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**PROFESSOR OLEKSIY STEPANOVYCH SHKABARA (1886 – 1959) –
A FOUNDER OF SCIENTIFIC AND EDUCATIONAL SWAMP CULTURE
AND MEADOW PLANTING IN UKRAINIAN POLISSIA**

Abstract. *The purpose of the article is a comprehensive analysis of the activities of Professor O. S. Shkabara, his scientific heritage, contribution to the formation and development of an agricultural research and reclamation science, education during 1913 – 1959. The research methodology is based on the principles of historicism, objectivity, the use of historical comparative, historical systemic, analytical synthetic, biographical, statistical methods, as well as the methods of personalization and source studies, the archival analysis of documents. The Scientific Novelty.* There has been proved the important role of Professor O. S. Shkabara in the formation and development of swamps culture of and meadows planting in the Ukrainian Polissia, both in theory and methodology, and in the organization of their scientific and educational support, which became the basis for the final statement of the concept of “swamp culture” as a science and appearance of the special field of plant technicians in the educational training of specialists. **The Conclusions.** The sphere of professional preferences of O. S. Shkabara was formed under the influence of lectures and practical classes conducted by a constellation of the prominent domestic scientists: P. R. Slozkin, V. H. Bazhaiev, K. H. Schindler, D. V. Kliuchariev and the others. The study of best foreign experience of Sweden, Denmark, and Germany contributed to the formation of a leading specialist in the field of an agricultural research and reclamation science, education. His contribution to the establishment of Kozarovytsia research and reclamation station and its special status as the leading republican center for the development of the agricultural reclamation problems during 1923 – 1933 and 1945 – 1959 was considered to be the scientist’s most significant contribution. He was formed as a talented educator; contributed to the spread of higher professional education during 1923 – 1933 on the basis of the Kyiv Engineering and Reclamation Institute. O. S. Shkabara was formed as a talented educator, who contributed to the spread of a higher professional education during 1923 – 1933, on the basis of Kyiv Engineering and Reclamation Institute.

Key words: *agricultural research and reclamation science and education, Kozarovytsia research and reclamation station, Kyiv Engineering and Reclamation Institute, O. S. Shkabara.*

ПРОФЕСОР ОЛЕКСІЙ СТЕПАНОВИЧ ШКАБАРА (1886 – 1959) – ФУНДАТОР НАУКОВО-ОСВІТНЬОЇ КУЛЬТУРИ БОЛІТ ТА ЛУКІВНИЦТВА В УКРАЇНСЬКОМУ ПОЛІССІ

*Анотація. Метою статті є аналіз діяльності професора О. С. Шкабара, його наукової спадщини, внеску в становлення й розвиток сільськогосподарської дослідно-меліоративної науки та освіти. **Методологія дослідження** ґрунтується на принципах історизму, об'єктивності, застосуванні історико-порівняльного, історико-системного, аналітико-синтетичного, біографічного, статистичного методів, а також методів персоналізації та джерелознавства й архівного аналізу документів. **Наукова новизна.** Доведено вагому роль професора О. С. Шкабара у становленні та розвитку культури боліт і луківництва в українському Поліссі як у питаннях теорії і методології, так і в організації їх науково-освітнього забезпечення, що стало підґрунтям остаточного ствердження поняття культури боліт як науки та появи в освітній підготовці фахівців спеціального напрямку культуротехніків. **Висновки.** Коло фахових уподобань О. С. Шкабара сформувалося під впливом лекцій і практичних занять плеяди видатних вітчизняних учених: П. Р. Сльозкіна, В. Г. Бажаєва, К. Г. Шиндлера, Д. В. Ключарьова та ін. Становленню провідного фахівця у галузі сільськогосподарської дослідно-меліоративної науки та освіти сприяло вивчення передового зарубіжного досвіду в Швеції, Данії, та Німеччині. Як найбільш вагомий внесок ученого, розглядали його сприяння становленню Козаровицької дослідно-меліоративної станції та здобуттю нею особливого статусу провідного республіканського центру з розроблення проблем сільськогосподарської меліорації в 1923 – 1933 та 1945 – 1959 рр. Сформувався як талановитий освітянин, сприяв поширенню вищої професійної освіти в 1923–1933 рр. на базі Київського інженерно-меліоративного інституту.*

***Ключові слова:** сільськогосподарська дослідно-меліоративна наука та освіта, Козаровицька дослідно-меліоративна станція, Київський інженерно-меліоративний інститут, О. С. Шкабара.*

The Problem Statement. A global climate change once again prompts us to reconsider the attitude to the place and role of an agricultural land reclamation in order to overcome the negative consequences, as well as to analyze it from a historical perspective. This is especially true of large-scale drainage projects during the second half of the XIXth – the first half of the XXth century. The areas in which, after reclamation changes, the culture of swamps and rational meadow planting were introduced, first of all, for the needs of animal husbandry, need a special analysis. At the initial stage, the experience of Germany, Sweden, Denmark, the Netherlands, the United Kingdom and other countries in both agro-technological and regulatory issues was used for this purpose. This created a mutually beneficial cooperation between the center and the suburbs for the future of the country, in which agriculture was the leading sector of the economy historically. An outstanding role in this process belongs to the branch science and its individual representatives, in particular, Professor O. S. Shkabara, practically forgotten in the history of an agricultural reclamation research in Ukraine. The life and work of the scientist for the benefit of the Fatherland at the turn of the epochs is, without any exaggeration, a whole range of hopes and wanderings of an extraordinary personality under circumstances when trials harden a personality. This will confirm the thesis that one of the greatest achievements of Ukraine's statehood is the possibility of an impartial coverage of its own personalized history.

The Analysis of Recent Researches and Publications. There is no complete and even more contextual biography of the scientist nowadays, despite the private “The Family Chronicles” of O. S. Shkabara's daughter, son and granddaughter. (Shkabara, 1991; Sverbilova, 2017) and the researches of V. S. Tymoshenko, the local historian of the village Kozarovychi, built largely on these memories (Tumoshenko, 2017a, 2017b) with his own archival works

concerning Kozarovytsia research and reclamation station and the Investigative case of O. S. Shkabara, who was repressed in 1933. Significant archival discoveries belong to Ye. O. Filipovych a researcher from Rivne (Filipovych, 2013), which were included in her unique “Chronicle” and, to some extent, served as a source base in writing the author’s monograph on a fellow student, a colleague and friend of O. S. Shkabara at Kyiv and Ryga Polytechnic Institutes (KPI, RPI), – M. O. Tyuleniev, the future corresponding member of the USSR Academy of Sciences (Verhunov, 2019). This fully concerns not only the evaluation of his creative work, but also to his contribution to the formation and development of the branch research.

The purpose of the article is a comprehensive analysis of the activities of Professor O. S. Shkabara, his scientific heritage, contribution to the formation and development of an agricultural research and reclamation science, education during 1913 – 1959.

The Statement of the Basic Material. O. S. Shkabara was born in 1886 in Polissia, the territory of which at that time was belonged to Minsk, Grodno, Volyn, Chernihiv and Mogyliev provinces. There were several million acres of swamps in Polissia. Thus, he was genetically doomed not just to be born a “Polishchuk” or a representative of a mentally special human community, both in terms of perception of reality and Polishchuks’ cultural traditions, and to have an unsurpassed thirst for life, despite all the troubles of fate. At present, a significant number of questions remain about certain periods in O. S. Shkabara’s biography. Even the available archival documents, filled in by him during different years, do not give all the answers. As for the parents, when filling in “Personal Card of the Responsible Employee” NCMF of the UkSSR O. S. Shkabara wrote about them as peasants and added: “Both grandfathers were serfs, his father went instead of his older brother (recruit) to the military service in 1877, after which he worked all his life as a construction worker” (Central State Archive of Supreme Boodies and Administration of Ukraine (CSASB), f. 27, d. 17 l., c. 4507, p. 30). He had a sister Maria, and probably, he also had a brother, Petro (additional research is needed concerning his brother). His father did his best for Oleksiy to get a secondary education at the prestigious Kyiv Real School. After graduating from it in 1905, he entered the agricultural department of the KPI named after the Emperor Alexander II, not less elite in the country. On May 29, 1910 he graduated from KPI with a diploma speciality “Plant Technician” or “Agronomist-Reclamation”. The sphere of professional preferences was formed under the influence of lectures and practical classes conducted by a whole constellation of prominent professors: P. R. Slozkin, V. H. Bazhayev, K. G. Schindler, D. V. Klyuchariev, and the others. During the summer holidays he worked according to his specialty, first of all, to brush up the acquired knowledge. In addition, while studying during the senior years of the institute, he gave private lessons. For the rest of his life he made friends with his fellow student M. O. Tyuleniev (1889 – 1969), a future corresponding member of the Academy of Sciences of the USSR, one of the founders of a scientific educational land reclamation in Ukraine (Verhunov, 2019). After graduating from a high school and passing the final exams on February 16, 1911, he received a diploma in the first category with the right “to the rank of Type X ...” of the so-called Tsar Peter’s table of ranks (State Archive of Kyiv (SAK), f. 18, d. 1, c. 426, p. 319). Type X corresponded to a civil rank – the colleague secretary.

During the last year of his studies, he was arrested for three days for participating in the famous Kyiv student protests related to the death of Lev Tolstoy. After the graduation, he was sent to work as an agronomist of Kyiv County Zemstvo of Kyiv Province by the Department

of Agriculture. During this period his first publications on agronomy were published in the periodicals of Kyiv Provincial Zemstvo (CSASB, f. 27, d. 17, c. 4507, p. 2). In 1911 he married Tetiana Ivanivna Papashyka (1886 – 1968), a graduate of Kamyanets-Podilsky Women's Gymnasium and a second-year student of the Higher Women's Medical Paramedic Courses at St. Volodymyr University. Tetiana Ivanivna came from the family of the secretary of zemstvo administration of Khotyn zemstvo, the colleague secretary, who had a personal nobility – Ivan Petrovych Papashyka. In 1912, the Shkabara couple gave birth to a daughter, Kateryna, and a year and a half later, a son, Serhiy.

Taking advantage of the privileges granted to the graduates of agricultural universities, from January 1, 1912, O. S. Shkabara, together with M. O. Tyuleniev studied at one-year courses on swamp culture and meadow planting at RPI, organized by the Department of agriculture. He got acquainted with the work of exemplary farmers of the Baltic region and Finland, as well as some provinces of Russia. He worked in the experimental farm “Novo-Peterhof”. He was one of the best three graduates of the courses, who were sent to Sweden, Denmark, and Germany by the Department of Agriculture in the summer of 1912 to get acquainted with the culture of swamps and meadow planting (CSASB, f. 27, d. 17 1, c. 4507, p. 3). During his trip abroad, he personally met the scientists-classics of swamp culture and meadow planting, Professors Takke, Fleischer (Germany), Bersch (Austria), Reilitzen (Sweden), and the others.

It is worth noting that the foundations of swamp culture were formed in Germany after the opening of Bremen Research Station in 1877 and at about the same time in Austria, when Vienna Royal Agricultural Chemical Research Station began conducting special experiments on fertilization and use of swamps. In 1910, owing to the director of the Austrian Swamp Station, Professor W. Bersch, the definition of swamp culture was formulated as the use of certain methods for the transformation of swamps from their original state into cultural lands, lands for cultivation (Shtein, 1912). Since in the Russian Empire only in the European part of the lands unsuitable for cultivation there were more than 65 million desiatyn, O. S. Shkabara had great career prospects. However, having the privilege of choosing a place of service after a brilliant defense of his diploma project and obtaining a special certificate of the second higher education, he chooses not the capital, but his native Polissya. He was appointed a specialist in swamp culture of the Department of Agriculture of Volyn province (Shtein, 1914).

It should be noted that the drainage of Volyn swamps began at the end of the 80-ies of the XIXth century and on January 1, 1913, 871 miles of canals were built. At a meeting initiated by the governor of Volyn in 1912, a decision was made to continue drainage work, the plan was approved to build drainage mains with a length of 3523 miles. For these needs, a separate reclamation department was created at Volyn Provincial Zemstvo. The post of Zemstvo hydraulic engineer was introduced, and specialists in swamp culture from the Department of Agriculture were invited. O. S. Shkabara was enrolled in a vacant post in the newly created department. His responsibilities included “... conducting swamp drainage works, drawing up plans and providing loans from reclamation credit ... “ (Serbin, 1913, p. 60). In addition, he acquainted the population with the methods and use of swamp culture founded in 1912, with the use of equipment of six agricultural rental stations, as well as demonstration of plots of land in different parts of the province.

The transition to the civil service allowed O. S. Shkabara to receive a promotion in the type of the Tsar Peter's table of ranks. O. S. Shkabara becomes a titular adviser with the right

of seniority, which corresponded to Type IX. This allowed him to receive a personal nobility for life, which was provided directly by the service or by law. He carried out his activities under the leadership of the government agronomist V. M. Drozdov and the provincial agronomist S. O. Yershov. It should be mentioned that the assistant of the latter was P. I. Havsevych (1883 – 1920) – later the founder of the first station of medicinal plants in the country in Lubny (1916) and an active figure of the Ukrainian revolution of 1917 – 1921. The fact cannot be excluded that under his influence, as well as under the influence of K. I. Osmak (1890 – 1960) – later the last president of the Principal Liberation Council (1944) – O. S. Shkabara joined the Ukrainian national movement. Thus, he published his article, namely “The Value of Ordinary Sowing” in Ukrainian on the pages of the newspaper “Rada” (№ 22, 1912).

At the meeting on February 12, 1913 of the second session of Volyn Provincial Zemsky Assembly it was decided to organize an experimental swamp in the region to test the most profitable methods of an agricultural use of swamps in the province (Shablygin, 1915, p. 63). On this purpose, in June 1913 a special commission, which included O. S. Shkabara, inspected the peat-swamp fund of the region and it was decided to open a research field on the massif “Chemerne” near Sarny, Rovenskyi county. In accordance with the order of Kholm-Volyn Department of Agriculture and State Property in July-August 1913, O. S. Shkabara also took part in the massif’s botanical and hydraulic survey. On this basis, the Bureau of Land Improvements of the Imperial Lifliand Public Utility Company elaborated developed a field drainage project.

There is almost no information about the life and work of O. S. Shkabara during World War I. Most likely he was involved into the rear to procure fodder for the South-Western Front. During February and October revolutions of 1917 he was a specialist in the culture of swamps of Volyn province. In the autumn of 1917, Volyn Provincial Agronomic Conference elected O. S. Shkabara “... initially an assistant of a province agronomist, and then the agronomist of the province. By the general meeting of zemstvo employees of the province he was also elected ... A Chairman of the Union of employees of land organizations of Volyn” (CSASB, f. 27, d. 17 l, c. 4507, p. 4). He occupied these posts during the time of the Ukrainian Central Rada, the Ukrainian State of Hetman P. Skoropadsky and the Directory of the Ukrainian People’s Republic.

On February 2, 1919, the Directory and the Government of the Ukrainian People’s Republic moved from Kyiv to Vinnytsia. Five days later, the Directory approves the “Statute” of the All-Ukrainian Union of Zemstvos. After the beginning of the Red Army offensive, the Directory and the Government of the Ukrainian People’s Republic were forced to move from Vinnytsia to Zhmerynka and then to Proskurov. Three days later, the Directory passed a law on grain duty. At the beginning of April 1919, the government agencies moved again from Kamianets-Podilskyi to Rivne. The resolution of the Directory of the Ukrainian People’s Republic on April 9, 1919 created a new government headed by B. Martos. To submit a report and estimations on the organization of sown fields to the office of the Ministry of Agriculture O. S. Shkabara went to Rivne, where he did not find an agricultural department, and then he went to Lutsk. During the presidency of the Directory of the Ukrainian People’s Republic S. Petliura (from May 9, 1919) and the beginning of the hostilities, O. S. Shkabara lived in the city occupied by the Poles. With the beginning of the offensive of the 1st Cavalry Army of S. Budionnyi on June 13 – July 13, 1920 and the continuous offensive of the Red Army on November 10-20, 1920 and after the liberation of Lutsk, he was able to return to Zhytomyr (Verstiuk, Dziuba, Repryntsev Verstiuk, Dziuba & Repryntsev, 2005 & 2005, p. 306).

With the liquidation of zemstvo and the formation of "... new revolutionary bodies", O. S. Shkabara headed Volyn Workers' Technical School for a short period of time, and from the end of 1920 he "... received a mandate to reorganize Polonsky Secondary Agricultural School into an Agricultural Technical School" (CSASB, f. 27, d. 17 l, c. 4507, pp. 1–4). During 1921 – 1922 he was the head of Polonsky (Volyn) Agricultural Technical School. In December 1922, Volyn gubprofos decided to liquidate this institution. In February 1924, the only graduation of Polonsky Agricultural College took place. After that, it was turned into an agricultural vocational school.

O. S. Shkabara's knowledge of meadows planting and swamp culture proved to be extremely popular after the final establishment of the Soviet power in the Ukrainian lands and, especially, during the famine in the USSR in 1921. The pre-revolutionary network of branch research stations and fields began to be restored in the republic, and new specialized institutions were founded. The main burden of this state-building business fell on the branch sections of the Agricultural Scientific Committee of Ukraine (ASCU) organized on October 1, 1918. Taking into account the peculiarities of the location of a research institution and the main statutory objectives delegated to it, which were determined by the ASCU at that time on behalf of the NKVD of the UkSSR, the new formation received an appropriate functional name from its sections. To create new research institutions, first of all, they used the former manors, which were subordinated to the NKVD of the UkSSR. Thus, the reclamation section of the ASCU "... found... "one of such places as" ... typical meadow flood farm... "in the former Kozarovychi estate near Kyiv "... in the a floodplain of the Dnieper and Irpin..." (Opokov, 1922b, p. 17). Since, unfortunately, the order of the NKVD of the UkSSR on the date of establishment of the research station in Kozarovychi and appointment of O. S. Shkabara to the post of its director have not been found yet, on the basis of the available reporting publications, first of all, the reclamation section of the ASCU, certain logical assumptions can be made. The first of them is that the final decision of the ASCU on the establishment of this type of station dates back to the spring of 1922. This was confirmed by Professor E. V. Opokiv (1869 – 1937), the head of the reclamation section, pointing out that she devoted "... several meetings to the issue of this station organization, the elaboration development of provision for it..." (Opokov, 1922b, p. 18). Due to objective circumstances, O. S. Shkabara did not take part in all these processes. Nowadays it can be said that the previous hydrological studies of Kozarovytsia floodplain that summer were carried out by V. V. Riznychenko, the head of the Hydrological Bureau of the Reclamation Section of the ASCU. What concerns a botanical research, there is every reason to believe that they were performed by A. P. Chornyi, the head of the section of the forage area of the ASCU. In the same year, at the level of the Ukrainian government, a number of legislative acts were adopted to encourage the introduction of an agricultural land reclamation. It is the issue of the approval: 1) on February 11, 1922 by the Ukrekonomnarad (Ukrainian Economic Council) "Regulations on Reclamation Societies"; 2) on May 8, 1922 "Procedure for Reclamation Work"; 3) on August 22, 1922 "Regulations on Reclamation Credit". The departmental regulatory documents were also adopted, which significantly changed this matter in a positive direction. There is every reason to believe that in Kozarovychi it was planned to create a classic research institute like the State Meadow Institute in the RSFSR. There is no coincidence that Kozarovytsia research and reclamation meadow station, which functions in Kyiv district as the main institution, subordinates the branch departments – Maksakivska meadow farm in Konotop district and Malozahirska meadow grass seed station in Nizhyn district (Djovany, 1929b, p. 83).

After the ASCU moved to Kharkiv in early 1924, the Reclamation section (due to the dismissal of its head, O. P. Chorny), virtually ceased its activities. As a result, its cooperation with Kozarovytsia station was terminated. The Reclamation section managed to resume its full-fledged activity only on February 23, 1924. Under such circumstances, O. S. Shkabara was forced to resolve all urgent issues (programmes, reports, estimates, etc.) directly in Kharkiv. On his first visit on February 23, 1924 he took part in the All-Ukrainian Congress of Land Management and Land Reclamation, as well as a joint meeting of its participants with members of the Land Reclamation Section of the ASCU (since 1923 O. S. Shkabara – a member of the section). Since that time he was a participant and speaker of almost all branch meetings of the regional, republican and all-Union levels, where he worthily represented the best achievements of Kozarovytsia research and reclamation meadow station headed by him. Among the most significant one is his participation in the first All-Union Congress on swamp culture on September 24–26, 1927 at Rudnya-Radovel swamp research station. Together with D. O. Giovanni (1886 – 1971) and M. O. Tiuleniev he represented the UkSSR at the second such meeting, which took place in Minsk on October 15–18, 1927 (Djovany, 1927a, p. 12), as well as a member of the organizing committee and speaker at the plenary part of the First All-Ukrainian Meeting on experimental reclamation in December 1928 in Kyiv. The last meeting, on the one hand, “inspected the existing capacities” (27 research institutions and 12 newly formed institutions on an agricultural reclamation), and, on the other hand, “identified shortcomings and drawbacks, which were to be studied”. At the congress it was decided to create a coordinating Ukrainian Research Institute of Agricultural Land Reclamation, because of the active development of land reclamation in the UkSSR and the development of a network of research and reclamation stations (Djovany, 1929a, p. 3). It was to include Kozarovytsia research and reclamation meadow station. But the next changes in the administration of branch science brought something different to the structuring.

From the very beginning of its activity, the station has been under the double subordination of the NKVD of the UkSSR, namely, in the department of Ukrmeliovodkhoz, and from the scientific side – the ASCU. The main agrarian department of the Republic approved “The Statute” of the institution, which defined it as “the central research institution in Ukraine, which aims at establishing and developing the basics, technical ways and more advanced methods of reclamation and cultivation of meadows.” (Opokov, 1929a, p. 180). “The Statute” included the main tasks in the work, namely: the study of changes in meadow formations due to changes in moisture conditions, soil character and other factors; hydrogeological and hydrological study of the area; the search for effective ways to irrigate and dry meadows; the development of a drying and irrigation system in connection with the rolling of river dunes and the use of hydraulic energy of rivers, etc.

The general management of the scientific activity of the station was carried out by the Council of the station, which consisted of two representatives from the ASCU, one from the research department of Ukrmeliovodkhoz, one from the reclamation department of Kyiv province and the director of the station. Thus, not only democratic principles in any decision-making were proved, but also the desire to have a real full-fledged branch research institution in Kozarovychi. It had to ensure the restoration of livestock quickly and scientifically and, above all, livestock, which had actually been destroyed during the years of hardship.

The station in Kozarovychi actually became the only branch research institution that began to conduct comprehensive special experiments for the needs of the 2000-mile floodplain of the Dnieper river. Under the leadership of O. S. Shkabara, during the first years of activity,

hydrological studies of the territory, assigned to the station, were made, first of all, of the meadow terrace, on the slope of which there stretched a peat swamp. There was examined a large part of the forest zone of the sloping ends of sandy areas, which were practically cut down during the revolution and the civil war. Geodetic surveying of the territory was carried out with the main leveling network and carrying out the horizontals within 0,25 fathoms. Based on the obtained results, O. S. Shkabara finally formulated the main task of the station: "...to study the floodplain of the Dnieper river and its tributaries in Polissia of Ukraine in order to elaborate and install technical means and various methods of reclamation of the floodplain meadows and swamps near the river" (Yelenskie, 1927, p. 5).

In 1923 at O. S. Shkabara's request to the director of the State Meadow Institute, Professor A. M. Dmytriev, this institution sent a special expedition, headed by R. A. Yelensky, which conducted geobotanical surveys of 900 of the 1,000 acres of meadows assigned to Kozarovytska research and reclamation station. Later, D. O. Giovanni, speaking at the first All-Union meeting of meadows researchers at V. R. Williams State Meadow Institute on February 26, 1928, pointed out that these studies end the second period of study of a natural forage area in Ukraine (Djovani, 1929b, p. 81). O. S. Shkabara was directly related to the second period, as well as to the first, which began five years before World War I and is associated with the activities of Volyn provincial zemstvo and the Society of nature researchers of Volyn. His role was even more significant during the third period. With an introductory speech by O. S. Shkabara, the results of research by R. A. Yelensky's expedition were published in the first issue of "The Works" of the station in 1927. In 1924, the Meadow Institute continued its research in Kozarovychi to study the dynamics of high water. This provided a source base for the implementation of the programme issues assigned to the station by the ASCU of NKVD of the UkSSR (Yelenskie, 1927, pp. 5–11).

Even before the start of the whole complex of planned research work on the survey of meadow vegetation with a poor funding, O. S. Shkabara did everything possible to publish a hypsometric map of Kozarovytsia floodplain meadows, as well as the results of previous hydrogeological surveys. The map was created by a hydrologist V. V. Mokrynskyi. The research was continued by R. A. Yelensky and E. V. Yelensky, M. M. Godlin, a lecturer at Kyiv AGI. By the way, having made thirteen fundamental conclusions about the peculiarities of the soil cover of the Kozarovytsia floodplain, M. M. Godlin expressed a special gratitude to O. S. Shkabara for creating favourable conditions for the research and assistance in a further analysis of the collected materials (Godlin, 1928a, p. 44). On the basis of soil and botanical explorations of both expeditions, O. S. Shkabara in December 1927 concluded that "... the use of hydro- and agrotechnical methods of reclamation of meadows" requires "... a thoughtful approach to their choice" (Godlin, 1928a, p. 4). On this purpose, he recommends "Flexible" approaches to grass surface and root improvement of meadows, a careful selection of seed material by means of a thoughtful selection. He offers an extensive use of artificial irrigation and "park" reclamation by planting trees to overcome the negative effects of erosion processes by spring flood waters. As a result, the station expands its crop rotation research programme for the so-called variable meadows. In addition, in 1927 the programme included "the study of the dynamics of meadow soils of the floodplain, the nutrient regime of the most characteristic and soil varieties, which are often found in the valley of the Dnieper River" (Godlin, 1928b, p. 3). The implementation success of new approaches in the activities of Kozarovytsia research and reclamation meadow station and its subordinate network is illustrated by the fact that in 1927 the representatives of the above-mentioned

station and its networks were the monopolists in the UkSSR for the production of seeds of valuable meadow forage grasses of a very high quality and they found a consumer very quickly (Djovani, 1927a, p. 11). Together with Malozahorivka seed station, about 1 500 poods of seeds were produced. For the Soviet country, this was a breakthrough, as practically all other components of the high-tech supply of swamp culture were largely provided by the supplies from abroad. The organizational talent of O. S. Shkabara could be traced.

During 1927 – 1928, the station was changed from the reclamation department into the research department of the NKVD of the UkSSR (Djovany, 1929b, p. 83). In my own opinion, the highest all-round triumph in the post of the director of Kozarovytsia meadow research and reclamation station was achieved by O. S. Shkabara during his participation in the First All-Union Meeting of Meadow Researchers, which took place on February 23-March 1, 1928. The First All-Union Meeting took place in the State Meadow Institute named after Professor V. R. Williams. At the meeting on February 26, 1928, O. S. Shkabara reported on the work of Kozarovytsia research and reclamation station. The participants praised the work done by all branch research stations of the UkSSR on the issues of a scientific support of meadow planting in the Ukrainian Polissya. The contribution of Kozarovytsia research and reclamation station was especially singled out.

On March 15–22, 1929 O. S. Shkabara again represented the UkSSR at the Second All-Union Congress of Meadow Researchers at the State Meadow Institute named after Professor V. R. Williams. The main objective of the meeting was: "... to make planning in an experimental meadow planting, to invent methods of estimating the fertility of meadow lands, to use meadows rationally, to re-evaluate the nutritional properties of many grasses, to collectivize the use of meadow areas on the basis of their scientific study..." (Yevsiutin, 1929, p. 5).

In 1923 O. S. Shkabara began teaching part-time at the Kyiv Land Reclamation and Land Management College. After the closure of the Kyiv AGI on June 22, 1930, which, according to the decisions of the July (1928) Plenum of the Central Committee of the CPSU (b), in September 1928 included the former reclamation and land management polytechnic, and Kyiv Reclamation Institute was established. From the end of 1930 the Institute received a new name – Kyiv Engineering and Reclamation Institute (KERI). The institute was subordinated to the NKVD of the UkSSR, Ukrmeliotrest, the NCO of the UkSSR and the headquarters of Kyiv Military District. Students studied at three faculties: engineering and reclamation; cultural and technical (agro-ameliorative) and water supply. From July 1, 1930, by Order № 5 of KERI, O. S. Shkabara was among 33 full-time teachers as an associate professor and conducted the disciplines: "Meadow Planting with Meadow Culture" and "Field Culture of Fodder Plants". By Order of the Institute № 32 of August 18, 1930, he became a member of the Commission for the election to the vacant position of professor for conducting lectures on "Drainage" (Filipovych, 2013a, pp. 13–23), as well as a member of another Commission – to analyze teaching programmes on the following disciplines: 1) Meadow, Swamp, Plant Growing, Livestock, Agricultural Mechanical Engineering, Monoculture, Physics and Culture of Ravines and Sands. 2). Botany. By order № 47 of KERI dated September 27, 1930, O. S. Shkabara was appointed the head (dean) of the Faculty of Culture and Technology. By another Order of the director of the institute № 55/8 dated 11.10.1930 he became a member of the Bureau of Industrial Practice (Filipovych, 2013a, pp. 30-36). In accordance with the resolution of the meeting of the institute management № 60 / 9 of 31.10.1930, he headed the commission to improve the curriculum for training specialists in the following specialties:

a) operation of hydraulic structures and culture of dried lands; b) operation of hydraulic structures and culture of irrigated lands. In accordance with the decisions of the meeting of the leadership of KERI from 20.11.1930, O. S. Shkabara joined the implementation of the provisions of Kharkiv Congress of Directors of Higher Education Institutions, primarily as a member of the commission for the establishment of institute departments (Filipovych, 2013a, pp. 43–54). According to the resolution № 73/13 of the directorate dated November 29, 1930, ten departments were established in KERI. By the same resolution O. S. Shkabara headed the department of cultural and technical disciplines (Filipovych, 2013a, pp. 59–60).

On December 4, 1930 at the meeting of the director of KERI, O. S. Shkabara was accused by members of the directorate of sabotage during the preparation of the curriculum for the practice of the third-year students of the Faculty of Culture and Technology. Those present voted in favour of the resolution: “Immediately remove Prof. Shkabara from the management of the faculty for his sabotage activity at the faculty, which is an attack by a class enemy on the front of training”, and it was added: “To send the case to the relevant authorities for investigation” (Filipovych, 2013a, p. 67). “The case” of O. S. Shkabara was sent to the NKVD of the UkSSR and NCO of the UkSSR, and from there it was sent to the Workers’ and Peasants’ Inspectorate of the UkSSR. During the search of the guilty, he continued to manage KERI meadow planting office, to be the head of one of the institute’s 12 subject commissions. He continued to head the Department of Cultural Engineering, conducted the course “Meadow Planting and Culture of Meadows”, as well as “Agricultural Technology and Cultural Engineering” and “Swamp Studies, Peat Science and Botany” (Filipovych, 2013a, p. 91). According to Paragraph № 4 of Order № 24 of this document he was to manage the swamp culture cabinet. After the opening of the Institute of Postgraduate Studies at the NKVD of the USSR, he recommended the best of his graduates at a meeting of the directorate on March 23, 1931. On November 4, 1931, by Order №110, he was appointed the head of the agro-ameliorative cabinet and botanical cabinet of the institute (Filipovych, 2013a, pp. 87, 104).

The year of 1932 turned out to be difficult in all respects for O. S. Shkabara. He trained specialists at KERI and lost contact with Kozarovytsia research station. Among the circumstances that to some extent led to the decline in the activities of the station, there was the decision to reorganize it into a base, due to the adoption of the Resolution of the Council of the National Committee (the CNC) of the UkSSR № 11/664 “On the Reconstruction of Agricultural Research” on April, 3, 1930. It was decided to create the All-Ukrainian Academy of Agricultural Sciences with a corresponding two-stage system of research institutions (a branch institute – a base point). By its decision of September 5, 1930, “On the Deployment of a Network of Research Institutions of the UkSSR” the VASGNIL agreed on a general approach, and the CNC of the UkSSR by Resolution №154 of May 22, 1931 “On the Organization of the All-Ukrainian Academy of Agricultural Sciences” specified it. The adoption of these decisions, in the end, made O. S. Shkabara resign from the post of the director of Kozarovytsia research station. The decisions were in the plane of both organizational problems of communications with Poltava, and the financial ones. The latter were always problematic to solve, especially after the adoption of the Resolution of the Board of the NKVD of the UkSSR from 16.09.1931 on the report of VUASGN “On the Deployment of the Research Network in 1932”. According to it, the entire network of the Academy was divided into two levels. The first level included base departments located “... in the state farm, collective farm or MTS...” and financed by the local budget (Resolution). At the same

time, the research branch institutes and All-Ukrainian research stations were financed for 100% by the all-Union and republican budgets. The situation was not changed for the better even by the decision of the above-mentioned Resolution of the Board of the main agrarian department of the Republic in § 3 “e” (*in kyrlytsia alphabet*) of item 3 concerning the transformation of Poltava station of forage production into UkrNDI of forages. The new formation was fully provided with the budget funding, and seven of its base departments, including Kozarovytska, were in fact self-supporting. At the same time, in accordance with the approved problem-thematic plan for the development of an agricultural science in the UkSSR for 1932, the range of an experimental research with a proven list of clearly defined objectives significantly expanded. With the loss of its status as a station, the base department could not solve the objectives both qualitatively and quantitatively.

All the changes were overshadowed by the fabricated political processes that unfolded in the USSR, primarily against the scientific and educational elite, such as “The Union for the Liberation of Ukraine” and “The Ukrainian Branch of the Labour Peasant Party”. Among the demonstrative trials, the accusation case of the famine of 1932 – 1933 was at the first place. Although it did not have such a direct name, the accusations were, first of all, in all sorts of “espionage”. Among this cohort of people accused of espionage in the regional groups in Lutsk, Zhytomyr, Kharkiv, and Kyiv regions, the members of which allegedly acted in favour of Poland during 1919 – 1931, – those were mostly agronomists. Among them, investigators “formed” Kozarovytsia spy group headed by O. S. Shkabara, which, according to V. S. Tymoshenko, was accused of giving information to the Poles about “how the sowing campaign is conducted, grain procurement operations, the results of land management and the mood of peasants in this regard”. Later, when the construction of collective farms began, the focus of this group was on this area (Tymoshenko, 2017a, p. 368). By accusation of the non-existent organization in Kozarovychi, investigators turned the lives of O. S. Shkabara and his relatives, as it turned out, for many years – to suffering. The first arrests began in Kharkiv and then almost simultaneously in Kyiv. Thus, L. V. Felinsky, the second husband of T. I. Papashyk-Shkabara-Felinskaya, was first arrested. A few days later, Tatiana Ivanovna was arrested. According to the warrant of January 11, 1933, the investigator decided to arrest and search for in the apartment of O. S. Shkabara. On February 3, 1933, the resolution of Kyiv City Department of Economic Management of the DPU of the Ukrainian SSR was issued accusing him “of committing a crime according to Article 54 of the Criminal Code of the Ukrainian SSR” (Central State Archive of Public Association of Ukraine (CSAPA), f. 66059, vol. 1, p.2). As a result, he was detained in the DPU pre-trial detention center. The article incriminated – espionage in favor of Poland (Tymoshenko, 2017a, pp. 367–377). O. S. Shkabara was “accused” of: his service in the tsar’s army, his time spent in the Polish-occupied city of Lutsk, his work in Polonsky agricultural college, his work in Kozarovychi, and finally his work at KERI. Be that as it might, but at the meeting of the judicial commission at the board of the DPU of the UkSSR on August 28, 1933, on the accusation of O. S. Shkabara, according to Article 54-6 of the Criminal Code of the UkSSR, a rather “soft” punishment was accepted, namely: “To send through PP OGPU in Zapsibkray for a period of THREE years, taking into account the term from 3.02.33” (CSAPA, vol. 1, p. 54). Being guided by this decision, the head of the USO DPU of the UkSSR on September 7, 1933 issued the “Certificate” according to which O. S. Shkabara went to Omsk (Tymoshenko, 2017b, p. 375). After his arrest, his second wife, Z. M. Lebedieva-Shkabara (born in 1899), abandoned her husband (Volodin, 1939, pp. 3–4). It is difficult to say nowadays: wasn’t it

a mutual thoughtful decision?! Under such circumstances, families often used such denial statements to save their own lives.

It is unknown what O. S. Shkabara did in the settlement of "...a distant Kulunda" and where he worked. Taking into account the fact that with much less "baggage" of "the crime" fabricated by investigators, innocent ordinary peasants from Kozarovychi were shot, and after the execution of members of the Presidium of the VUASGN on the charges of organizing the famine of 1932 – 1933, were repressed almost all their relatives to the "seventh generation", we believe that O. S. Shkabara was lucky once again. However, in Omsk he had to endure all the troubles of life in exile. There is reason to believe that in the settlement O. S. Shkabara worked according to his specialty. On February 2, 1936 his third wife gave birth to a son – Ivan (1936 – 2006). Later she fell ill and died. After his release, in early 1936, O. S. Shkabara agreed to the proposal of Voronezh regional department to go to work as head of the department of agricultural engineering at Pavlovsk research and meadow station. In the spring of 1941 he was transferred to Weidel sorting plant (Voronezh region). There he was when the German-Soviet war began (State Archive of Rivne region (SARR), f. P.-1188, d. 8, c. 7, p. 5). By the way, in August 1937, the NKVD authorities first arrested his brother Peter in Kyiv, and in September of the same year in Kostiantynivka – his sister Maria. After the release, his brother emigrated to Germany, where he financially supported the emigrant Ukrainian student youth. The sister was imprisoned in Artemivsk prison and then deported to Kazakhstan. After her release, she returned to Kozarovychi and lived with O. S. Shkabara.

O. S. Shkabara worked at Weidel sorting plant until the end of 1942. He worked during the German occupation because he could not escape, he was already 54 years old and he was ill with his little young son Ivan to take care of... In December 1942 he was forcibly evacuated to the disposal of the State Property Department of Kharkiv city administration. He ran away during the evacuation. After long wanderings in the woods he found himself in Poltava. There, in the regional land administration he was ordered to go to Zolotonosha to the research station to work on tobacco culture. From May to September 1943 he worked as an instructor on the collective farms in Chornobayev district. After the liberation of the territory from the German occupants, he was appointed an agronomist of Bohodukhiv MTS, where he worked for six months. He fired because of a heart disease (Sverbilova's archive). He tried to find job in KERI on April 19, 1944, but the director of the institute P. A. Skoblikov did not dare to hire a specialist, tainted not only by the repression but also by working for the occupants (Filipovych, 2013, p. 68). Owing to the help of M. O. Tyuleniev, for a short time, most likely, he worked and conducted the research on Panphilic swamp research field (Yahotyn district, Kyiv region), which resumed its activities in accordance with the Resolution of the RNC of the UkSSR № 495 from 15.05.1944. By the way, the same document resumed the activities of Kozarovytsia research station of meadow planting of the Ukrainian Research Institute, headed by P. F. Sokolovsky (CSASB, f. 27, d. 17, c. 40, p. 371).

After the end of World War II until the end of his life he settled and lived in the village of Kozarovychi, because he was forbidden to live in large cities being the repressed in 1933. He was engaged in the research on meadow planting. During 1946 – 1948 he conducted experiments on the crop formation of *Bromus inermis* (in Latin) depending on the sowing dates (Mukutenko, 1961, pp. 114–115). During 1951 – 1959 under his leadership the system of crop rotations for peat soils, as well as for dry and fresh meadows of the Dnieper floodplain was studied. In the experiments, made during 1948 – 1955 on "... meadows of the fresh type of the Dnieper floodplain with accelerated flooding...", the hay yield for 4 years was obtained –

58 quintal / hectare (Morozova, Shkabara, 1961a, pp. 19–20). In 1951 he started experiments in "... the terraced part of the Dnieper floodplain on a drained peat soil" concerning the study of the system of fertilizer use in meadow crop rotations. In 1952 he began the research to study the role of a peat layer added to a sandy sod-podzolic soil in the Dnieper floodplain, which is considered as structural reclamation nowadays (Morozova, Shkabara, 1961b, p. 34). During 1947 – 1949 in the collective farm "Chervonyi Partyzan" of Dymersky district he studied the issue of terms of harvesting otava (Morozova, 1961c, p. 91). Under his leadership from 1946 to 1954 the terms and methods of sowing meadow grasses in the Dnieper floodplain on dry and fresh meadows were studied. In addition to stations, the research was conducted under the production conditions of the collective farm named after Stalin of Dymer district (Morozova, 1961b, pp. 81, 83). From 1953 to 1956 he studied the issue of increasing the productivity of dry and swampy meadows in the Dnieper floodplain, using disking and sowing of grasses in the areas with liquefied grassland (Morozova, 1961a, p. 47).

Since 1923 he continued breeding work (on an amateur basis) with the breed of the world-famous Russian greyhounds or the Russian greyhounds (Sverbilova's archive). He started this activity at the beginning of the 1920-ies, when, working at Volyn Agricultural College, he inspected former noble estates in official affairs. For the most part, they were left by their owners after the October coup of 1917. Thus, the breed survived all the difficult times of the famine of 1932 – 1933 and the German-Soviet war of 1941 – 1945. The occupants, by the way, took some puppies to Germany.

After the government-party decision in 1950 to build grand "hydraulic structures on the Volga, Dnieper and Don" in order to create huge reservoirs, O. S. Shkabara, as a recognized expert in this field, understood well that with the rising water level in the Dnieper, actually, the activity of Kozarovytsia research station was levelled (Skorodumov, 1955, p. 79). He opposed categorically the project of creating Kyiv Reservoir, arguing that "it would flood the floodplain meadows of the Dnieper and Irpin rivers and destroy the fodder base of coastal collective farms" (Volodin, 1939, pp. 3–4). This will lead to the reduction in livestock and the reduction in the city meat and milk supply. These prophetic words came true over the years (Tumoshenko, 2017b, p. 392).

However, in 1964 Kyiv Reservoir was built and the remnants of the station were moved to the village of Litvynivka. The relocation of the station is closely connected with P. S. Makarenko, the last director of Kozarovytsia research station of meadow research of the UkrNDI of Agriculture. During four years, he managed to return the previous glory of the station, this time in its name – Kyiv research station of meadow planting, UkrNDI of Agriculture PV VASGNIL. The infrastructure was built: a scientific building, housing for employees, a kindergarten, a canteen, a household, household and livestock facilities, an automobile park, a workshop for agricultural equipment repairs, etc. But this was another story of O. S. Shkabara's creation. The scientist died on June 25, 1959. He was buried in the cemetery of the village of Kozarovychi.

In 1961 after his death the first issue of "Scientific works" of the station was published, in which many kind words were said about O. S. Shkabara concerning the contribution to the scientific bases development, the development of hayfields and pastures on floodplain lands of Forest-steppe and Polissya of the UkSSR. O. S. Shkabara was rehabilitated according to Art. 1 of the Decree of the Presidium of the Supreme Soviet of the USSR of 16.01.1989 "On additional measures to restore justice to victims of repression, which took place during the period the 30–40-ies and the beginning of the 30-ies". The relevant

document was signed by Ovcharenko, a senior assistant of the military prosecutor of Kyiv military district.

The Conclusions. The life and creative destiny of O. S. Shkabara became a reflection of the epochs break, which inevitably affected the peculiarities of his worldview formation, spiritual and moral values, the realization of a scientific and educational potential for the benefit of the Fatherland. Each of the epochs gave him a chance to realize his creative potential, on the one hand, and, on the other hand, – each of the epochs brought so much disappointment, incredible humiliation and suffering. However, O. S. Shkabara managed to make a significant contribution to the formation and development of the culture of swamps and meadows planting in the Ukrainian Polissya, both in terms of theory and methodology, and in the organization of the scientific and educational support. The theory and methodology became the basis for the final approval of the concept of swamp culture as a science that “...studies the methods and measures of an agricultural use of peatlands...” (Oposhko, 1934, p. 7) and the appearance in the educational training of specialists the special field – plant technicians. In this regard, in the first place there should be noted his scientific and organizational activities during 1923 – 1933 and 1945 – 1959 at Kozarovytsia research and reclamation station and the educational activities during 1923 – 1933 at Kyiv Engineering and Reclamation Institute. Certain periods of his work, namely 1933 – 1945, require further historical explorations. The same item concerns his creative work in the form of articles, brochures, recommendations and etc.

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