Accounting Aspects on Biotechnology and Their Products: According to Theory and Practice in Bulgaria

Rumiana Pozharevska
University of National and World Economy, Sofia, Bulgaria

Biotechnology and the rights on biotechnological products are present-day topics, but at the same time, topics with deep historical roots. Biotechnological achievements are not a novelty to Bulgaria. They have existed for thousands of years and are connected with the production of milk and milk products, rose oil, herbal raw materials, and etc.. Contemporary biotechnological achievements are marketed in the form of nutritional, medicinal, and chemical products or as environmental protection. Traditional knowledge and achievements of modern science put the legal protection of biotechnology and its products on the agenda. In the national context, such rights have been statutory regulated and studied by specialists in the field of intellectual property. The problematic issues have not been so adequately treated in the country in terms of accounting theory and practice. The rights on biotechnology and biotechnological products are not within the scope of accounting items and accounting assets respectively. This is the motivation for the author to study the rights on biotechnology products within the context of their recognition as intangible assets. The author tries to present the conceptual framework for their identification and recognition as accounting items, as well as to define some scientific application problems on the topic.

Keywords: intangible assets, new items of intellectual property, rights on biotechnology products, accounting

Introduction

Biotechnology does not appear to be a new field of human knowledge. It is being applied by people right from the ancient times. One of the oldest known biotechnological processes was described on Babylonian clay tablets 6,000 years before current era and referred to the manufacture of 20 different kinds of beer (Borisov & Markova, 2002). The development of biotechnology and genetics in the modern world puts the protection of intellectual property rights on their research and development results and products on the agenda. This fact gives grounds for World Intellectual Property Organization (2014) to include the rights into the classification group of “new items of intellectual property”. Biotechnological products are available in two main forms: food products and pharmaceuticals. The establishment of monopolistic property on biotechnological products created by man is a prerequisite for studying the possibilities to recognize these rights as reporting entities’ assets. The author navigates the research to exactly this specific aspect and provides suggestions for the

---

1 The term “new” is used with regard to other intellectual property rights, the protection of which is ensured by signing international agreements back in the 19th century.
recognition of biotechnology products for accounting purposes.

**Literature Review**

Some specialized developments within the national context concerning the rights on biotechnology products have been published only from the perspective of intellectual property rights, their protection, and management strategy.

The studies can be divided for the purpose into two groups:
- **studies with a prevailing methodological aspect**—biotechnological achievements are considered as a product of human creativity and intellect (as intellectual property), which exist in the form of inventions, selective breeding achievements, and traditional knowledge. Special attention is paid to their economic substance and economic benefits, when addressing their protection as intellectual property in the form of patented products and methods (Borisov, 1999, 2009a, 2009b; Markova, 2007; Idris, 2003; Ivanov & Dobreva, 2004; Borisov & Markova, 2002; Markova, 2002; Ivanov, 2000);
- **studies with a prevailing practical application aspect**—nature of biotechnology and management strategies of research institutes and companies (Stefanov, 1997; Markov & Sveshtarov, 1989; Dimkov, 1986, 1988; Milchev, 1987; Popivanov, 1984).

Against the background of biotechnological achievements in Bulgaria and of the fair amount of specialized literature developed by Bulgarian scientists, the gaps in the field of accounting literature can still be observed. Unfortunately, these problematic issues have not been treated to date from the perspective of accounting, neither in scientific, nor in practical aspect, at national level. That was exactly the author’s motivation for making an analysis of the effective accounting theory and practice and for formulating some proposals for accounting treatment of the rights on biotechnology products.

**Research Methods**

The methods used in this study are of general significance and traditionally applicable, which are: historical and logical method, comparative method, method of observation and monitoring, and regulatory approach.

**Hypotheses and Research Results**

The recognition of intellectual property rights on biotechnology products for accounting purposes goes through proving their identification/distinctness and reliable determining of their evaluation and determining the control over them and protection of the possibility for future economic benefits from their usage. The possibility for their protection as intellectual property of enterprises is a significant and defining stage of their recognition as intangible assets. The products of genetic engineering and the products of biotechnology can look for their legal protection in one of the following forms: selective breeding achievements, innovations, and traditional knowledge (Pozharevska, 2014). With regard to biotechnology products representing or concerning human body or its elements, the discussions are most diverse. As a principle, which is statutory regulated by the European legislation, it has been adopted that human body and its elements in their natural condition cannot be considered as patentable inventions (The European Parliament and the Council of the European Union, 1998).

Selective breeding achievements as objects of intellectual property generally come in two types: plant varieties (new plant varieties) and animal breeds (new animal breeds/varieties). Being intellectual property items,
they find protection in a number of States, while in Bulgaria, a special law was adopted for their protection in 1997 (Retrieved from http://ipbulgaria.bg/?legal=za-zakrila-na-novite-sortove-rasteniya-i-porodi-jivotni).

The law arranges for the relations associated with the creation, protection, and usage of new plant varieties and animal breeds. It has been applied for plant varieties and animal breeds created, discovered, and developed. The protection specifics have been reflected through the requirements established for the recognition as: “created” which is to be correlative to invention; “discovered” which is to be correlative to discovery; and “developed” which, except for the process of establishment, affects the moment of creation as well. In order for a plant variety to become an object of protection, it has to meet a number of conditions, which are cumulatively applied and called “criteria for granting protection” (identical with patentability criteria for inventions and useful models), namely: novelty, distinctness, uniformity, and stability. Pursuant to Bulgarian law and in many other countries as well, the arrangements for the new plant varieties are applied as legal protection of new animal breeds. The specific character of biotechnology products’ protection has been additionally developed and laid out in the instructions on completion, submission, and preliminary examination of applications for the issuance of certificates for new plant varieties and animal breed, issued by the patent office for that purpose (Retrieved from: http://www.bpo.bg/index.php?option=com_content&task=view&id=52&Itemid=362).

Holders of rights on biotechnological products could be: the author—breeder (the person, who has created, developed, or discovered the variety or breed); the employer, when the variety/breed was created under employment conditions; or the contracting entity, when the variety/breed has been created on the grounds of a contract. The document ensuring the protection on biotechnology products is a certificate issued by the patent office. The breeder holds an exclusive right on the new variety or breed, which is cumulative and encompasses: authorship rights or rights of right-holders (for employers or contracting entities), the right to use, the right to prohibit the usage by other people of the variety/breed protected, and the right of disposal. All these rights provide for breeder’s control on the rights and on the results of exercising them. Authorship right is personal, not limited in time and unassignable. The right to usage involves: production or reproduction, preparation for the purposes of reproduction, and offer to sell, export and import, and storage. The right to dispose involves the possibility for the breeder or the holder of rights to grant licenses of new plant varieties or animal breeds. The license can be exclusive and non-exclusive, full or limited. Despite the types of licenses specified above, the law provides for the possibility of issuing the so-called “compulsory license” and “service license”. It becomes clear right from the very denomination of these licenses that they are issued regardless of breeder’s will and that definite conditions are required for their issuance. Therefore, the identification of the probable future economic benefits arising of rights acquired on biotechnology products could be looked for in the following directions: provision of copyrights, production and trading in them, and provision of licensing rights. The recognition of biotechnology products for accounting purposes, in author’s opinion, should pass through the following stages (Figure 1).

2 Compulsory license is issued when the variety/breed is not used for a definite period of time and when the variety/breed is insufficiently used for the satisfaction of public and national needs; service license is issued upon the request of the Ministry of Defense and the Ministry of Interior for the purposes of defense and security in the country.
Discussion

As a result of the research conducted by the author, it follows that the recognition of rights on biotechnology products for the reporting entities will be in the form of: employment-related copyrights, rights to usage of copyrights (including for contracting entities), and licenses (exclusive, non-exclusive, full, limited, compulsory, and service license). These rights are supposed to bring economic benefits in production, trading, or reproduction of new plant varieties and animal breeds. Taking their nature and characteristics into account, these rights could be recognized as intangible assets on meeting the remaining threshold criteria introduced by the accounting standards.

The problematic issues concerning the accounting aspects of the rights on biotechnology products have not been treated both from a regulatory perspective and at a theoretical level. Article 13(1) of the Accounting Law refers to the applicable accounting standards: Assets, owner’s equity, liabilities, revenues, and expenses shall be measured and recorded on their acquisition or origination at their historic cost or any other cost, in compliance with the applicable accounting standards (Retrieved from http://top-account.net/zakoni/138-zakon-za-schetovodstvoto.html). The effective national accounting standard “agriculture” stipulates the specific requirements to the accounting treatment and presentation of biological assets in annual financial statements of entities conducting agricultural activities. New plant varieties and new animal breeds, as well as the rights on them, remain out of its scope. It has been specified that this standard shall not be applied for: (a) for intangible assets and (b) for biological assets for non-manufacturing purposes. Intangible assets provide a wording of the definition and understanding of intangible assets, and particularly on intellectual property items, in which the rights on biotechnology products are ignored and not mentioned. The situation is similar with regard to the provisions of the accounting theory and practice, i.e., accounting items arising of acquired “rights on biotechnology products” do not exist. Accounting theory appears to be a projection of the regulatory accounting framework. In connection with the clarification of the regulatory framework, it should be noted that according to the National Law on Copyright and Related Rights, the rights
on biotechnology products are not included in the scope of the items protected by the law (Retrieved from http://lex.bg/laws/doc/2133094401). Therefore, if trying to summarize it, the national regulatory framework and the accounting theory should be further developed and supplemented, by including new items of intellectual property generated in interdisciplinary fields of science.

In author’s point of view, the rights on biotechnology products could be classified in different groups of intangible assets depending on the manner of acquisition and purpose of usage, to be more precise:

- copyrights (breeder’s rights)—when created within employment relationships;
- right to usage of copyrights (breeder’s rights)—when acquired on the grounds of a contract with the author (breeder) or the holder of rights;
- industrial property rights—when acquired through licensing agreements.

The most dynamic group of acquired and granted rights, of course, will be the group of licensing agreements. The system of their accounting treatment is conditional on the type of license and on the position of the reporting entity with regard to the licensing agreement. A new intangible asset will arise for the acquiring party, while no changes to the book value of its intangible assets will occur for the granting party. The later condition is determined by the specifics of the licensing transaction, where the rights holder can grant the rights to a variety of enterprises, for different prices, and could at the same time continue exercising the rights granted by license. For this reason, the economic benefit for the entity which is owner or holder of copyrights (breeder’s rights) will be realized in the form of rendering of services. In this connection, the author identified another problematic issue in the national regulatory accounting framework, namely some provisions in the National Accounting Standard 18 Revenue, for example, licensing transactions, where rights are transferred against a fixed consideration or non-refundable guarantee by virtue of a non-cancelable agreement which allows the licensee to freely use these rights, and the licensor are exempt of whatever obligations. According to National Accounting Standard 18 Revenue, this transaction is by nature considered as sale and the standard recommends that the revenue should be recognized at the moment of sale. According to the essential characteristics and the scope of the internationally established licenses, such licensing transactions are classified as a full license granted for a distinct territory. As it is commonly known, full license by definition is very similar to sale. The difference is that transfer of ownership occurs at the moment of sale, while when taking full license into consideration, the patent holder remains the owner but grants all rights originating in patent protection to the licensee under specific conditions. This, in author’s opinion, is a problematic issue which is due to the insufficient knowledge of the essential characteristics of intellectual property on behalf of the national accounting regulatory authorities.

**Conclusions**

The recognition of the rights on biotechnology products for accounting purposes is an area which is not profoundly studied in the national accounting theory and practice and which generates a lot of scientific application problems. In this paper, the author is limited to identify the problematic field and tries to suggest some solutions in this respect.

**References**

ACCOUNTING ASPECTS ON BIOTECHNOLOGY AND THEIR PRODUCTS


