementation in a calendar year. The expenses of the period were recognized at the end of the specified period as a total annual amount. The recommended method involves accumulation of indirect costs, ensuring the planning and production of outputs carried out before the beginning of the calendar year. After the production cycle, only the costs of storing finished products and their sales are charged. Indirect costs are recognized as expenses of the period only in the month of selling the corresponding quantity of products (the month of recognition of sales revenue) in a

certain amount in proportion to the volume of sales. It is important that one of these months is January - the month of the next calendar year.

Thus, the results of applying the considered techniques showed the following differences:

a) winter wheat (Table 2)

- the total amount of accrued indirect costs according to the proposed method is less than the same value according to the generally accepted method by 2 %;

- the amount of indirect costs recognized in the reporting year as expenses of the period in the aggregate for the respective months, according to the proposed methodology is 16 % less than the amount of indirect costs recognized in the reporting year according to the generally accepted methodology;

b) spring wheat (Table 3)

- the total amount of accrued indirect costs according to the proposed method is less than the same value according to the generally accepted method by 20%;

- the amount of indirect costs recognized in the reporting year as expenses of the period in the aggregate for the respective months, according to the proposed methodology is 2 times less than the amount of indirect costs recognized in the reporting year according to the generally accepted methodology.

5. Conclusion

The implementation of indirect costs is advisable to ensure the production process, preparatory work, as well as storage and marketing of the produced product of labor. Indirect production costs should be recognized as expenses of the period at the end of the value stream - the moment of selling products, the production of which they provided.

The management of the indirect costs of the long-term value stream should be based on the distinctive principal characteristics of their accrual and write-off. It is necessary to take into account the impossibility of monthly recognition of indirect production costs as expenses of the reporting period - the month in which they arise. They should be accumulated depending on the processes they provide: during a long period of planning and preparation, during the production cycle or during the storage period of products, reflecting and controlling their value in the work in progress. When selling products, the cost of selling must be included in the total cost of production sold (or be directly recognized as the costs of the

period according to the Direct-Costing system) as a total amount, and storage costs - by allocating the cost of the month to the sales and unrealized balance.

At the same time, it is necessary to establish a plan for each calculation object on a monthly basis and track the processes actually carried out: planning and preparation of the production cycle, the production cycle, storage and marketing of finished products. To do this, it is recommended to create a value stream graph.

The results of applying the generally accepted and recommended methods of calculating indirect costs and their write-off showed significant differences in the total amount of accrued indirect costs for a separate calculation object, as well as in the amount of indirect costs recognized in the reporting year as expenses of the period.

The recommended methodology will make possible the most accurate monthly accounting and allocation of indirect costs for costing objects according to the processes they provide, as well as writing off and recognizing expenses of the period in a timely manner.

References

ABBAS, K.; GONÇALVES, M., N.; LEONCINE, M. Os métodos de custeio: vantagens, desvantagens e sua aplicabilidade nos diversos tipos de organizações apresentadas pela literature. *ConTexto, Porto Alegre*, v.12, n.22, p.145-159, 2012.

ACCA. *Financial Management & Control Part 2 Paper 2.4.* UK, London: Financial Training Company, 2018.

BALZAN, C.; DALLÁGNIL, R., M. Gestão por atividades na pequena propriedade rural: um estudo de caso envolvendo a aplicação do Método de Custeio ABC. *Custos e @gronegócio on line*, v.13, n.4, p.17-41, 2017.

BRIZOLLA, M., M., B.; CHIARELLO, T., T.; PLETSCH, C., S.; FASOLIN, L., B.; SILVA, A., DA. Sistema de informações sob o enfoque do custeio variável em organizações agrícola. *Custos e @gronegócio on line*, v.13, n.4, p.257-282, 2017.

BROOKINS, MIRANDA. Examples of Revenue Expenditure. *Small Business - Chron.com*, 2019. Available online at http://smallbusiness.chron.com/examples-revenue-expenditure-12111.html

DRURY, C. *Management and Cost Accounting, 10th ed.* Cengage, p.842, 2018.

ESSAYS, UK. Marginal and Absorption Costing of Income Statements, 2013. Available online at https://www.ukessays.com/services/example-essays/finance/income-statements-marginal-and-absorption-costing.php?vref=1

FAJARDO, JOSEPH, ARLAN C. *Variable costing*. KUPDF, p.27, 2017.

FOLTÍNOVÁ, A.; ŠPIČKA, J. The use of controlling in agricultural enterprises and their competitiveness. *Agric. Econ. – Czech*, n.60, p.314-322, 2014.

KOVAČEVIĆ, V.; JELOČNIK, M.; SUBIĆ, J.; ZEKIĆ, V.; MILIĆ, D; ZUBOVIĆ, J. Causality between corn production cost and cash corn price. *Custos e @gronegócio on line*, v.13, n.4, p.2-16, 2017.

KURATORIUM FÜR TECHNIK UND BAUWESEN IN DER LANDWIRTSCHAFT E. V. (KTBL). *Leistungs-Kostenrechnung*. Deutschland, Darmstadt: KTBL, p.6, 2017.

LI, ALAN. Definition of a Revenue Expenditure in Accounting. *Small Business - Chron.com*, 2019. Available online at http://smallbusiness.chron.com/definition-revenue-expenditure-accounting-24072.html

LI, ANDY, TAK-MING; HO, PATRICK, KIN-WAI, *BAFS in the New World, Accounting – Elective Part 2 Cost Accounting, First Edition*. China, Hong Kong: Pilot Publishing Company Ltd., 2010.

MIZIKOVSKY, E., A.; MIZIKOVSKY, I., E.; POLIKARPOVA, E., P. *Accounting of reserves : monograph ed. by E.A. Mizikovsky* (in Russ.). Russia, Ryazan, Publishing House of RSATU. p.216, 2017.

OLIVEIRA, N., C. DE; BAQUETA, A., C., C.; NEUMANN, M.; RIBEIRO, R., R., M.; MATTIELO, K. Aplicação do custeio variável para o processo de tomada de decisão na produção agrícola: o caso da Fazenda Surinan. *Custos e @gronegócio on line*, v.14, n.3, p.37-60, 2018.

PADOVEZE, CLÓVIS, LUÍS. *Curso básico gerencial de custos. 2. ed. rev. e ampl.* São Paulo: Pioneira Thomson Learning, p.410, 2006.

PERČEVIĆ, H.; HLADIKA M. Movement From Traditional to Modern Cost Accounting Methods in Manufacturing Companies. *Muhasebe ve Finans Tarihi Araştırmaları Dergisi*, n.10 , p.155-180, 2016.

POLIKARPOVA, E, .P.; MIZIKOVSKIY, I., E. Preparing accounting information on costs for manufactured crop production. *Custos e @gronegócio on line*, v.14, n.4, p.149-165, 2018.

SPATAYEVA, S., B. Cost Accounting Methods and Calculation of Agricultural Products` Cost. *European Researcher*, v.93, n 4, p.290-297. 2015. doi: 10.13187/er.2015.93.290.

STOREY, P. *Introduction to Cost and Management Accounting*, UK, London: Red Globe Press, p.585, 2002.

VINESH, O.; SHAMEERA, KUNHU, T.; JAHFARALI, T., H. *Cost accounting: core course*. India, Kerala, P.O. Malappuram: Calicut University. p.116, 2011.

ZEKI, DOĞAN; SEÇKIN, ARSLAN; AYŞE, GÜL, KÖKSAL. Historical development of agricultural accounting and difficulties encountered in the implementation of agricultural accounting. *International Journal of Food and Agricultural Economics*, v.1, n.2, p.105-114, 2013.