

Accounting of Biological Assets in Latvia

Jeļena Jesemčika, graduated economist
 Department of Accounting and Audit
 Faculty of Economics and Management
 University of Latvia
 Aspazijas b. 5, Rīga, LV-1050
 E-mail: lu4ikk@inbox.lv

Anna Jesemčika, Mg. oec., associate professor
 Faculty of Economics
 Latvia University of Agriculture
 Svētes iela 18, Jelgava, LV-3001
 Email: anna.jesemcika@llu.lv

Abstract. Biological assets – animals and plants which are able to produce agricultural production are the main productive elements of agricultural enterprise. The profit of enterprise depends exactly on the management efficiency of these assets. Properly organised accounting ensures the control of biological assets ownership and shows favourable prerequisites for enterprise development, which affects both the management and the welfare of state in general. In Latvia very little attention is paid to the questions of accounting for biological assets. There are no regulations developed which would determine processes of accounting for biological assets as well as no researches done which would be related to the problematic of accounting for biological assets.

The research objects: agricultural enterprises in Latvia, foreign and Latvian researches and publications, and theoretical conclusions on biological assets. The research is done in accordance with the previous researches and experience in accounting in agricultural enterprises.

Key words: biological assets, IAS 41, evaluation of the fair value, evaluation of the production expenses, animal accounting.

Introduction

In 2008 agricultural sector accounted for only 4.3% of GDP, thus indicating that agriculture is one of the smallest sectors in Latvia. However, it is ranked first by importance. Agriculture is one of the most important sectors of the national economy, which provides the necessary products to population. Thus, maintenance and development of agricultural enterprises is one of the most important questions in the government policy. On conditions of market relations, comprehensive, objective and due information is necessary for successful economic development. The data of accounting report of enterprises served as the main source of information.

The aim of the article: to study and analyse biological assets accounting guidelines from the view of legislation of the Republic of Latvia and ISA as well as to disclose solutions for typical problems and corrections of identified deficiencies in accounting for biological assets.

The following **tasks** are set to achieve the aim of the article:

- 1) to explain the definition of biological assets and its classification attributes;
- 2) to study theoretical aspects of biological assets admission and evaluation methods;
- 3) to explain the applied methods of biological assets evaluation in agricultural enterprises of Latvia;

- 4) to valuate reflection of biological assets in agricultural enterprises' financial reports according to the regulatory enactments of Latvia and ISA;
- 5) to develop proposals for solution of typical problems solve and correction of identified deficiencies in accounting for biological assets.

The research methods. The method of logical analysis and methods of comparison and generalisation are used in the article. The research is done on legislative and regulatory enactments. The research authors have used studies of foreign researchers, providing their own estimations on knowledge of biological assets. The research analyses the history of accounting methodology for biological assets as well as concept of problem understanding.

Biological reformation control which results in quantitative and qualitative changes of biological assets as well as enabling of favourable conditions (tillage, sufficient nutrients, lighting, temperatures (for example, in greenhouses or poultry farms) and ensuring of humidity level – are the characteristics of agriculture. If an enterprise gets agricultural production from uncontrolled biological sources (hooking fish in rivers, sea or shooting animals in wild forest), such activities cannot be called agriculture.

According to IAS 41, agricultural production is the production obtained from enterprise's biological assets. The definition itself indicates that enterprises shall manage this asset. Biological assets comprise

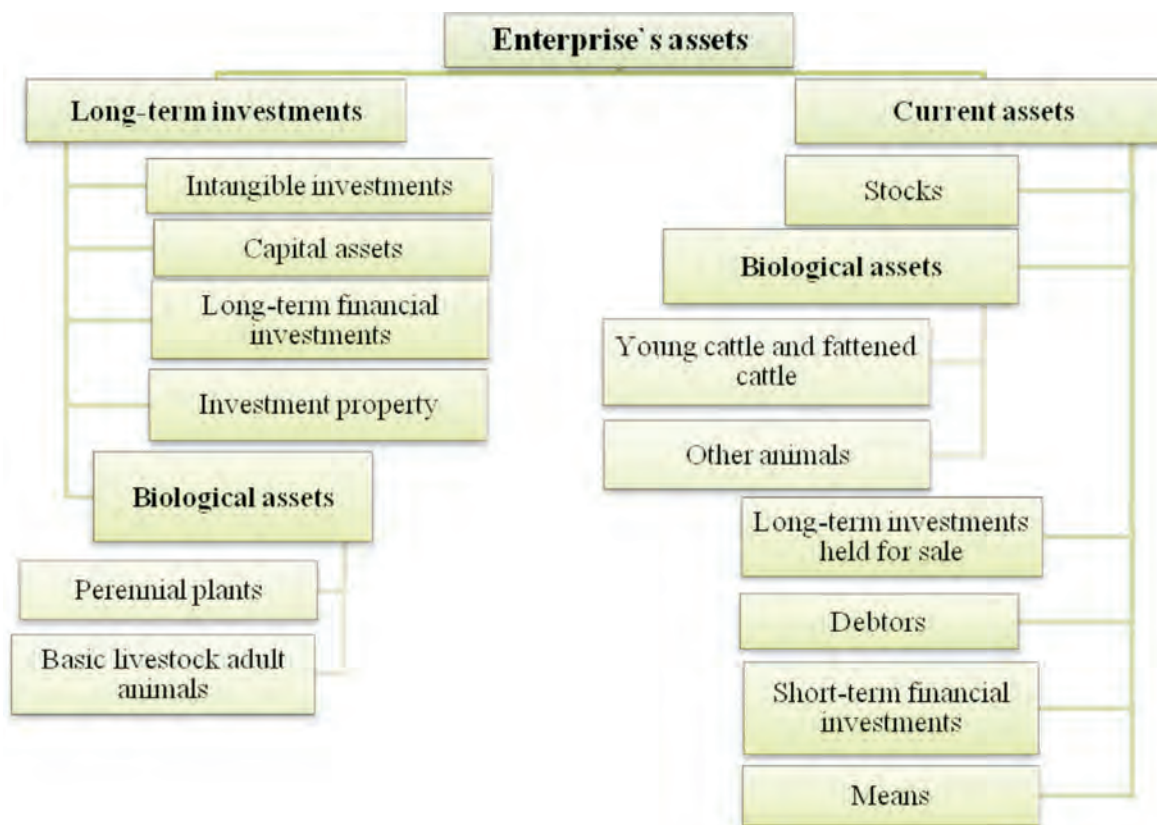


Figure 1. **Assets qualification and the place of biological assets in its content**

alive animals and plants, which through biological conversion are able to provide additional biological assets or agricultural production as well as are able to give economic improvements in another way.

According to Annual Accounts Law of the Republic of Latvia, biological assets which are able to provide agricultural production or/and additional biological assets as well as in another way to ensure economic improvements in the enterprise in time period exceeding 12 months, are included in the Item "Biological assets" of the long-term **assets** list.

In any case, plant as a part of biological assets, is related to the land. There can be perennial plants which are able during many years to produce agricultural production or/and additional biological assets or, as already mentioned to ensure economic improvement for enterprise in some other way (village protective forest zone) and are considered as long-term investments [4,13]. According to Annual Accounts Law of the Republic of Latvia, these assets are included into the long-term investment list, in account item "Biological assets", in account "Perennial plants".

Unlike perennial plants, there are another plants, which are able to give agricultural production or/and additional biological assets in a time period, which does not exceed 12 months (sugar beets, sunflowers, corn etc.). These plants according to the legislation of Latvia are not included into a separate analytical account; here the analytical accounts includes only expenses which are related to seeding or harvesting of plants as well as income from sales of agricultural

production. However, if the enterprise itself starts to grow a biological asset or buys a plant, and it shall grow till it is be able to give products or other goods, these assets are included in the reserve list as goods in process.

Plant characteristics are associated with long-term period of productive age. In this period an enterprise is investing a lot of resources to maintain plant development periods. According to the authors, it is necessary to include a new item "Development costs of biological assets" in the content of long-term investments which reflects plants under growing process. Firstly, it allows the users of a financial report to understand the enterprise's development perspectives and the fair financial position of the specific data. Secondly, this technique is economically based on accounting guidelines.

Unlike plants, animals are not related to the land. Parts of those animals which are called productive animals are able to provide agricultural production. This animal group is included into long-term investment account "Basic stocking adult animals".

Special current assets group contains animals for growing and fattening. These are included into the account group "Productive and working animals". It is necessary to open a separate account for accounting of these animals, for example an account "Animals for growing and fattening" which includes animals born on a farm and bought as young cattle.

Schematically the place of biological assets in the assets of Latvia's enterprises is shown in Figure 1. Presently biological assets encompassed

by the current assets are not reflected as a separate balance item. "Productive and working animals" are included in the reserves. According to the authors, it is necessary to provide a separate item as it is shown in Figure 1. The reserves comprise materials, raw materials, goods as well as goods in process. Unless two features are characteristic to these subjects:

- they are not alive objects;
- they are materials in different phases of readiness.

Animals or plants are living beings which are based on the laws of nature. Thus, according to the authors, it is not possible to classify raw materials and living beings as equivalent accounting objects. Therefore also biological assets in long-term investments are presented separately, and they are included into capital assets.

Results and discussion

Several authors as L. Todorova (Moldova), J. Gazjanova, S. Bichkova, S. Stefanova, G. Lisovichs, V. Palijs, J. Fastova, J. Zaharova, R. Alborovs, S. Konceva, J. Sheluxina, J. Stepanenko (Russia), J. Kliperts, A. Chechetkins, A. Federovicha (Belorussia), V. Gavriluks, O. Birjukova, M. Ogijchuk, T. Shevjakova, L. Panchenko, L. Skolotij, M. Belenkova (Ukraine), G. Kalniņa, A. Jesemčika (Latvia) and others have studied issues related to biological assets recognition and evaluation problems. Despite these authors' contribution to this problem research, it is necessary to add that they view individual aspects of accounting for biological assets. Many of them suggest using general assets valuation principles in the development of a specific item as biological assets. Researchers pay larger attention to biological assets of livestock than on crop production. As a result the theory lacks unified approach towards a single concept on biological assets valuation which would meet the national standards and legislation as well as the IAS.

In Latvia biological assets in agricultural enterprises are recognised and valued based on the IAS, since currently there are no national accounting standards which would regulate accounting for biological assets.

Recognition of biological assets is determined based on the IAS, and they are not differentiated from the rest of the material assets in terms of recognition. Biological assets shall be recognised in public accounting only in cases when:

- the enterprise controls the assets of past events;
- the enterprise cash flow is associated with the assets future economic benefits;
- the fair value or the expenses can be reliably measured [7, 485].

The enterprise may buy an asset, rent it, obtain free of charge, create it itself (young cattle increase), or obtain it as an investment in fixed assets. At the same time these operations reflect the past events, which define the order of recognition and valuation of the object.

Obtaining of the future economic benefits is possible only in cases if the income from the use of assets exceeds the expenses, like income from pedigree livestock sales, meat sales, or first processing products etc. [5, 32]. If an agricultural enterprise is growing grapes for sales which also bring a profit for the enterprise, it is undoubtedly an economic benefit. The enterprise's forest zone brings fetus. However, if it was grown to protect the crop from negative natural impact, it may be recognised as biological asset.

International Accounting Standards pay a special attention to the questions of valuation. Hence it is necessary to choose a particular method [5,36]. Valuation – monetary unit determination process, which recognises and values elements of financial report in the enterprise's balance sheet and income statement. The problem appears if there is no single valuation system, which, for example, defines national standards, as it is in the case of Latvia. In this situation the reports of enterprises representing one business sector are not comparable, since each of them uses different methods. It creates problems both to external users and internal users of financial reports. For example, an investor wants to invest capital in an apple growing enterprise. Enterprises are using different methods for valuation of orchard value, which relates also to the prime cost of agricultural production (apples). Economic indicators will be different, and investors will reach the dead end without understanding in which enterprise there is sense to invest financial resources.

According to J. Gazjanova, problematic of valuation of biological asset is related to the fact that agriculture highly depends on agro climatic conditions and distance of an enterprise from sales markets. Especially strongly this problem is felt in the process of long-term biological assets valuation, as fair value is formed for a long period of time on constantly changing market conditions. Besides perennial plants and productive animals' valuation significantly changes depending on location. It is related to changes in the degree of risk and the cost of production. It is necessary to add that over time the original plant and animal values differ from similar physical and most productive new biological asset values [5,37].

International Accounting Standard 41 defines that biological assets shall be valued based on fair value at the moment of recognition. Though according to Annual Accounts Law of the Republic of Latvia, biological assets in the initial accounting and subsequently are allowed to be valued in fair value, from which sales costs are deducted, if one of the following conditions is observed:

- biological asset object has an active market and constantly available market prices;
- It is possible for the biological asset objects with other recognised methods to specify a reliable fair value at the current location and condition.

It is necessary to understand the definition of "fair value" to comprehend the application of this norm for a specific animal or plant. According to Annual Accounts Law of the Republic of Latvia, fair value

Alternatives of biological assets valuation						
Transfer price, calculated according to inflation and object's return	Purchase value	Substitution value	Sale value	True or normative prime cost, which adjusted according to index of inflation	Discounted value	True value

Figure 2. Alternatives for valuation of biological assets in financial accounting [6,13]

is the amount in respect of which it is possible to exchange assets or fulfil obligations in a transaction between well-informed, interested and financially independent persons. Fair value is based on its present location and condition, as result fair value has to be understood as market price, from which sales costs are deducted [5,13].

The fair value of biological assets is defined on each balance date, having regard of the active market price at the moment. The value of biological asset changes the entire reporting period due to its physical characteristics and market price changes. Fair value of biological asset is obtained deducting the estimated sales costs at the end of period + written-off (sold, slaughtered, fallen) asset value, thus obtaining (bought or obtained by enterprise) asset value – fair value deducting the estimated sales costs at the beginning of period [4,13].

As it was already mentioned, an active market existence is one of the conditions, when it is possible to use valuation of fair value. Active market means the market where homogeneous objects and services are sold and where it is not difficult to find buyer or seller, or where the participants of market are able to get information on prices. If further accounting for biological assets is not possible in active market, then based on IAS 41, an enterprise has the rights to choose one or more indicators for fair value, if such are available:

- the latest market transaction price on the condition that business circumstances in the time period between transaction date and balance date are not significantly changed;
- market prices of similar assets with correction, to reflect the differences;
- industry benchmarks such as the value of cattle, expressed per kilogram of meat.

These indicators are used in internationally recognised methods of valuation. Many of them are widely used in Latvia, while some of them are known only in certain sectors. Moreover, as it was just mentioned, Annual Accounts Law allows applying general accepted methods in the process of fair value valuation.

L. Todorova in her PhD thesis defines the methods for assets valuation, which are possible to use for valuation of biological assets. This method is presented in Figure 2.

In Latvia, it is not possible to value reliable fair value of biological asset (there is no active market,

there is no information on recent sales, etc.), this asset is valued by the production prime cost, which contains direct and indirect production costs. This selection occurs, because Latvia is one of former USSR republics. In the Soviet times animals and plants were included only in the production prime cost. Thus, accountants, who were making biological assets accounting in the Soviet times, are directly familiar with this method in practice. However, it is possible to use this method only if no significant biological changes have occurred in the time period between expenses incurred and biological asset fair value valuation process, or biological change influence on the price is considered as not significant [3,13].

Annual Accounts Law of the Republic of Latvia does not prescribe the use of fair value in biological assets valuation, but as it was just mentioned, it allows applying these methods on certain conditions. Thus, there is an option to choose which method to use for valuation of biological assets.

Documentation and registers of biological assets accounting are one of the most problematic questions. It is associated, firstly, with the lack of regulatory enactments in Latvia which would define the necessary volume of documentation and their content; secondly, there are no professional articles published which could provide any proposals. The research shows that established legislation acts which define the necessary documentation content and examples of documents exist in such states as Russia, Ukraine, Byelorussia, and Moldova. According to the authors, Latvia has to act the same. Firstly, it will improve the quality of biological assets accounting, since all necessary data are summarised in due time and are reflected in the accounting data. Secondly, it will make business financial data comparable due to unified accounting methods. Thirdly, it will considerably facilitate the work of auditors who provide audit for agricultural enterprises, because on the one hand it will make accounting data transparent and on the other hand it will allow valuation according to the legislation.

Correctly presented financial information is good advertisement of an enterprise. The information included in the report shows external users that the enterprise has nothing to hide. It shows its weaknesses and strengths. For many investors it is a signal that there is a sense to cooperate with this enterprise. Preparing explanations, the enterprise

arranges all the available information in a specific sequence which also affects decision-making on the enterprise.

The content of information on biological assets in enterprise's financial report is defined in Annual Accounts Law of the Republic of Latvia and IAS 41. It is important not only to reflect animals and plants fair value in the annual report, but to provide also additional information in the report's appendix. The appendix of an enterprise's annual report shall provide information on biological assets value for the previous accounting period, its enlargement, including improvements in the reporting year, the initial value in the liquidation report year, any movement from item in the accounting period, revaluation in the accounting period as well as information on depreciation as biological asset value becomes a subject for amortisation.

J. Gazjanova thinks that the appendix of the financial report shall provide information on biological assets physical characteristics changes that allow valuating agricultural activities effectiveness and its development perspectives in the future. This information is especially important if the production cycle lasts for several years. As a result of biotransformation there are changes in physical characteristics of animals.

According to the authors, the question of biological assets accounting in Latvia at the moment has a lot of un-researched and unsolved problems, which hinder the work of practicing accountants and negatively affect on the development of agricultural sector.

Conclusions, proposals and recommendations

The theoretical research covers the period of 2006-2009. In 2005 IAS 41 came into effect, which prescribes the guidance for accounting of biological assets. For one year this standard was analysed from the practical side and starting from 2006 foreign and Latvian scientists publications started to appear containing studies and information on animals and plants reflection in an enterprise accounting. Up to now accounting for biological assets was based on the Soviet time books. Accounting of biological assets is reviewed from a new aspect with taking effect of the standards. The goal of new accounting policy is to improve accounting so it meets the international and national accounting standards.

In general the authors conclude that the quality of biological assets accounting in Latvia is not sufficient. The main necessary improvements are as follows:

1. As animals and plants are reflected in the content of biological assets, it is necessary to substitute item of balance sheet stated in Annual Accounts Law "Productive and working animals" with the item "Biological assets" as well as it shall be shown separately in the content of current assets.
2. The balance scheme of Annual Accounts Law offers to create a new balance item "Development

expenses of biological assets" in the content of long-term investments which contains animals and plants with the growth period to maturity exceeding one year.

3. Each agricultural enterprise management shall establish the asset accounting regulation of organisation to arrange accounting for biological assets.
4. Animal zoo-technical and financial accounting shall be unified; hence animal movement documentation examples shall be created to meet the mentioned needs of the accounting system.
5. Agricultural enterprises shall change the existing methods of valuation and choose one of generally accepted methods, and to transform the system of biological assets accounting accordingly.
6. The enterprises which choose valuation of biological assets based on the production prime cost shall establish and unify calculation of prime costs based on the unified methodology.
7. The management of enterprise shall improve internal control measures to perfect the efficiency of biological assets accounting and to ensure the control of enterprise's owned assets.

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Kopsavilkums

Teorētiskā pētījuma periods ir laika posms no 2006.-2009. gadam. 2005. gadā stājās spēkā 41.SGS, kurš satur norādījumus par *bioloģisko aktīvu uzskaiti*. Gada laikā šis standarts tika analizēts no praktiskā viedokļa un sākot ar 2006. gadu parādījās ārzemju un Latvijas zinātnieku publikācijas, kas sevī ietvēra informāciju par dzīvnieku un augu atspoguļojumu uzņēmumu grāmatvedībā. Līdz šim momentam bioloģisko aktīvu uzskaitē balstījās uz padomju laika grāmatvedības nostādņēm. Stājoties spēkā standartam, bioloģisko aktīvu uzskaitē tika aplūkota no jauna skatu punkta. Tiek veidotas jaunas sistēmas, kas raksturīgas mūsdienīgai grāmatvedības praksei. Jaunās grāmatvedības politikas mērķis ir pilnveidot grāmatvedības uzskaiti, lai tā atbilstu starptautiskiem un Latvijas grāmatvedības standartiem.

Kopumā var secināt, ka Latvijas bioloģisko aktīvu uzskaites kvalitāte nav pietiekama. Galvenie nepieciešamās uzlabošanas virzieni ir šādi:

1. Tā kā īstermiņa bioloģisko aktīvu sastāvā tiek atspoguļoti gan dzīvnieki, gan augi, Gada pārskatu likumā minētā bilances shēmā posteni „*Produktīvie un darba dzīvnieki*” ir jāaizstāj ar posteni „*Bioloģiskie aktīvi*”, kā arī to jāuzrāda atsevišķi apgrozāmo līdzekļu sastāvā.
2. Gada pārskatu likumā minētajā bilances shēmā tiek piedāvāts ilgtermiņa ieguldījumu sastāvā izveidot jaunu bilances posteni „*Bioloģisko aktīvu izveides izmaksas*”, kurā tiks uzskaitīti dzīvnieki un augi, kuru augšanas periods līdz brieduma vecumam pārsniedz vienu gadu.
3. Lai sakārtotu bioloģisko aktīvu uzskaiti katrai lauksaimniecības uzņēmumu vadībai ir jāizstrādā šo aktīvu uzskaites organizācijas nolikums.
4. Dzīvnieku zootehniskai un grāmatvedības uzskaitē ir jābūt vienotai, līdz ar to ir jāveido dzīvnieku kustības dokumentācijas paraugus, kas atbilstu minēto uzskaites sistēmu vajadzībām.
5. Lauksaimniecības uzņēmumiem ir jāmaina esošās novērtēšanas metodes, izvēloties vienu no vispāratzītām, un atbilstoši tai jāpārveido bioloģisko aktīvu uzskaites sistēmu.
6. Lauksaimniecības uzņēmumiem izvēloties bioloģisko aktīvu novērtēšanu pēc ražošanas pašizmaksas, ir jāveido uz vienoto pašizmaksas aprēķina pamatotu un vienotu metodoloģiju.
7. Lai pilnveidotu bioloģisko aktīvu uzskaites darbu un nodrošināt uzņēmumam piederošo aktīvu kontroli, lauksaimniecības uzņēmumu vadībai ir jāpilnveido iekšējās kontroles pasākumi.