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Mariia Shulhan[1]
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Accounting for Beekeeping Products: Current State and Ways of Improvement

Abstract. *Today, thanks to the active development of beekeeping on an industrial scale, Ukraine has become one of the largest exporters of honey to the market of EU countries. In this regard, the government is working on introducing EU requirements in the field of beekeeping into Ukrainian legislation to support this positive trend in the development of the industry. However, the main component of information and analytical support for managing beekeeping products production – accounting needs to be updated. The article aims to study the method of accounting for beekeeping products, determine the features of this process, and develop proposals for improving synthetic and analytical accounting at enterprises engaged in beekeeping. It was found that Methodical recommendations on accounting of biological assets and National Accounting Standard 30 "Biological assets" do not allow clear identification of accounting objects by types of beekeeping products, complicating the process of organizing accounting at an agricultural enterprise. To solve this problem, the article defines a list of beekeeping's main, related and by-products and proposes a structure of analytical accounts for their accounting. The production specifics are considered, particularly the stages of work at the apiary in each season. Correctly adjusted synthetic and analytical accounting in beekeeping will allow the accountant to collect the necessary data for making management decisions and compiling various forms of reporting of agricultural enterprises. The structure of analytical accounts by the type of beekeeping products proposed by the author will allow timely monitoring of its presence and movement and contribute to improving apiary management. In addition, the research results can be used to develop methodical recommendations on accounting for beekeeping products.*

Keywords: *accounting, beekeeping, production and sale, agriculture, finished products of beekeeping, work-in-progress, business operations, production cost, chart of accounts.*

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Облік готової продукції бджільництва: стан та шляхи удосконалення

Анотація. *Сьогодні, завдяки активному розвитку бджільництва в промислових масштабах, Україна стала одним з найбільших експортерів меду на ринок країн ЄС. У зв'язку з цим, уряд працює над впровадженням вимог ЄС в сфері бджільництва в українське законодавство, щоб підтримувати цей позитивний тренд розвитку галузі. В той же час, головна складова інформаційно-аналітичного забезпечення управління процесами виробництва продукції бджільництва – бухгалтерський облік є застарілим, а також малодослідженим вітчизняними науковцями. Метою статті є дослідження методики обліку продукції бджільництва, визначення особливостей цього процесу та розробка пропозицій щодо удосконалення синтетичного та аналітичного обліку на підприємствах, що займаються бджільництвом. Виявлено, що Методичні рекомендації з бухгалтерського обліку біологічних активів та Положення (стандарт) бухгалтерського обліку 30 «Біологічні активи» не містіть чіткої ідентифікації об'єктів обліку за типами продукції бджільництва, що ускладнює процес організації обліку на сільськогосподарському підприємстві. Щоб вирішити цю проблему, у статті визначено перелік основної, супутньої та побічної продукції бджільництва та запропоновано структуру аналітичних рахунків для її обліку. Враховано специфіку виробництва, зокрема етапи робіт на пасіці в кожному сезоні. Правильно налагоджений синтетичний та аналітичний облік у бджільництві дозволить бухгалтеру збирати необхідні дані для прийняття управлінських рішень та складання різних форм звітності сільськогосподарських підприємств. Запропонована автором*

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структура аналітичних рахунків за видами продукції бджільництва дозволить своєчасно відслідковувати її наявність та рух, а також сприятиме покращенню управління пасікою. Крім того, результати дослідження можуть бути використані для розробки методичних рекомендацій з обліку продукції бджільництва.

Ключові слова: *облік, бджільництво, виробництво та реалізація, сільське господарство, готова продукція бджільництва, незавершене виробництво, господарські операції, собівартість продукції, план рахунків.*

PROBLEM STATEMENT

Beekeeping is the basis and source of sustainable development for several industries, in particular, crop production, the basis of which is the breeding, maintenance and use of bees for pollination of entomophilous plants for agricultural purposes and increasing their yield, pharmaceutical, food and others. Thanks to the active development of industrial beekeeping, Ukraine has become one of the largest honey exporters to EU countries. Currently, the government is working on implementing EU requirements in the field of beekeeping into Ukrainian legislation to support this positive trend in the development of the industry.

At the same time, the main component of the information and analytical support for managing beekeeping production processes – accounting needs to be updated. Considering the practical problems faced by accountants of beekeeping enterprises, there is a need to systematize the accounting of business operations and processes, distinguish the types of beekeeping products and production costs, and improve the calculation of the cost of beekeeping products. All these aspects affect the reliability of information disclosure in reporting and, therefore, the decisions of managers and potential investors.

This article will detail the synthetic and analytical accounting of the production and sale of beekeeping products, contributing to the solution of the mentioned problem.

LITERATURE REVIEW

Although accounting issues in beekeeping require additional research, they are mostly left out of the attention of Ukrainian researchers or are considered tangentially to other topics.

In particular, in her monograph, O.V. Koval [1] assessed the state of accounting for biological assets at agricultural enterprises in Ukraine and later detailed the accounting of beekeeping product costs [2]. N.O. Kozitska [3] and L.K. Suk [4] investigated the peculiarities of accounting and calculating the cost of production in beekeeping, the data of which are necessary for assessing the economic efficiency of the industry's development. S.M. Ostapchuk, having analyzed the foreign practice of apiary management, believes that the main factor in the further development of accounting in beekeeping will be innovative technologies. The researcher notes that "in the context of the post-war recovery of Ukraine, interest in innovations in agriculture, particularly in beekeeping, will increase, which will become an incentive for the development of integrated accounting and bioeconomy" [5, p. 36].

Foreign researchers study the issue of accounting for beekeeping products in a much broader context, taking into account the problems of climate change [6], the dominant position of fair value in accounting standards [7], digitalization of management processes [8], management methods used by European beekeepers [9] and other factors affecting the production of honey and its sale.

Thus, the existing studies only cover some of the accounting problems in beekeeping. Therefore, this gap needs to be filled by focusing more attention on the order in which economic transactions are displayed on the accounts of synthetic and analytical accounting.

The **article aims** to study the method of accounting for beekeeping products, determine its features, and develop proposals for improving synthetic and analytical accounting at beekeeping enterprises.

RESEARCH RESULTS

Synthetic and analytical accounting are complementary components that form a complete enterprise's accounting system.

Synthetic accounting is a generalized reflection in monetary terms of economically homogeneous assets, their sources and economic processes. Materials of synthetic accounting (consolidated accounting) are used for compiling and checking reporting. At the enterprise, with the help of synthetic accounting, the general availability of fixed assets, raw materials and materials, production costs, and the state of settlements with suppliers are determined. Analytical accounting is a system of accounting records that allows for detailed information on the movement of economic assets; intended for operational management of the economy and reporting; and is built for each synthetic account separately. The most general branch positions of analytical accounting for all enterprises are provided in the plan of accounts and are called sub-accounts. In contrast to synthetic accounting, analytical accounting is conducted in monetary terms and natural indicators and contains reference data. The reliability of analytical accounting indicators is periodically checked using an inventory [10, p. 109-110].

To account for the production and sale of beekeeping products, the Chart of accounts contains the following main accounts: 23 "Production", 27 "Agricultural products", 21 "Current biological assets", 90 "Cost of goods sold". The Working Chart of accounts is disclosed in the Order of the enterprise's accounting policy. Each specified synthetic account has sub-accounts (analytics) that detail accounting data. The production activity of the beekeeping industry is recorded on account 23 "Production", using the corresponding sub-account 232 "Livestock". This account is intended to summarize

information on costs for producing products (works, services). The debit shows the costs incurred for the production of products, as well as the distributed general production costs, and the credit shows the actual cost of the manufactured products. The debit balance of account 23 "Production" means the work-in-progress [11].

Work-in-progress is a product that has not passed all stages of processing/reprocessing provided by the technological production process. In agriculture, work-in-progress is the costs of the following year's production. They are determined at the end of the year. However, since these costs are not minimal for this period, their planned value at the end of the year, adjusted for the seasonality factor of costs according to the formula, is taken as the norm:

$$Fs = E \text{ min.} / C \text{ e.y.} \quad (1)$$

Where: E min. – minimum unfinished expenses during the past year;

C e.y. – costs of work-in-progress at the end of last year.

In beekeeping, finished products can simultaneously be work-in-progress. In particular, work-in-progress is the cost of honey left in the hives as a fodder reserve for feeding bees for the autumn-winter-spring period. Work-in-progress is determined based on the planned costs at the end of the year according to the inventory for the autumn audit (the seasonality of work on the apiary is shown in Figure 1) multiplied by the planned cost of a unit of work-in-progress by its volume (column 2 x column 3 of Table 1), adopted in the plan for the end of the year. The result will equal the sum of planned expenses for all types of work of the planned year, which are subject to inclusion in the cost of expenses of future periods and expenses of past years which are not covered in the planned year. Since the seasonality of changes in work-in-progress costs during the year is insignificant, the seasonality coefficient is assumed to equal one. The norm is determined by multiplying the expenses planned for the end of the year (in our case, the amount is UAH 5,000 – Table 1) by their seasonality coefficient (1) (calculation example in Table 1). In monetary terms, work-in-progress is shown as costs necessary to continue production.

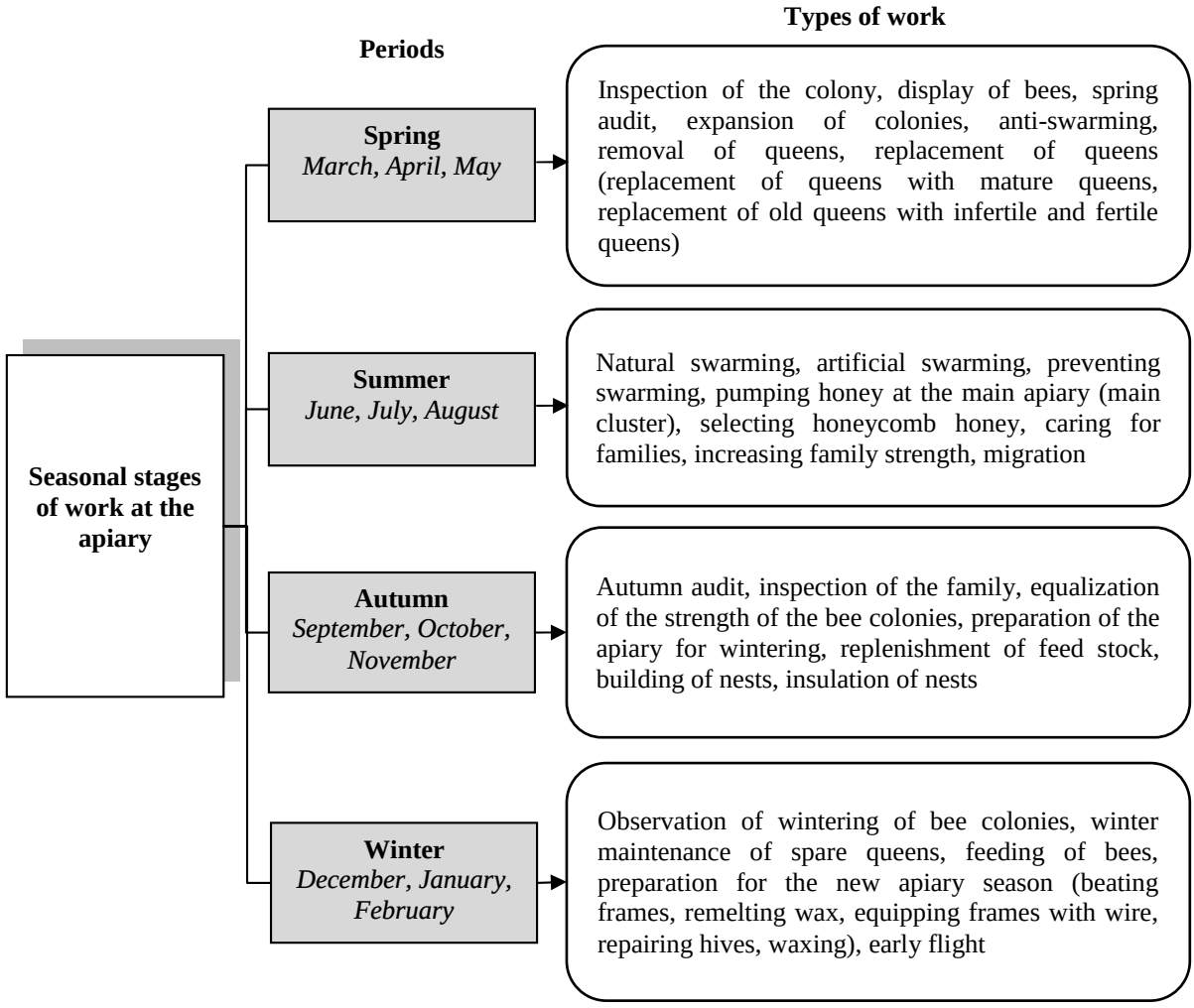

Figure 1. **Seasonality of work at the apiary**

Source: grouped by the author based on [12].

Table 1. **Determination of the norm of current assets for work-in-progress in beekeeping**

Types of work-in-progress	Number of production units	Planned cost, UAH	Amount, UAH (column 3 x column 2)
1	2	3	4
Reserves of honey in beehives for feeding bees in winter, quintals (5 kg per bee colony)	4	1000	4000
Wax stocks in beehives for feeding bees in winter, quintals (1 kg per bee colony)	2	500	1000
Total	X	X	5000
Seasonality factor	X	X	1
Norm	X	X	5000

Source: Author's calculations.

Analytical accounting on account 23 "Production" is carried out by specific types of production (in beekeeping, there are several types of production activity), cost items, and types or groups of products produced.

According to the Chart of Accounts, all beekeeping products (honey, wax, bee pollen, propolis, royal jelly, bee venom, drone homogenate, etc.) are reflected on account 27 "Agricultural products", subaccount 272 "Livestock products", [11]. This account is intended to record and summarize information on the availability and movement of agricultural products. Agricultural products are reflected at fair value, reduced by expected selling costs.

The debit of account 27 "Agricultural products" shows the receipt of agricultural products, the credit – disposal of agricultural products due to sale, free transfer, etc.

Enterprises use this account for accounting of products received from their animal husbandry divisions, which are intended for sale to the side and for other non-production consumption (issuance and sale to employees, transfer to non-production spheres, for example, to kindergartens, canteens, etc.); products that are intended for consumption in livestock units, as fodder or for the production of fodder in feedlots; products that are grown for livestock feeding, such as green mass, fodder, fruits, etc., as well as by-products and waste, obtained when commercial products and seeds are brought to proper conditions [11].

Analytical accounting of agricultural products is carried out by types of products. Therefore, it is necessary to define the types of beekeeping products clearly.

Beekeeping products are waste-free and are divided into main products, related products and by-products (Figure 2).

The main products are agricultural products, which can bring the greatest economic benefits to the enterprise, which is the goal of maintaining biological assets capable of producing such agricultural products. According to Methodical Recommendations No. 1315 [13], the main products of beekeeping include honey. The premium type of honey is honeycomb honey, the market demand for which is growing today. Such honey has a higher quality and, therefore, a higher price.

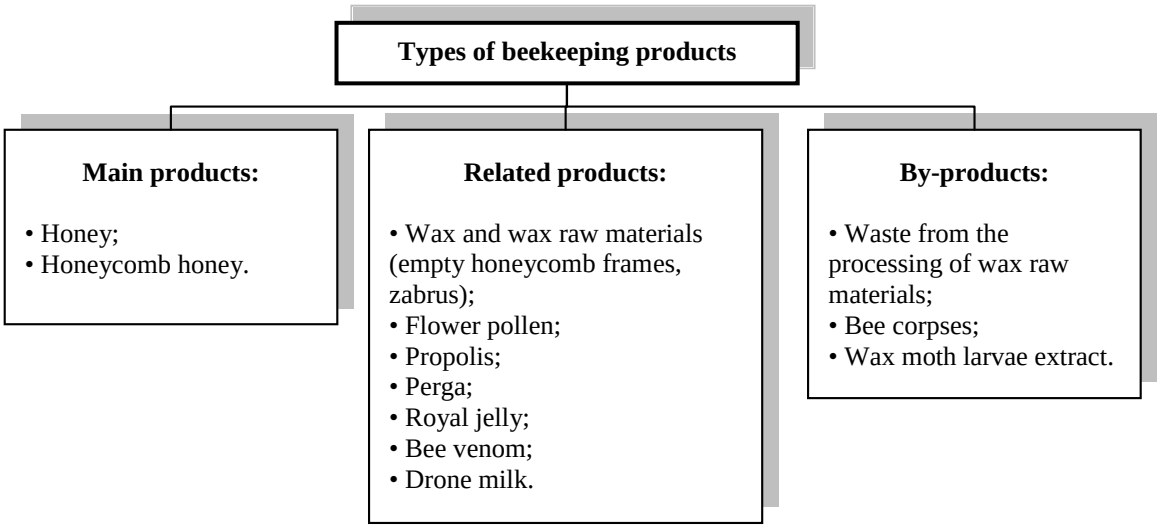

Figure 2. **Types of beekeeping products**

Source: grouped by the author.

Related products are agricultural products that are obtained from a biological asset or their group at the same time as the main product, meet established standards or technical conditions and are intended for further processing or sale. According to Methodical Recommendations No. 1315 [13], beeswax is a related beekeeping product. Related products also include the following products:

- Empty honeycomb frames from which honey was previously pumped out;
- Zabrus is a product that remains from cutting off the lids of sealed combs before pumping out honey;
- Flower pollen (bee pollen) is a complex, concentrated plant-bee product with unique consumer and medicinal qualities;
- Propolis is a greenish-brown resinous mixture produced by bees by mixing their own saliva and wax with sap and balms collected from the buds, stems and leaves of plants.
- Perga is flower pollen of plants collected by honey bees, moistened with nectar, placed in the cells of the honeycomb, tamped and filled with honey.
- Royal jelly is a secret of honey bees, which they use to feed the larvae.
- Bee venom is a secret of the poisonous glands of bees, which they secrete when they sting.
- Drone milk – a brood of bee drone larvae at the stage of development.

According to Methodical Recommendations No. 1315 [13], by-products are agricultural products that are obtained from one biological asset or their group at the same time as the main one. Still, they are of secondary importance, and the economic benefits from their use are insignificant. By-products include waste from the processing of wax raw materials, bee corpses, and wax moth larvae extract.

It is notable that Methodical Recommendations No. 1315 [13] and National Accounting Standard 30 "Biological Assets" [14] do not clearly identify beekeeping products as an accounting object.

According to the Law of Ukraine "On Beekeeping" [15], beekeeping products are products obtained thanks to the harvesting and physiological properties of bees (honey, wax, flower pollen, perga, propolis, royal jelly, bee venom, drone milk), as well as themselves bees. However, there is general terminology for beekeeping products. To ensure a transparent and reliable accounting of beekeeping products, we propose classifying beekeeping products by intended purpose and economic value (Figure 2).

For accounting purposes, we proposed to introduce analytical accounts to subaccount 272 "Livestock products" of account 27 "Agricultural products" (Figure 3). An accountant can open such analytical accounts for the available types of beekeeping products.

Opening the proposed analytical accounts by the accountant will increase the quality of accounting by forming complete and accurate accounting information.

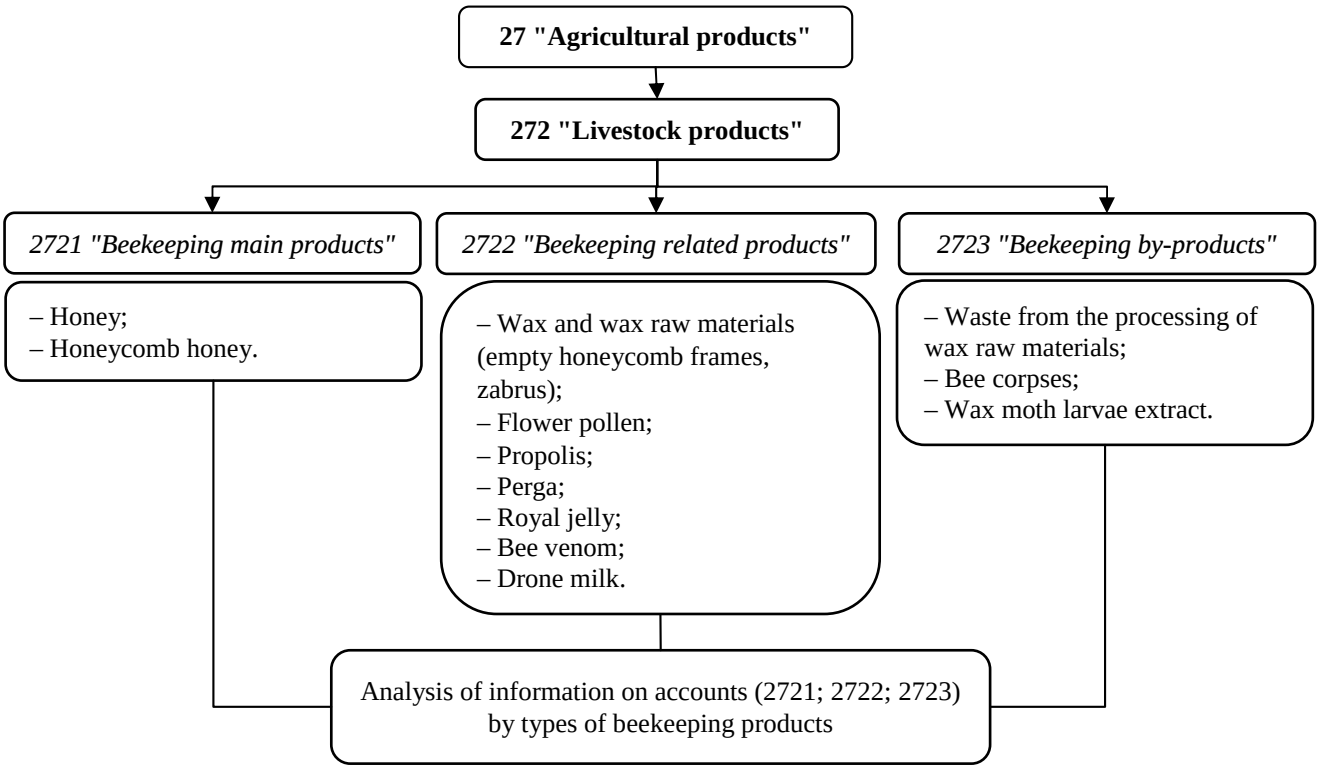

Figure 3. **Proposed structure of account 27 "Agricultural products"**

Source: suggested by the author.

In accounting, the cost price of certain types of beekeeping products is determined by dividing costs, including the cost of work-in-progress at the beginning of the year, between types of products in proportion to their fair value. Thus, the cost of an increase in the number of combs is calculated based on the cost of melted conditioning wax. New bee families are valued at fair value. The cost of 1 kilogram of bees is equal to the cost of 10 kilograms of honey. In beekeeping, the gross output of honey is calculated, including marketable honey and honey left in the hives, which is considered the cost of work-in-progress at the end of the calendar year [16; 17, p. 1023].

The accountant uses the following formula to determine the actual cost of finished products:

$$Cfp=WiPb.m.+DC-WiPe.m. \quad (2)$$

where: WiPb.m. – work-in-progress at the beginning of the month;

DC – direct costs for the production of products for the month;

WiPe.m. – work-in-progress at the end of the month.

In beekeeping, only honey is a finished product. For its accounting, the accountant uses account 26 "Finished products". Finished products include products whose processing has been completed and which have passed testing, acceptance, and assembly according to customer contracts and meet technical conditions and standards. Analytical accounting of finished products is carried out by types of finished products.

Table 2 presents the accounting sequence for producing and selling beekeeping products.

The accountant also uses other accounts to record economic operations in beekeeping. In particular, account 21 "Current biological assets" and corresponding sub-accounts 212 "Current biological assets of animal husbandry" (accounting at fair value) and 213 "Current biological assets of animal husbandry" (estimated at original cost).

Table 2. **Accounting for producing and selling beekeeping products**

Correspondence of accounts		Economic operation
Debit	Credit	
Production process		
232	661	Wages accrued to apiary workers
	65	A single contribution to mandatory state social insurance is charged
	272	Finished products for the needs of animal husbandry (honey for feeding bees) are written off
	208	Medicines and disinfectants were written off
	234	The services of auxiliary productions for service in the field of beekeeping are provided
	13	Depreciation on the main equipment in beekeeping is calculated
	91	Allocated general production costs have been written off
	22	The bee inventory was written off
	63, 68	Services provided by third-party organizations
	710	Income from the initial recognition of agricultural products and additional biological assets is reflected
Storage and sale of finished products		
272	232	Finished products (honey, wax) are transferred from the apiary to the warehouse at the planned cost price
231	232	A part of beekeeping expenses is allocated to pollination of agricultural crops
940	232	Expenses from the initial recognition of agricultural products and additional biological assets are reflected
272	232	At the end of the month, the difference between the actual and planned cost of finished products (honey, wax) released from production is reflected
947	232	Expenses for work-in-progress were written off: bees that died during wintering
209	232	Posting of returnable waste obtained in the production process, which is recognized as an asset and classified as other materials
212, 213	232	The bee colony was sold
272	272	Beekeeping products were transferred from one financially responsible person to another
	719	Surpluses during the inventory of beekeeping products were sold
	718	Free receipt of beekeeping products
901	272	The cost of sold honey, wax, which are valued at fair value, is written off
361, 362	701	Income from the sale of beekeeping products is calculated
701	643	The tax liability has been accrued
949	272	Free transfer of beekeeping products
947	272	The shortage of beekeeping products was revealed during the inventory

Source: systematized by the author.

Synthetic accounting of current biological assets by channels of receipt and disposal according to corresponding accounts is kept in journal order No. 8 s.-g. and accounting document No. 8.2 s.-g.

Moreover, some researchers suggest using an account of 10 "Fixed assets" to account for empty hives, taking into account their original value, provided the hive's value is up to UAH 20,000 and the term of helpful use of the asset is more than 1 year.

CONCLUSION

Beekeeping products are products obtained in the activity of bee colonies (swarms), which provide the main economic benefits (main products) and can be realized for the needs of treatment and health improvement of the population (related and by-products). They can also be used at the enterprise for its own needs, processing, and as a work-in-progress.

Correctly adjusted synthetic and analytical accounting in beekeeping allows the accountant to collect the necessary data to make management decisions and prepare various forms of agricultural enterprise reporting. The structure of synthetic and analytical accounts proposed by the author will allow tracking the presence and movement of beekeeping products on time. Accounting by product types will help improve apiary management.

In addition, this study's results can be used to develop methodical recommendations on accounting for beekeeping products.

4 References

1. Koval, O. V. (2013). Oblik biolohichnykh aktyviv [Accounting for biological assets]. Vinnytsia: Edelveis i K. [in Ukrainian].
2. Koval, O. V., Burko, K. V. (2022). Napriamy udoskonalennia upravlinskoho obliku v bdzhilnytstvi [Directions for improving management accounting in beekeeping]. *Ekonomika, finansy, menedzhment: aktualni pytannia nauky i praktyky*, 1(59), 121-135. [in Ukrainian].
3. Kozitska, N. O. (2015). Osoblyvosti bukhhalterskoho obliku v bdzhilnytstvi [Peculiarities of accounting in beekeeping]. *Formuvannia rynkovoi ekonomiky*, 33, 569-576. [in Ukrainian].
4. Suk, L. K. (2016). Obchyslennia ta vykorystannia sobivartosti silskohospodarskoi produktsii [Calculating and Using Self-Cost of Agricultural Products]. *Oblik i finansi*, 2(72), 71-75. [in Ukrainian].
5. Ostapchuk, S. M. (2024). Beekeeping business accounting: traditional and innovative component (pp. 34-36). In *Suchasni tendentsii rozvytku ekonomiky ta obliku: naukovi horyzonty*. Conference proceeding. Lutsk: DonNTU.
6. Van Espen, M., Williams, J. H., Alves, F., Hung, Y., de Graaf, D. C., & Verbeke, W. (2023). Beekeeping in Europe facing climate change: A mixed methods study on perceived impacts and the need to adapt according to stakeholders and beekeepers. *Science of the Total Environment*, *888*, 164255. https://doi.org/10.1016/j.scitotenv.2023.164255
7. Rocha, S.A. da; Oliveira, D. de L.; Loose, C.E.; Porto, W.S. (2016). Measurement and disclosure of the bearer biological asset at the fair value in beekeeping: an Alternative to the historical cost. *Custos e @gronegócio on line*, 12(3), 273-302. Retrieved from http://www.custoseagronegocioonline.com.br/numero3v12/OK% 2015%20biologico.pdf
8. Hadjur, H., Ammar, D., & Lefèvre, L. (2022). Toward an intelligent and efficient beehive: A survey of precision beekeeping systems and services. *Computers and Electronics in Agriculture*, *192*, 106604. https://doi.org/10.1016/j.compag.2021.106604
9. Sperandio, G., Simonetto, A., Carnesecchi, E., Costa, C., Hatjina, F., Tosi, S., & Gilioli, G. (2019). Beekeeping and honey bee colony health: A review and conceptualization of beekeeping management practices implemented in Europe. *Science of the Total Environment*, *696*, 133795. https://doi.org/10.1016/j.scitotenv.2019.133795
10. Dankiv, Y. Ya., Ostapiuk, M. Ia. (2007). Bukhhalterskyi oblik [Accounting]. Kyiv. [in Ukrainian].
11. Ministerstvo finansiv Ukrainy. (1999). Instruktsiia pro zastosuvannia Planu rakhunkiv bukhhalterskoho obliku aktyviv, kapitalu, zoboviazan i hospodarskykh operatsii pidpryiemstv i orhanizatsii [Instructions on the application of the Chart of Accounts for the accounting of assets, capital, liabilities and economic operations of enterprises and organizations]. Retrieved from https://zakon.rada.gov.ua/laws/show/z0893-99#Text [in Ukrainian].
12. Bilyk, E. V. (2012). Velykyi suchasnyi dovidnyk bdzholiara [Large modern beekeeper's guide]. Donetsk. [in Ukrainian].
13. Ministerstvo finansiv Ukrainy. (2006). Metodychni rekomendatsii z bukhhalterskoho obliku biolohichnykh aktyviv [Methodical recommendations on the accounting of biological assets]. Retrieved from https://ips.ligazakon.net/document/view/MF06097?an=9&ed=2013_12_30 [in Ukrainian].
14. Ministerstvo finansiv Ukrainy. (1999). Polozhennia (standart) bukhhalterskoho obliku 30 "Biolohichni aktyvy" [National Accounting Standard "Biological assets"]. Retrieved from https://zakon.rada.gov.ua/laws/show/z1456-05#Text [in Ukrainian].
15. Verkhovna rada Ukrainy. (2000). Pro bdzhilnytstvo: Zakon Ukrainy [On beekeeping: Law of Ukraine]. Retrieved from https://zakon.rada.gov.ua/laws/show/1492-14 [in Ukrainian].
16. Ministerstvo finansiv Ukrainy. (1999). Polozhennia (standart) bukhhalterskoho obliku 16 "Vytraty" [National Accounting Standard "Expenses"]. Retrieved from http://zakon0.rada.gov.ua/laws/show/z0027-00 [in Ukrainian].
17. Ohiichuk, M. F., Plaksiienko, V. Ia., Belenkova, M. I. et al. (2011). Finansovyi ta upravlinskyi oblik za natsionalnymy standartamy [Financial and management accounting according to national standards]. Kyiv. [in Ukrainian].