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**DEVELOPMENT OF FORMAL AGRICULTURAL EDUCATION IN CANADA
(BASED ON THE ANALYSIS OF SCIENTIFIC PERIODICALS
OF THE 19TH – EARLY 20TH CENTURIES)**

ABSTRACT

The article states that one of the world leaders in agricultural sector training is Canada, which has gained a great scientific and practical experience. The paper examines the role of periodicals of the 19th – early 20th centuries, preserved in the Canadian book funds for the establishment and development of formal agricultural education of this country and for the popularization of the scientific information among the general public. The impressive work of the Canadiana project on preservation of periodicals of the given period, launched by Canadian library collections has been emphasized. These periodical materials have been analyzed and an attempt of old agricultural publications classification has been made. The importance of comprehensive informational analysis of the existing periodicals roles for better understanding of the transformations and changes that have occurred in Canadian formal agricultural education has been outlined as well as the need of researching the role of universities in the scientific community of the past and of our time has been stressed. The importance of a detailed study of the saved periodicals for an objective analysis of contemporary formal agricultural education and its role in the society in order to improve the training of agricultural sector specialists in the country according to the best historical examples has been noted as well as the need in the retrospective analysis of higher education development in Canada for further implementation of the results into the national educational system has been indicated.

Key words: *agricultural school, agricultural periodicals, Canada, farmers, formal agricultural education, information support, specialist, students, training, University of Agriculture.*

INTRODUCTION

Nowadays Ukraine is undergoing significant global political and economic changes, enhancing the integration processes, promoting contacts between different countries. As a result of these changes an efficient formal adult education should be developed in order to prepare competitive specialists. Widespread international cooperation processes arouse the deep interest to the educational experience of other countries. Canada is one of the leaders in the agricultural sector and has gained great scientific and practical experience. In recent years Ukraine has been reforming the system of formal agricultural education. It is, therefore, useful to study the rich experience of Canada on this issue to improve the training of agricultural specialists in our country according to the best historical models.

The development of formal adult agricultural education in Canada has a long and rich history. Canada is one of the most developed countries in the world not only in industry and technology, but also in education. The stages of this development are reflected



in various historical sources. Especially of great interest for the researchers are the works of immediate participants of the process of the first agriculture universities foundation. Among the most important historical titles we should mention the periodicals of the period between the 19th – early 20th centuries as an immediate source of factual information, which helps us to trace the development of formal agricultural education in Canada and to widen the knowledge of modern Canadian education establishment.

THE AIM OF THE STUDY

The aim of this article is to study and systematize the stored factual information about the emergence, development and establishment of formal agricultural education in Canada during the 19th – early 20th centuries through the analysis of Canadian periodical sources of contemporary agricultural scientific media.

THEORETICAL FRAMEWORK AND RESEARCH METHODS

The analysis of archival materials, periodicals, monographs and books from Canadian libraries and local book funds permitted to find the evidence about the development of formal agricultural education in Canada of the 19th – early 20th centuries and to prove the importance of these sources for the efforts of the national scientists and educators in the improvement of modern agrarian education in Ukraine.

The question of the emergence and development of agricultural education in Canada has been studied by many scientists, among which we should mention H. Pyzh, P. Shulga, who studied the organization of agricultural education at Canadian universities. The analysis of higher education in Canada was made by M. Artysh, D. Bleydza, L. Karpynska, N. Mukan, I. Rusnak, L. Serheyeva, G. Voronka, N. Vidyshko and others, which permits to identify the main elements of the structural organization and professional training development at Canadian universities.

The questions of formal adult education have been studied by Yu. Krasyl'nyk, D. Moskvina, S. Ovcharenko and other scientists. According to S. Filonchuk, formal (general and professional), or higher education is the studying acquired in the educational establishments according to special curriculum and programs, which meet the standards of the country and the specific requirements to the level of training and ends with the issuance of a diploma or a certificate (Early Canadiana Online, 2010–2016).

The great importance for the study of the Canadian periodic sources has the efforts of Canadiana project, a coalition of libraries and cultural institutions in Canada, focused on providing wide access to Canada's documentary heritage converted in digital format. The project is to preserve the factual Canadian history and to provide online access to digital materials. With the support of the main institutions and libraries Canadiana identifies, catalogs and digitizes documentary heritage of books, newspapers, periodicals, pictures, nationally significant archival materials and combines them into a specially organized database. The heritage includes some of the most popular archival collections in Canada, including about 60 million of filmed pages and images, a large collection of agricultural scientific periodicals of the 19th – early 20th centuries. Due to their efforts it is possible to study the development of agricultural education in Canada (Early Canadiana Online, 2010–2016).

The methodological basis of the study is the conceptual ideas of the scientific and educational process development, modern theories of mass communication and periodical press evolution observation. During the materials selection and the paper writing we have used such research methods as genre classification, bibliographic, statistics and functional analyses as well as structural and typological research. Studying archived materials we have applied to the methods of content analysis and abstraction.



RESULTS

The early periodicals are an invaluable source of information for researchers in all areas, since they convey the facts and opinions of our predecessors on various issues without retrenchments or distortions. In Canada's collection of archival materials there are periodicals devoted to a wide range of issues such as literature, medicine, science and technology, education, agriculture, recreation and sports, politics, religion, history, law, military situation, music, genealogy, books and publishers, economy, fashion, philately, humor, psychology, transportation, etc. Many famous poets, writers, scientists and prominent people of Canada became known through their works published in periodicals. Also of great interest is a retrospective of life and thoughts of ordinary Canadians, their letters to the editor, poems, stories and illustrations.

The analysis of a large number of Canadian periodicals of the 19th – early 20th centuries shows that the first literary magazines were *La bibliothèque canadienne* in 1825–1830, *The Halifax Monthly Magazine* in 1830–1833, *The Literary Garland* in 1838–1851, *Les Soirées canadiennes* in 1861–1865, *The Amaranth* in 1841–1843, *Montreal monthly magazine* in 1831, *Magasin du Bas-Canada* in 1832 (the first scientific journal), *Gazette des campagnes* (agrarian newspaper) in 1861–1895 – the first popular magazine in French Canada, and *The Montreal Museum* in 1832–1834. *The Montreal Museum* was the first magazine in British North America, published by a woman. The archives also stored the first Canadian medical journal, *Journal de médecine de Québec/The Quebec Medical Journal* (1826–1827).

The periodicals of Western Canada, published in 1920 included *L'agriculteur* (1889–1891), *Manitoba, Northwest and British Columbia Lancet* (1887–1889) *Saskatchewan Medical Journal* (1909–1910), *British Columbia Law Notes* (1894) and *Diocesan and parish magazine, Victoria, BC* (1887–1892).

Among the periodicals of 1867–1900 can be found such titles as *The Canada lumberman* (1887–1904), *Le naturaliste canadien* (1868–1991), *The Canadian Record of Science* (1884–1916), *L'opinion publique* (1870–1883), *The Canadian patent Office Record* (1873–1960), *The Canadian pharmaceutical journal* (1868–1984), *The Illustrated journal of agriculture* (1879–1897), *Canadian military review* (1880–1881), *Journal de l'instruction publique* (1880–98), *The Canadian Cricket field* (1882–?), *Vennor's weather Bulletin* (1882–1883), *The Prairie Illustrated* (1890–1891) and *The Halifax philatelist* (1887–1889).

Practically every formal agrarian educational establishment in Canada ranging from universities to schools had a printed edition or its teachers wrote articles to different periodicals, exchanging information with other educational establishments, working on promoting information about the situation in the agricultural industry and science to the general public.

The first attempts to found educational institutions arose due to the attempts of civilizing the native Canadian population through education and conversion to religion. During the French colonial period, the Roman Catholic Church was the founder of the first schools and was mainly responsible for all levels of education. Civil government fully supported the educational activities of the church. In 1635 the Jesuits founded the first high school, creating a classical education program for schools. With time the special courses were written for talented students who later continued to develop the higher education in Canada (Audet, 1970). These establishments were mostly French speaking.

The first English higher education institution, Queens College was founded in Windsor in 1789, where it was located until 1923. Later it was moved to Halifax and joined to Dalhousie University. (Audet, 1970). Increasing amount of Canadian universities took



place along with changes in higher education in Great Britain in the 19th century. The first colleges were established on the model of Oxford and Cambridge.

The process of separation of governmental higher education management from church authorities occurred very slowly during several decades. The first civil university was founded in Montreal in 1821. In 1867, Canada had 18 universities. Educational regulations determined by constitutional act of 1867, declared that "... the legislative board in every province could issue the law for educational establishments". This act marked the beginning of a decentralized educational system (Axelrod, 1997). The law, only the legislature of every province could issue its laws relatively to local education. Therefore, the higher education system in Canada is decentralized and the governments of the provinces and territories have constitutional responsibility to provide their citizens with secondary and higher education. These factors served as a driving force for the creation of the Association of Universities and Colleges of Canada.

The Association was founded in 1911, during the first meeting of the universities' presidents for the discussion of issues of common concern at the Congress meeting of the leading universities in London. Recognizing the need for a national university organization for exchanging the information and discussing common problems in 1915, the heads of the universities arranged a regular meeting of 26 representatives from 18 universities. In 1917 these meetings were officially called the National Conference of Canadian Universities. The contemporary sources described it as a "voice of conscience of higher educational establishments in Canada" (Axelrod, 1997).

The establishment of formal agricultural educational establishments in Canada began with New France. In 1670 at the minor seminary in St. Joachim there was founded the so-called Industrial School, which provided agricultural training. This training was mostly aimed at gaining practical experience at school farm, which according to the witnesses' descriptions had good pastures, forests, a large area of arable land and 150 heads of cattle. This program was launched by Bishop Laval and continued until 1715. Two additional schools were founded in Quebec in the early 19th century but functioned only a year. In 1859 the Agricultural School of St. Anne (Sainte-Anne-de-la-Pocatière) was founded by Abbot Pilote. One of teachers there was the Professor of agriculture Emil Dumais. The School gave a diploma after the students gained the sufficient knowledge according to the relevant curriculum. In 1962 it became a part of the Faculty of Agriculture of the University of Laval.

The first English agricultural school was established in 1874 in Guelph, Ontario. The studying there continued for a year and consisted of practical lessons. In 1880, an educational training program was extended to two years and the school changed its name to the Ontario Agricultural College and Experimental Farm (OAC). In 1887 the third year was added to the curriculum and in 1888 the college was affiliated to the University of Toronto, and from the 1902 the study lasted four years.

In 1885 the agricultural school was founded in Truro, Nova Scotia, which after 8 years (1893) was expanded by opening a horticultural school in Wolfville. Both were connected to Nova Scotia Agricultural College (NSAC), which officially opened at Truro in February 1905.

The last formal agricultural institution, founded in the 19th century, was a School of Agriculture of Oka, founded in 1893 by the Trappist Fathers of the abbey of Oka. In 1908 it became a branch of Laval University and changed its name to the Agricultural Institute of Oka. Well-known Agricultural at the Macdonald College in Quebec, was



completed on the donations of Sir William Macdonald in 1905–1907. Its first rector was J. W. Dawson, who in 1864 published his work *First lessons in scientific agriculture for schools*.

In the early 20th century in 1905, the Manitoba Agricultural College was established on the base of dairy school ruled by the Manitoba Department of Agriculture since 1894. The Faculty of Agriculture in Saskatchewan was organized in 1912, together with the University in Saskatoon on lands suitable for agricultural school (i.e. the area was suitable for farming and experimental field work).

All these schools published a variety of textbooks, monographs, articles in the existing contemporary periodic sources. Moreover, the popularization of agricultural knowledge among the general public was also an important task for them. The Ministry of Agriculture in Canadian provinces had a major responsibility for expanding educational and consulting practice among the general public. The educational role was assigned to the organization that provided short courses and workshops, prepared newsletters and press releases for the farmers', their agricultural professionals and experts consulted about different farming and marketing issues. The agrarian representative of a certain agricultural school often played a key role in solving local problems and if necessary he could consult with credible scholars and farmers. In many cases, the agricultural educational establishments collaborated with scientific research institutions in the provinces in testing new farming technologies.

According to statistics of the Canadiana library collection during the 19th – early 20th century 21 periodicals devoted to science (5 French and 16 English) and 14 directly related to agricultural issues were published in Canada. In our opinion, this division is rather arbitrary, as the articles, which can be found in the scientific journals, we find information about agrarian matters, and agricultural periodicals wrote about the latest scientific achievements. Even the editions of entertaining nature could include a serious scientific article.

To illustrate this point, we can give an example of the magazine *La bibliotheque canadienne, ou, Miscellanees historiques, scientifiques et litteraires*. This edition was not included in the classification of Canadiana library collection as a scientific source, because its pages hold not only scientific articles but a number of works about history and literature. Exploring scientific heritage of the country one should not ignore such publication.

For example, the issues of 1825 contained the information about the latest scientific discoveries in architecture, economy (rural economy as well), surgery, botany, mineralogy, topography, natural scientific phenomena and education. Also bibliographic materials were published as well as the depictions of contemporary life, samples of poetry, jokes, provincial news. From issue to issue the study of Canadian history, the description of minerals and some flora specimens was on paper. Different authors published articles about the history of the country, its nature, climate and territory. This monthly magazine was composed of several volumes; each of them consisted of six issues. The numeration started from the first issue in 1825 and continued subsequently, increasing from issue to issue till the last published number in 1830. Each volume allocated six issues, except the ninth, which began in July 1829, came out twice a month and allocated all of the following numbers until the end of its existence in June 1830 (total of 24) (Філончук, 2014).

In general, all agricultural periodicals in Canada of the 19th – early 20th centuries are arranged in the following table 1.

Accordingly, most of the existing agricultural periodicals were published during a short period of time, sometimes even the years of their publication are not exactly known as



not all number of copies survived till our time. The number of issues might have a range from 1 to 1381. Most of them were published in Montreal (mostly English edition) and Quebec (French).

Table 1

Canadian Agrarian Periodicals of the 19th – early 20th Centuries

No	Title	Time of publication	Number of existing issues	Place of publication	Language of publication
1.	Gazette des campagnes	1861–1956	1381	Quebec	French
2.	Le bulletin de la ferme	1913–1936	74	Quebec	
3.	L'agriculteur	1857–1862	59	Montreal	
4.	La semaine agricole	1869–1872	118	Montreal	
5.	Journal de l'agriculteur et des travaux de la Chambre d'agriculture du Bas-Canada	1857–1858	12	Montreal	
6.	Revue agricole, manufacturière, commerciale et de colonisation	1861–1868	83	Montreal	
7.	Lower Canada agriculturist	1861–1867	45	Montreal	English
8.	La culture	1876	2	Montreal	French
9.	La revue agricole	1875–1876	8	Quebec	
10.	Journal d'agriculture, et procédés de la Société d'agriculture du Bas-Canada	1848–1853	64	Montreal	
11.	The farmer's journal and transactions of the Lower Canada Board of Agriculture	1853–1861	56	Montreal	English
12.	Journal du cultivateur et procédés du Bureau d'agriculture du Bas-Canada	1853–1857	48	Montreal	French
13.	Agricultural journal and transactions of the Lower Canada Agricultural Society	1848–1853	60	Montreal	
14.	Le glaneur	1836–1837	10	Quebec	French
15.	Le journal d'agriculture	1877–1879	16	Montreal	
16.	The illustrated journal of agriculture	1879–1897	222	Montreal	English
17.	Le journal d'agriculture illustré	1879–1897	222	Montreal	French
18.	Le journal d'agriculture et d'horticulture	1897–1913	61	Montreal	
19.	The journal of agriculture and horticulture	1897–1936	84	Montreal	English
20.	The farmer	1879–18--?	1	Toronto	
21.	Canadian farmers' gazette	1861–18--?	1	Ontario	
22.	Canadian farmer	1851–18--?	1	Montreal	

It should be emphasized that a thorough analysis of agricultural periodicals of the late 19th – early 20th century in Canada and their impact on the promotion and establishment of institutions of formal agricultural education has not yet been conducted. The rich experience accumulated in these periodicals is certainly important for scientists as



they contained the materials suitable for retrospective analysis of higher education in Canada and for further implementation into national system of agricultural science and education.

CONCLUSIONS

Thus, the facts reveal that Canadian agricultural periodicals were important means for support of formal agricultural education development in the country; they promoted agricultural experience in the 19th and early 20th centuries.

It should be noted that the great efforts were made on the preservation of old periodicals launched by Canadian libraries. These materials still require careful studying and further systematization. In particular, the impact on the development of agricultural education has not been studied and systematized yet. Therefore, we believe that the work on generalization and systematization of information about the development of the Canadian agricultural periodicals of the late 19th – early 20th centuries must be carried on, as their collection of past experience is important for a modern system of national agricultural education as well as for training of future highly qualified specialists.

Prospects for further researches of the Canadian agrarian periodicals of the late 19th – early 20th centuries are important for providing methodological approaches to the professional training for the national agricultural sector specialists. Due to the growing awareness that without the reformation of Ukrainian agricultural sector in accordance with the best national and foreign samples it is impossible to implement modern competitive training of future agricultural professionals the study of Canadian agricultural periodical sources of the specified period are of considerable research interests and needs further studies.

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