

# Scientific and Educational Support for the Agricultural Industry at the Time of National Liberation Movements in Ukraine (1917–1921): The Ethical Principles of Its Development

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**Abstract:** The purpose of the article is to reveal the peculiarities of organizing agricultural research and education in Ukraine in the period of the national liberation movements in 1917–1921, and to determine the role of the Agricultural Scientific Committee of Ukraine and the Committee of Agricultural Education in their establishment. The authors compared the models of the development of agrarian research and education under Ukrainian Central Rada, Hetman P. Skoropadskyi, the Directory, and Soviet authorities. Coordination of sectoral science and education in Ukraine began with the establishment the General Secretariat of Land Affairs of the Ukrainian Central Rada in 1917. The conceptual foundations of Ukrainian science and education, the core of which was Ukrainization, were developed by the First and Second All-Ukrainian Pedagogical Congresses, as well as

the First All-Ukrainian Agronomic and Economic Congress. Ukrainization primarily concerned the conduct of the scientific and educational process and the writing of new books and textbooks in national language. The article reveals the creative initiatives of the Agricultural Scientific Committee of Ukraine and the Committee of Agricultural Education in coordinating the activities of some institutions to disseminate agricultural knowledge and the organization of sectoral research and education, substantiated by the important role of famous politicians. The use of international experience for the practical confirmation of theoretical skills in various agricultural directions is highlighted. The Agricultural Scientific Committee of Ukraine, simultaneously instituted with the Committee on Agricultural Education, was interested in close creative cooperation on the sectoral specialist training.

**Keywords:** *agricultural education, agricultural research, Agricultural Scientific Committee of Ukraine, Committee on Agricultural Education, Ukrainianization, Ukrainian national liberation movements of 1917–1921*

## Introduction

The search for an optimal model for the further development of science and education in Ukraine actualizes the study of national research and education establishments, including the history of agriculture, especially in the context of its relationship with society and government regulation during the key periods of the global humanist crises, such as national and liberation revolutions and wars. This is also very relevant today. In such moments, the whole structure of socio-economic life is rebuilt, the old socio-pedagogical relations, systems of influence on research and education are inevitably destroyed, and new forms of organizing research and educational process are approved. The Russian revolution in February 1917 was the impetus for the rise of the national liberation movements of the Ukrainian people, the search for optimal ways to develop national culture. The system of managing research and education in all gymnasiums, schools and universities was almost completely Russified. From the first steps of the young state that emerged as a result of the national liberation movements of 1917–1921, the problem of the revival of science and education in the national language and the Ukrainian traditions became especially relevant. After a long period of Russification, national and social enslavement in the early 20th century, the Ukrainian people restored their independent state. At that time, Ukraine experienced various forms of

national statehood—the Ukrainian People’s Republic under the Central Rada (March 7, 1917 – April 1918), the Ukrainian State under Hetman P. Skoropadskyi (April 29 – December 14, 1918), the Ukrainian People’s Republic under the Directory (December 1918 – November 1921), and the Western Ukrainian People’s Republic (November 1918 – July 1919)—but failed to maintain the country’s independence. As a result of Russia’s armed aggression and the help of local Bolsheviks in Kharkiv, on December 25, 1917, the Ukrainian Soviet Republic was proclaimed, which lasted until August 24, 1991. Thus, the struggle for the national and cultural revival in Ukraine in 1917–1921 became one of the most important aims of the national liberation movements. Cultural, scientific, and educational revival of the Ukrainian people became an integral part of the formation of the state. The Ukrainian people started to exercise their civil liberties in political activities, at public gatherings and in speech and creativity, and the choice of language of science, education and communication. From an ethnic community, Ukrainians became a political nation. The successful development of science and higher education, spiritual awakening and the rise of national identity became an important victory in the Ukrainian national and liberation struggle.

Issues of the formation and development of agricultural research work during the Ukrainian revolution have been covered by long-term researchers of the institutes of the National Academy of Sciences of Ukraine and the National Academy of Agrarian Sciences of Ukraine. The publications by I. S. Borodai (2009), N. P. Kovalenko (2014), P. P. Panchenko, I. H. Kyrylenko and V. A. Verhunov (Panchenko *et al.*, 2014), and V. A. Verhunov (2012) have documented important facts and events, and major research centers related to the activities of sectoral coordinating academic institutions. However, the processes of organizing the educational process in the sectoral higher educational institutions in this period have not been sufficiently studied; an exception here is the publication by D. O. Melnychuk, M. V. Zubets and L. Yu. Berenshtein (2005). Particular attention has been paid to the study of the Agricultural Scientific Committee of Ukraine and the Committee of Agricultural Education activities, established by Order no. 162 of November 1, 1918, under the main Department of Agriculture (CDAVO, F. 1061, op. 1, c. 32, p. 202). The department was formed during the Ukrainian revolution and aimed at coordinating the activities of the network of sectoral research and educational institutions. The committees played an important role in the cultural, scientific and educational life of Ukraine.

The purpose of the article is to outline the main features of organizing agricultural research and education process on the territory of Ukraine during

the national liberation movements of 1917–1921, to determine the role of the Agricultural Scientific Committee of Ukraine and the Committee of Agricultural Education in establishing these according to the principles of Ukrainization. The research methodology is based on the methods of historical-scientific analysis, systematization, chronological, biographical, as well as source and textual methods of source analysis. The authors used a wide range of published and manuscript sources based on archival documents.

## Ukrainization of the research and education system under the Ukrainian Central Rada (March 7, 1917 – April 1918)

After the establishment of the Ukrainian Central Rada (UCR) on March 7, 1917, until the ratification of the first government, the General Secretariat of Land Affairs, on June 15(23), 1917, was the first to become responsible for the activities of the sectoral educational institutions by special province divisions. The nationwide conceptual principles regarding education put forth by the new government were, in fact, developed and approved by the First All-Ukrainian Pedagogical Congress, held on April 5–6, 1917. Among the decisions made by the main congress were the following: Ukrainization of educational training and the creation of the Main Ukrainian School Board. No less important in state-building were other initiatives: to establish national universities, the Ukrainian Academy of Sciences and a network of research institutions, including agricultural universities (Verstiuk, 2005, p. 236). At the same time, funding for its work, both newly-formed and existing scientific and educational institutions, was provided primarily by the Department of Agriculture of the Provisional Government in St. Petersburg. This tendency continued during the period of UCR of Ukrainian People's Republic (UPR), as well as the Ukrainian State of Hetman P. Skoropadskyi, and the Directory of the UPR. The situation changed with the establishment of the Department of Agriculture within its structure, simultaneously with the so-called Council for Agricultural Education, headed by a Deputy General Secretary of Land Affairs. These institutions decided not only on the allocation of funds, but also on the organizational and methodological support of the educational process.

In this context, it is worth mentioning the first leader of the sectoral education system M. A. Kukharenko-Prokopovich (1879–1920), who made a significant contribution to its formation. As a recognized expert in this field, and author

of some publications about agriculture in Ukraine, on July 31, 1917, he was appointed the first Director of the Agricultural Education Department of the General Secretariat of Land Affairs and chairman of the relevant council at this department. From December 15, 1917 to April 15, 1918, he also chaired the Council of the Ministry of Land Affairs, or as it is known now, the Board of the Main Agrarian Department (Petryshyn, 1924, p. 76). Moreover, according to Resolution of the Council of People's Ministers of the UCR of March 10, 1918, he performed the duties of the head of the department until March 24, 1918. According to various sources, Kukhareno-Prokopovych was directly responsible for all the processes of organizational formation of Ukrainian agricultural education until September 1, 1918.

The Second All-Ukrainian Pedagogical Congress, held in Kyiv on August 10–12, 1917, adopted the basic principles of introduction of the Ukrainianization of education. It should be noted that, in relation to primary education, the work was determined to be completed in full, but as for secondary and higher education, Ukrainianization was decided to be carried out gradually. The decisions of the meetings at this level remained mandatory for implementation at the level of each department in which the sectoral educational institutions functioned. The Program of Activities of the Department of Agricultural Education of the General Secretariat of Land Affairs under the UCR was approved by the Council of Agricultural Education at a meeting on September 12, 1917. Before its final adoption, it was considered in detail at a meeting on agricultural education on August 25–26, 1917. Thus, in matters of competence of school education the following points were brought out: (1) its inspection; (2) development of a network of sectoral educational institutions; (3) opening of new agricultural institutions; (4) writing of textbooks; (5) information work on agricultural education in other countries; and (6) organizing sectoral congresses. Almost the same decision applied to the organization of extracurricular education or specialist retraining and advanced training. Therefore, it is no coincidence that among its tasks, for which the main agricultural department was responsible, were the establishment of agricultural courses, exhibitions, lecture chairs, and training of lecturers in extracurricular education (CDAVO, F. 1061, op. 1, c. 32, p. 1). It is clear that the implementation of all the foreseen functions had been carried out against the background of the Ukrainianization process of education.

The most systematic issue in organizing agricultural research and education under the UCR was discussed at a special section of the First All-Ukrainian Agronomic and Economic Congress, which took place on October 22–26, 1917,

in Kyiv. Furthermore, the sixth point on the issue, namely extracurricular and agricultural cooperative education, was planned to be considered at the plenary session of the Congress. The meeting of the section of agricultural education under the chairmanship of Kukharenko-Prokopovich took place on October 24 and 26, 1917. He proposed publishing popular agricultural literature in the Ukrainian language, opening of one- or two-year agricultural schools that could be mobile (they began to be actively created in the mid-1920s at the local agricultural polytechnic college for the needs of collective farm construction) (*Visnyk silskohospodarskoi nauky*, 1923, p. 219). Of great importance was the establishment of the Ukrainian Academy of Agriculture and Forestry by transforming the New Alexandria Institute of Agriculture and Forestry and agricultural departments of polytechnic institutes and universities for those wishing to obtain higher education, and the training of teachers to carry out one-year courses at the Ukrainian Scientific and Industrial Museum-Institute (P. K., 1920, p. 4).

The need for changes in the sectoral educational process was emphasized by a member of the UCR, P. F. Tushkan, who argued that the existing lower and secondary agricultural schools do not meet the needs of agriculture, either in terms of content, or even the level of teaching. He pointed out the need to create universities on the basis of secondary sectoral educational institutions. All the proposals were included in the congress resolutions and became a road map for the entire period of the UCR's existence. Due to the new tasks, the staff of the Department of Agricultural Education was increased, and their functions were expanded. According to the decision of the Council for Agricultural Education of March 8, 1918, P. F. Tushkan was appointed head of the department of extracurricular education of the Ministry of Land Affairs. With his active participation on March 18, 1918, after a discussion at the 7th meeting of directors and heads of the divisions of the Department of Agriculture of the Ministry of Land Affairs, on March 8, 1918, the Statute of the Committee on Agricultural Education of the People's Ministry of Land Affairs under the UCR of UPR was approved. The first paragraph defined it as an advisory body, which in urgent cases and on less important issues also performs the functions of the Main Council for Agricultural Education (CDAVO, F. 1061, op. 1, c. 36, p. 11).

On April 10, 1918, Director of the Department of Agricultural Education M. A. Kukharenko-Prokopovich sent out a Circular no. 231, demanding that all measures be taken to protect agricultural schools and their properties, as well as land belonging to schools. To this end, he proposed to use the opportunities

of the former estates after a thorough inspection. The apogee of those non-systemic projects was the Law of the Ukrainian People's Republic 'On Kyiv Agricultural Academy', with the new Minister M. M. Kovalevskyi appointed as its developer on March 24, 1918 (Alieshchenko, 2004, pp. 44–48). According to paragraph 15 of the Draft Law, it was established under the Ministry of Land Affairs as a classical educational institution without a combination of research, and its graduates had the right to teach in primary and secondary schools. By the way, Kyiv Agricultural Academy was created not on the basis of the agricultural department of Kyiv Polytechnic Institute, but as a separate institution (CDAVO, F. 1061, op. 1, c. 37, p. 8). Teaching in Ukrainian was one of the mandatory conditions for its functioning. However, like many other promising initiatives, this project failed.

### The search for an optimal model of the development of agricultural research and education in the period of the Ukrainian State of Hetman P. Skoropadskyi (April 29 – December 14, 1918)

The situation changed towards constructivism after the decisions of the All-Ukrainian Agricultural Congress in Kyiv on April 29, 1918, which brought Hetman P. Skoropadskyi to power in the form of the state of Ukraine. In fact, he was brought to power by three main political forces: the Ukrainian People's Community, the Union of Landowners, and the Ukrainian Democratic-Agricultural Party. As a result, their representatives received high government positions. Thus, an active representative of the second force, M. G. Kovalenko, became responsible for agricultural education. After the appointment of a new minister V. G. Kolokoltsev, there were some organizational changes in the structure and staff of all the divisions of the department. The Department of Agricultural Education consists of two divisions, namely that of school education, headed by P. F. Tushkan, and the publishing division, under the lead of K. I. Osmak. In addition, the Forest Department of the Ministry, led by M. Yu. Shapoval, had a scientific and pedagogical department with Z. S. Golovenko as its head (CDAVO, F. 1061, op. 1, c. 4, p. 2). The head of the Department of Agricultural Education at the time performed another important function—namely, managed the Council of the Minister of Land Affairs, the highest advisory body of the main agricultural department (CDAVO, F. 1061, op. 1, c. 4, p. 9).

According to the order of the Ministry of August 26, Kukharenko-Prokopovich was dismissed from his post on August 1, 1918, and was appointed Director of the Uman School of Horticulture and Agriculture. On August 17, 1918, Hetman P. Skoropadskyi signed the Law on the establishment of Kamianets-Podilsk State University and opening of an agricultural faculty with four departments, which was the first higher institution of agricultural education in Podilia (Alieshchenko, 2004, pp. 76–78). At that time, an attempt was made to establish a veterinary institute in Kyiv, initiated by the local Society of Veterinarians in a report by Professor S. Puchkovskiy. With the establishment of the hetmanate, all state-building processes were planned in the course of decision-making. With regard to education and science, such a document was the plan of the acting Minister of Education of the Ukrainian State, Professor M. P. Vasylenko, submitted to P. Skoropadskyi on May 5, 1918. It was approved and provided for: (1) Ukrainization of the schools; (2) the establishment of Ukrainian universities; (3) institution of the Ukrainian Academy of Sciences; and (4) the organization of the national library (P. K., 1920, p. 4). In order to implement and develop a bill on the establishment of the Ukrainian Academy of Sciences, the Commission for Higher Education and Scientific Institutions was being set up at this department, headed by V. I. Vernadskyi (Melnychuk, Zubets & Berenshtein, 2005, pp. 56–60). According to a special order, all universities and nine institutes were given the right to award scientific degrees. Simultaneously, against the background of Ukrainization, free education was initiated for students, including those in agricultural educational institutions (Polonska-Vasylenko, 1993, pp. 11–12).

The need for specialists for a rather extensive network of the existing sectoral research institutions was especially acute. At that time, it was unreasonably believed that only existing universities could provide real training. To this end, twelve years after the first attempt, St. Volodymyr's University (now Taras Shevchenko National University of Kyiv) made another effort to create in its structure an institute of agronomy. The Second All-Ukrainian Pedagogical Congress, on August 10–12, 1917, expressed the state's need to open not only departments, but also separate agricultural faculties at the functioning universities. According to the official chronicle, in September 1918, at the St. Volodymyr's University such training began by the invitation of teachers of the Agricultural Department of Kyiv Polytechnic Institute. This is a documented confirmation of the implementation of agronomic training at the Ukrainian People's University. At least the Program of Natural Sciences and the Faculty of Mathematics with the Agronomic Subdivision were founded at a meeting on October 14, 1918, by the leading agricultural scientists (*Vidrodzhennia*, 1918,



p. 4). As a rule, at that time, these initiatives were primarily based on the desire to join the allocated budget funds for education, rather than an agreed program of gradual state-building.

The program of all actions concerning the branch educational process was developed by a new head of the Committee of Agricultural Education, M. G. Kovalenko. On November 19, 1918, at a meeting of specialists of the Ministry of Land Affairs, he promulgated the new statute of the committee, which expanded its powers in order to unite the activities of certain divisions of the Ministry of Agriculture in the field of agricultural knowledge dissemination (CDAVO, F. 1061, op. 1, c. 32, p. 55). The main efforts were aimed at considering the general issues of educational work, adapted to the new social conditions. To this end, the new Statute of the committee expanded the permanent representation of public organizations, pedagogical councils, etc. After the dismissal of P. Tushkan, head of the department of extracurricular sectoral education and a specialist in agricultural education, on June 23, 1918, he was replaced by Ye. Ye. Kuznetsov (CDAVO, F. 1061, op. 1, c. 2, p. 67). The Department of School Education was headed by K. Ya. Levin.

## Research and educational support for the agricultural industry under the Directory (December 1918 – November 1921)

After Hetman P. Skoropadskyi abdicated on December 14, 1918, the UPR (the era of the Directory) returned to Kyiv (Alieshchenko, 2004, pp. 78–80). Adopted on December 26, 1918, the declaration of the Directory of the UPR on the foundations of socio-economic policy and political system, and the appointment of a new government forced to reset all branch management. New posts were appointed through election. Simultaneously, all those who were hostile to the Ukrainian national cause were released without discussion. Therefore, it is no coincidence that by Order no. 38 of December 31, 1918, the People's Minister of Land Affairs M. Yu. Shapoval appointed M. G. Kovalenko executive head of the Department of Agricultural Education (CDAVO, F. 1061, op. 1, c. 2, p. 299).

The adoption by the government of the UPR of a new Land Law, the cornerstone of which was the principle of socialization, required the use of properly trained educated professionals. The Committee of Agricultural Education began

to approve the appointment of professors and teachers of the subordinate network through orders of the sectoral minister. The appointment of managers of the functioning agricultural institutions was and remains its prerogative. The Committee on Agricultural Education actively participated in providing textbooks for agricultural institutions. Thus, on January 25, 1919, a special commission gathered under the chairmanship of M. G. Kovalenko. Despite the fact that at that time the programs of teaching of the subjects in general terms had already been approved by the commission, the participants noted the actual lack of textbooks for the agricultural schools in the state language. Since at that time textbooks on general education subjects were published by the Ministry of Education, the commission defined a list of disciplines in natural sciences to prepare or translate textbooks for lower agricultural schools (CDAVO, F. 1061, op. 1, c. 32, p. 24). Leading specialists were invited to prepare the textbooks: O. A. Yanata (botany), I. M. Shchogoliv (zoology), P. A. Tutkovskiy (chemistry), M. A. Savchenko-Belskyi (cooperation), E. P. Archipenko (seed production), K. G. Voblyi (economic geography), etc., and P. V. Oblap and P. F. Stew for translations from foreign languages.

Among the first textbooks, which were printed in 1919, the authors wish to name the two parts of a three-volume *Course on Farming* by A. H. Ternychenko, especially its first part *Soil Science* (Ternychenko, 1918b), which was built on the results of the so-called zemstvo soil science. In the second part of the textbook, *General Agriculture*, the Ukrainian specifics of the names are used to highlight the knowledge of improving the efficiency of science-based cultivation (Ternychenko, 1918c). The two-part textbook was prepared in June 1918 and, evaluating it, Ternychenko pointed out in the preface that it was not complete. However, the immediate need for textbooks on agriculture forces it to be published unfinished. By the way, this also applied to other textbooks published at that time. But the fact remains—those were the first textbooks in Ukrainian language (Kovalenko, 2014, p. 130). In particular, Ternychenko significantly modified two parts of his textbook and republished them in 1922. That same year, the third part of the textbook *Field Plants* was published in Ukrainian, which significantly added to the knowledge about the effective cultivation of crops (Ternychenko, 1922). He also edited the first collection of academic and popular articles *Agronomic Guide to Agriculture* (Ternychenko, 1918a).

At the end of January 1919, the government of the UPR Directory approved the Law on the Management of Public Education, according to which its management was transferred to collegial bodies. On February 2, 1919, the Directory and the

government of the UPR moved from Kyiv to Vinnytsia. The government had changed again after the Red Army regiments entered Kyiv on February 5, 1919. Two days later, a Decree of the Council of People's Commissars of the Ukrainian SSR was issued in Kharkiv, which abolished the civil ranks. On March 4, 1919, a new decree was issued abolishing school tuition fees. As early as on March 11, 1919, another decision was adopted by the Soviet government to confiscate agricultural equipment in former privately owned estates, including allowing their use for the needs of educational training of specialists in the existing sectoral institutions.

The Decree of the of the Council of People's Commissars of the Ukrainian SSR on the transition of all private universities and schools under state support was adopted on April 24, 1919. A meeting of the Committee of Agricultural Education of the People's Commissariat of Land Affairs under the chairmanship of M. G. Kovalenko was dedicated to the establishment of specialized technical schools for the training of practical engineers. It should be noted that at that time the provisions on various reforms developed by the People's Commissariat of Land Affairs of the RSFSR became mandatory for implementation in the Ukrainian SSR. After the discussion, they supported Ye. L. Rekalov's proposal to create a technical school similar to the polytechnic college of the highest type. The participants of the meeting agreed with S. M. Bogdanov's opinion that the existing labor schools were not able to train high-level professionals (CDAVO, F. 1061, op. 1, c. 32, p. 53). The Council for Agricultural Education, on May 5, 1919, approved the Regulations on agricultural surveying and other technical schools of the People's Commissariat of Land Affairs of the Ukrainian SSR. This Regulation was approved as temporary for a transitional period in the Ukrainian SSR. The document provided significant opportunities to the pedagogical councils of the existing agricultural institutions, and clearly formulated the tasks of economic councils. However, the Council recognized that the sectoral schools must be subordinated directly to the Commissariat of Agriculture (CDAVO, F. 1061, op. 1, c. 32, p. 54). After the final establishment of the Soviet power in Kyiv, the resolution of the Council of People's Commissars of the Ukrainian SSR 'On the transfer of agricultural schools from the People's Commissariat of Land Affairs of the Ukrainian SSR to the People's Commissariat of Education of the Ukrainian SSR', adopted on May 15, 1920, to institute unity of educational policy and concentration under this authority. Relevant subdivisions responsible for sectoral education under paragraph 2 of the resolution also came under the authority of the structures of this department. Within two months, the outlined measures were actually completed.

It should be noted that the Agricultural Scientific Committee of Ukraine (ASCU) was established simultaneously with the Committee of Agricultural Education, which was interested in a close cooperation between the two departments in the field of scientific and educational training of specialists. Such cooperation started directly in May 1919 with the creation of a Section of Popularization at the ASCU. The work intensified with the appointment of its member of the UCR, K. I. Osmak, on August 27, 1919 (CDAVO, F. 1061, op. 1, c. 398, p. 30). Prior to that, he had been head of the Publishing Department of the Ministry of Land Affairs and was well aware of all the problems of organizing the sectoral research and educational process. After the decision of the Soviet government to transfer all agricultural institutions to the People's Commissariat of Education of the Ukrainian SSR and coordinate its activities through the Department of Agricultural Education of the Main Committee for Vocational and Special Education, the Presidium of ASCU relied on Osmak's proposal to create the Institute for the Promotion of Achievements in Agricultural Knowledge (CDAVO, F. 1061, op. 1, c. 508, pp. 38–39).

At the beginning of the 1920s, in Western Europe and the USA, great importance was attached to the performance of research work by students, which consolidated their theoretical skills. For this purpose, regional agricultural experimental stations and fields with experimental plots were organized (Kovalenko, 2014, p. 149). In particular, there were more than 60 of such plots in Czechoslovakia, where experiments were carried out in plant breeding, plant physiology, reclamation, forestry, soil science, meteorology, animal husbandry, economics, etc. (Verhunov, 2012, p. 30–31). Experimental plots were created at the Ukrainian Economics Academy in Podebrady, where students from different regions of Ukraine studied (Kovalenko, 2020, p. 40). In Germany, 90 regional agricultural experimental stations carried out research on the efficiency of soil cultivation, fertilization and variety trials, however, their management and location were unsystematic (Sazonov, 1928, pp. 3–4). At the same time, the most effective global example of rationally organized practical training and branch research work was the USA, in particular thanks to the network of regional, district and special experimental stations, fields and plots created in the country's different soil and climate conditions. The American experience was adopted by the Ukrainian SSR, where in the early 1920s, research was carried out at experimental stations organized according to the regional principle, which were divided into central, regional and district ones (Kovalenko & Hloba, 2021, p. 849).

In Central and Eastern Europe, in particular in the Baltic countries, attention was focused on the opening of agricultural faculties in universities. In particular, in 1919, the Agricultural Faculty of the University of Tartu, which consisted of agronomic, forestry and veterinary departments, was established in the Republic of Estonia (Kuum & Reinfeldt, 1982, p. 127). At the university's Department of Agronomy, students earned master's and doctorate degrees in the following agricultural specialties: soil science, plant breeding, plant protection, bog culture, animal husbandry, economics, and accounting in agriculture. In 1921, five agricultural experimental stations with experimental plots, located near Tartu, were organized for students to carry out practical classes and research works. Students performed research on plant breeding and plant physiology, agrochemistry, animal husbandry, entomology, and phytopathology (Kuum & Reinfeldt, 1982, p. 128). Forestry specialists were trained at the Department of Forestry, and veterinarians at the Faculty of Veterinary Science. These faculties formed the basis of the Estonian Agricultural Academy. In the Republic of Latvia, the activity of the agricultural department of the Riga Polytechnic Institute deserves attention, where after three years of study, students confirmed their theoretical knowledge on a research farm. In addition, the institution operated a control station for the use of fertilizers, where students performed agrochemical experiments. Also, courses were held for students on effective grassland and cultivation of swamps. In the Republic of Lithuania, in Dotnuva, the School of Agriculture and Forestry was established in 1918 (Nikonov, 1995, p. 115).

The tasks set by the government of the Ukrainian SSR regarding the permanent survey of all territories and the creation of soil maps prompted the development of the appropriate specialization of agricultural production. There was an urgent need not only for qualified personnel but also for mutually beneficial cooperation between the agricultural and research institutions (Kovalenko, 2014, p. 95). Increasingly, at all levels, plans were made for the return of the agricultural institutions to the system of the People's Commissariat of Land Affairs of the Ukrainian republic. A significant work was done in this regard by ASCU. In order to carry out its work in a purposeful manner, the Section of Education and Popularization was organized in its structure in 1922. Its representatives took actively part in the work of the All-Ukrainian Congress of Agronomic Aid, Agricultural Cooperation and Land Workers, which took place on October 18–25, 1922, in Kharkiv. The following issues were considered: (1) the tasks of agricultural education; (2) agricultural circles and clubs for the youth and children; and (3) models of secondary agricultural school. The main decision of the congress was the resolution to oblige the People's Commissariat

of Land Affairs to take immediate measures to transfer the entire agricultural education under its subordination (Panchenko *et al.*, 2014, pp. 44–48). Over the next year, the new Statute of the committee approved by the Board of the Department on August 9, 1923, officially adopted the Section of Education and Promotion in its structure (Skorokhodko, 1924, p. 13). Professor Chekhivskiy was appointed its head in 1922 (*Visnyk abrarnoi nauky*, 1924, pp. 77–84). A new constructive impetus to its role took place on August 28–31, 1923, after the adoption of a resolution of the meeting of rectors and directors of agricultural institutes and technical schools, devoted to the coordination of research work at the sectoral institutions of all categories. Previously, a special Resolution had been signed between the Agricultural Scientific Committee of Ukraine and the Main Committee for Vocational and Special Education on July 31, 1923, the developer of which was P. F. Tushkan, who since September 10, 1923, had acted as head of the subsection of school education, and since September 15, 1923, had managed the activities of the entire section (CDAVO, F. 1061, op. 1, c. 2, p. 68). However, the whole range of work carried out by the section on the organization of agricultural education was rather advisory in its nature, and yet extremely popular in terms of complementing the educational process with specialized popular literature and textbooks and books based on the latest scientific knowledge.

## Conclusion

The Ukrainization of science and education, which became the task of public organizations in early 1917, intensified considerably after the establishment of the General Secretariat of Education on June 28. The conceptual principles of the development of Ukrainian science and education were adopted by the First and Second All-Ukrainian Pedagogical Congresses, as well as the First All-Ukrainian Agronomic and Economic Congress, which took place in 1917 in Kyiv. Among the main decisions were the Ukrainization of science and education, the establishment of the Ukrainian Academy of Sciences, national research institutions, and higher education universities. Attempts to implement the outlined solutions intensified during the the period of national liberation movements of 1917–1921, during the time of the UCR of the UPR, the Ukrainian State of Hetman P. Skoropadskiy and the Directory.

Coordination of agricultural science and education in Ukraine began with the establishment of the General Secretariat of Land Affairs of the UCR in 1917. Organizing the sectoral scientific and educational process of the institutions of all types was carried out according to the regulatory documents adopted before the events of 1917, namely the University Statute (1884) and Regulations on Secondary Agricultural Schools (1883). The Agricultural Scientific Committee of Ukraine and the Committee on Agricultural Education of the People's Ministry of Land Affairs under the UCR played an important role in the development of agricultural science and education and Ukrainization, in particular, in integrating the activities of some institutions to disseminate agricultural knowledge and organize educational work. In their formation, the greatest efforts were made by Ukrainian public and political figures: M. G. Kovalenko, M. A. Kukharenko-Prokopovich, Ye. Ye. Kuznetsov, M. K. Lazenko, V. A. Lebedynskyi, K. Ya. Levin, Ye. L. Rekaló, P. F. Tushkan, and F. F. Zakrevskyi. The Agricultural Scientific Committee of Ukraine, established simultaneously with the Committee of Agricultural Education, had supported its creative initiatives in the area of training of sectoral specialists during the period of its existence.

Among the greatest achievements of this time in the field of agricultural science and education were the establishment of faculties of agriculture at Kamianets-Podilsky State University and the Ukrainian People's University, as well as St. Volodymyr's University, and an attempt to organize an institute of veterinary sciences in Kyiv. No less important was the creation of the Ukrainian Academy of Sciences and a network of agricultural research institutions. In fact, the Ukrainization process of sectoral science and education in the first years of statehood affected, first of all, the language of teaching and writing of new books and textbooks in the state language.

At the beginning of the 1920s, the experience of the countries of Western and Central-Eastern Europe and the USA was of great importance for the development of agricultural research and education in the Ukrainian SSR. In particular, for the establishment of regional agricultural experimental stations and fields with experimental plots, where students performed practical classes in various areas. Such experiments provided practical confirmation and consolidation of their theoretical skills in the following specialties: soil science, crop production, physiology and plant protection, breeding, agrochemistry, land reclamation, animal husbandry, economics, and others.

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