

V. DOKUCHAEV AND FORMATION OF THE NATIONAL AGRICULTURAL EXPERIMENTAL WORK, LIKE A FIELD OF KNOWLEDGE AND ORGANIZATION

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With a method of historical and scientific analysis are conceptually solved prerequisites of agricultural experimental work appearance as a field of knowledge and organization, as well as part of Nature History and culture of every nation of the world in the context of the creative heritage of the founder of the morphological and genetic soil science - professor V.V. Dokuchaev (1846 - 1903) after the publication of his book "Russian Chernozem" in 1883.

Key words: *agricultural experimental work, soil science, V. Dokuchaev, "Russian Chernozem", agriculture.*

The appearance of an agricultural experimental work as a branch of knowledge and organization in 2013 should be assumed as a world scale event which place in human life for some reason is hardly remembered. For its celebration a direct relationship has, in the first place Russia, then Ukraine, Moldova, Georgia and Kazakhstan within the framework of common Fatherland. According to its own scientific research today this concept generalizes reads: "Deep and comprehensive study in specialized research institutions the agronomic, zootechnical and other agricultural phenomena observed in natural as well as artificially created conditions, using appropriate techniques and tools for developing the most efficient ways and approaches that promote the cultural level of agriculture, and looking for other ways and means of providing scientific and practical assistance to agricultural production in order to receive both largest quantity and best quality of eco-balanced agricultural production" [1]. A long way in 131 years resulted in this interpretation of the concept, which initiated with "Thesaurus of the alive Great Russian language". Its author is Vladimir Dal who defined experimental work as "Learning which are not unfounded, but with an indication explainable in fact" [2].

It turned out that the statement of the agricultural experimental work as a component of natural science and culture of nations around the world is directly linked with another symbolic date – videlicet 130th anniversary of publication of the book of brilliant domestic scientist, Professor Vasily Dokuchaev "Russian Chernozem" [3]. It is the appearance of morphological and genetic or scientific soil science was basic methodological basis that transferred agricultural science (or, as they said then, agronomy, «set of agricultural Sciences" [4]) from the category of exclusively applied sciences to fundamental natural history. Through an understanding that everything is happening on the soil, which itself is a living substance, raised the possibility to combine all those involved in scientific support further development of the leading sector of the economy of many countries – which is agriculture a cornerstone of food security, and hence, – statehood. Simply put, all of us present today in the hall: scientists agronomists, livestock specialists, microbiologists, mechanics, economists, veterinarians, horticulturist, breeders, historians of industrial science and especially soil

scientists from around the world to solve important everyday issues that rightfully can be categorized as "daily bread". It is no mere chance what V.V. Dokuchaev insisted that knowledge of soil "... will help reduce the needs of the peasantry", and added "... soil science not only reveals to man the path to mastering the ground, but also helps him to develop research activities that should serve the same purpose □ the plight of the vast majority of humanity ...".

In his speech, I will make an attempt to prove that behind all this is genius - Prof. V.V. Dokuchaev and his book "Russian Chernozem", as well as other creative heritage of that, of course, needs to rethink his statements in the format of the famous disciple of Academician V.I. Vernadsky: "The history of science and its past should be critically composed by each scientific generation and not just because of changing our knowledge amount about the past, new documents opens up or new techniques to restore the former are found. No! One need to re-process scientifically the history of science, again historically go into the past, because thanks to the development of modern knowledge one in the past have a value and the other loses that. Each generation of researchers seeks and finds in the history of science reflection of scientific currents of his time. Moving forward, science is not only creates a new but inevitably overestimates old, experienced" [5].

By own long-term research on the origin, formation and development of the agricultural experimental work I prove that the process of forming a branch experimental work originated in the 10th millennium BC, when farmers and herders in the river valleys have joined forces and concepts of agriculture or husbandry appeared□. Realizing its fundamental generating place for Planet Earth, V.I. Vernadsky wrote : "The discovery of agriculture, made more than 600 generations before us, defined the future of all mankind," and the great French philosopher Jean-Jacques Rousseau added: " The only means to keep the state in a condition of independence from anyone is agriculture. If you possess though all the world's wealth, but you have nothing to eat □ you depend on others. Trade creates wealth, but agriculture secures for freedom".

Empirical experience of agriculture accumulated in centuries, about which eminent domestic agronomist Professor I.A. Stebut, opening December 13, 1901 The First Congress on Agricultural experimental work in St. Petersburg, said that "... agricultural experimental work as old as agriculture itself, but initially this experience, so to speak, was imposed to farmer against his will, and yet however, for this latter was not without observation, frequent served as guidance for its further action ..." [6], eventually led to the development of special teaching, which, multiplied by the successes of natural science, especially in the field of biology and agricultural chemistry, starting the second half of the XVII century, allowed to form the scientific method. As a result, through an international process of personalized "knowledge of the truth" in the end, there was a genetic soil science - the basis of the agricultural experimental work as a branch of knowledge. Like no other, V.V. Dokuchaev well understood and applied contribution of predecessors and his contemporaries in understanding the evolution of chernozems or soil □ the cornerstone of life on Earth.

I mark out 34 natural scientists from around the world if only stating to consider mainly philosophical developments of 7 the most famous ancient Greek and Roman scholars and thinkers, among the most iconic discoveries in the world context, particularly in respect of understanding of the theory of knowledge of soil.

Countdown should start with the Frenchman Bernard Palissy, who in his treatise "On various salts in agriculture" (1563) firstly suggested a look at the soil as a source of

necessary nutrients for plant life through three generalizing scientific positions: 1) soil is a source of minerals for plants, 2) soil depletes its fertility in the formation of their harvest, and 3) one needs to return to soil the mineral elements in the growth process in the form of the fertilizers.

One can continue by Russian Mikhail Vasilyevich Lomonosov, who first spoke from a scientific perspective on air nutrition of plants, that was subsequently called photosynthesis, and as to the origin of humus. Work "On layers of the earth" (1763), in which he evolutionary came to the origin of chernozems, initiated development of soil science. He's the person who firstly outlined the most important provisions of modern soil science: the soil is derived from plant life, plants alter the soil and prepare it to use by others, more demanding plants, human activities can accelerate the natural process of soil fertility development. Later, V.I. Vernadsky, after he studied the works of M.V. Lomonosov, wrote that Mikhail Vasilyevich is not only the first Russian soil scientist, but he also the first soil scientist at all. Thanks to this scientist at Moscow University from 1770 teaching a course of Soil Science began. M.V. Lomonosov is the author of the first method and experimental designs, which he outlined in his "Invitation for rural stewards to carry out some experiments related to tillage," published in the "Proceedings of the Free Economic Society" (Part 3, 1769). According to N.I. Pshenichny this year is the beginning of an industry experimental work [7].

It should also be noted German Albrecht Daniel Teer who is creator of "humus supply" theory and other Russian scientists notably Andrei Timofeevich Bolotov who is an author of original approach to the chernozems formation in the desert; Academician Frants Ivanovich Ruprecht, V.V. Dokuchaev in the book "Russian Chernozem" wrote about him: "... without a doubt, the father of scientific formulation and development of problem of the humus origin is academician Ruprecht ..." through his work "Geobotanical study on chernozem" (1866); Dmitri Ivanovich Mendeleev that first has developed a methodology for field experiments, long before other researchers, both in Russia and abroad, as well as three professors of Imperial Kharkov University, lesser-known for contemporaries: Nikifor Dmitrievich Borisyak, Ivan Fedorovich Levakovsky and Alexander Vasilyevich Gurov, who is paid many attention to the study of Russian chernozems in the mid-nineteenth century.

All these developments and especially that of Russian scientists, because, according to historians of industry "... in Russian soil science arose quite independently of the West and it developed in its own way ..." [8], and what proves V.V. Dokuchaev in the book «Russian Chernozem», made 893 reference, in particular 701 mainly on Russian authors, became empirical and subsequently in different manifestations the scientific basis for appearance of agricultural experimental work as a branch of knowledge through morphological and genetic soil science. Not accidentally I consider what the book "Russian Chernozem" is first bibliographic or industry index where the context approach to the evolution of scientific thought of separate agricultural problem is carried out perfectly. Simply put, if a scientist want to submit their scientific discovery on a global level, he should for this, at least, to take as a base the V.V. Dokuchaev bibliographical approach. With the lapse of time, about the importance of such a vision for the future of science writes his disciple – P.V. Ototsky when creating the first national critical bibliographical "Survey of Russian literature of the soil" [9] for the period 1765-1896, prepared on the initiative of V.V. Dokuchaev on behalf of Soil Commission of the Imperial Free Economic Society in 1898.

Brilliant scientist presented a correct view of the soil as a special natural body and firstly scientifically defined the term "soil" as "... day rocks' horizons or close to itones (do not care what), which are more or less naturally changed by the mutual influence of water, air and various kinds of organisms - living and dead, that affects in a known manner on the composition, structure and color of the weathering products"(1886). He is also the author of definitions: "soil profile", "soil is a mirror of landscape", "soil-forming process". He stated the law of constancy of qualitative and quantitative relations among all the most significant components of the soil, and 13 partial laws, each of which begins with the words "Law of constancy of the ratio between ...". In addition, V.V. Dokuchaev made and other pioneering discoveries, which are the foundation and heritage not only for the development of genetic soil science, but also for agricultural experimental work as a branch of knowledge, or according to N.K. Nedokuchaev: "Totality of data and methods for the agricultural phenomena study" [10]:

1) created the world's first scientific classification of soils (1886) on the genetic basis, which scientifically proved the groundlessness of the application for this purpose interrogatory-statistical method for mapping in our country, as well as Western European method built on a criterion of mechanical composition of the soil;

2) advanced and developed the idea of the spatial distribution patterns of individual soil types, covering the surface of the land in the form of horizontal or latitudinal zones;

3) substantiated the existence of vertical zoning or beltiness in the distribution of soils, which is defined as a regular change in some other soils as lifting of the foot to the top of high mountains (1896);

4) develop a framework and methods of soil mapping and soil geography and personally made the first soil map of the northern hemisphere;

5) investigated the soil, vegetation and geological conditions of Poltava region in 1888-1896 and substantiated a number of important conclusions about the soil genesis laws. Expedition report entitled "Materials of evaluation lands" published in 16 volumes, and the collections were formed the basis for the organization of natural history museum in Poltava. According to the research results scientist drew first in the world soil ten-verst map on the genetic basis of a individual region - province of Poltava (1892), eventually became part of the first sixty-verst soil map of Ukraine created by G.G. Makhov in 1925;

6) on his own initiative and plan in 1900 the soil map of the European part of Russia was compiled;

7) he is the founder of the modern theory of landscapes, landscape zones and agricultural zones of nature, he proved the equivalence of all the factors involved in their formation;

8) he created a brilliant plan of complete reconstruction of agriculture in South Russia, set out in his book "Our steppes before and now" (1892);

9) his ideas laid the foundation for the new discipline - biogeochemistry and geochemistry (the founder of which was V.I. Vernadsky), which was of great importance when searching for minerals and the formation of the original Russian schools of geographers, foresters, land reclamation experts, hydrogeologists;

10) via the establishment of the doctrine of the genesis and geography of soils as a natural body he predicted the further development of the new science - ecology - where the soil has a leading role in reflection of all environmental (biogeocenotic)

changes in the properties, processes and states of development and evolution of soils [11];

11) the doctrine of Dokuchaev about latitudinal (horizontal) and vertical "areas of natural history" became the main paradigm of Russian scientific school of Physical Geography (1898). He identified seven world regions (boreal, boreal forest, forest-steppe, steppe, dry steppe, arid desert area, subtropical) [12].

Not smaller contribution of V.V. Dokuchaev is in formation of agricultural experimental work as an organization, or according to N.K. Nedokuchaev: "The totality of institutions and activities with the ultimate goal of improvement of farming methods" [10]. On the base of many years of his own historical research of the complementary reasons and events in the life of the country generalized contributed to the organizational emergence of agricultural experimental work was systematized:

- 1) private initiative of "social patrons" during the XVII–XIX centuries;
- 2) the consequences of the 1861 reform;
- 3) numerous droughts;
- 4) the introduction of the French education system in 1803 and approval of own industry one;
- 5) industrial expansion, especially in the second half of XIX century;
- 6) education activities of Zemstvos, established since 1864 in 33 provinces of European Russia, and also creative professional associations in the form of societies and specialized Congresses holding.

Among other factors shaping the seventh fundamental "imparting a scientific nature" original cause are:

- 1) the activities of the church to introduce scientific approaches for agriculture and education;
- 2) development of the domestic sugar industry in 1800;
- 3) deployment of integrated science-based agricultural ameliorations in 1872;
- 4) transfer of domestic agriculture for export, or the appearance of commercial agriculture;
- 5) intensive development of the agricultural literature bibliography, particularly in the XIX century, for vocational education of persons concerned;
- 6) establishment and development of the science of statistics, which in the second half of XIX century became a state affair.

By own long-term studies I show that V.V. Dokuchaev is directly related to the development of the vast majority of the original causes of the appearance of the above agricultural experimental work in the country. Among the personal developments of V.V. Dokuchaev in the field of organizational appearance of agricultural experimental work is necessary to identify the following:

- 1) he proposed the first model of organizational structured build of domestic agricultural experimental work, which is outlined in his book "Our steppes before and now" (1892). Subsequently he finalized and issued on this matter special brochure "On the organization of experimental (field) stations in Russia" (1895);
- 2) he established the first in Russia and in the world academic department of Soil Science at the New Alexandrian Institute of Agriculture and Forestry (1894);
- 3) through the "internal memorandum" on the I session of the Agricultural Council of the Ministry of Agriculture and State Property, as well as a special brochure "On the opening at the Imperial Russian Universities Departments of Soil Science and the doctrine of microorganisms (specifically bacteriology) " (1895) he proved the feasibility of establishing a Soil Science departments at universities;

4) he created in the Free Economic Society the first specialized social organization -
□ permanent Soil commission to study the soils of the country (1888);

5) he organized Private public courses on agriculture and basic sciences for that by the Society for dissemination of agricultural knowledge and skills in St. Petersburg (1897);

6) journal "Soil Science" was based (1899) on the initiative of a scientist ;

7) together with the A.V. Sovetov in 1885 he initiated the publication of the annual "Materials for the Study of Russian soils» □ - first in the country and one of the first in the world of periodicals on Soil Science (until 1896 published 10 issues);

8) through the activities of the "Special expedition in execution and the taking into account of various methods and techniques of forestry and water management in the steppes of Russia", which starts its work May 22, 1892 at the Forest Department of the Ministry of State Property, created the first specialized research network of institutions to explore specific problem in the three test sites (stations): 1) Khrenovskiy test site on the watershed of the Volga and the Don in Bobrinsk district of Voronezh province, 2) □ Starobelskiy test site between the Don and the Seversky Donets of Kharkov province, 3) □ Velikoanadolskiy test site between Seversky Donets and Dnieper in Mariupol district of Ekaterinoslavskaya province;

9) in 1895 he organized the Bureau of Soil Science at the Academic Committee of the Ministry of Agriculture and State Property;

10) he is founder and head of the unique as wrote Academician V.I. Vernadsky " the whole school of Russian scientists", which included: N.M. Sibirtsev, K.D. Glinka, F.U. Levinson-Lessing, P.A. Zemyatchensky, P.V. Ototsky, S.A. Zakharov, V.L. Amalitsky, P.F. Barracks, G.F. Morozov, A.M. Krasnov, V.I. Vernadsky. V.K. Agafonov, M.P. Adamov, P.V. Beketov, I.P. Vydrin, A.S. Georgievsky, N.A. Dimo, A.R. Ferhmin et al [13] should be added.

Ambiguous in this cohort is Professor A.I. Nabokikh, who is considered the founder of the "Ukrainian school of Soil Science" [14], with his disciples who are: V.I. Krokos, G.G. Machov, A.F. Lebedev, N.P. Florov and others [15]. No less significant contribution for strengthening of "southern school" of Soil Science, being said, was made by other disciples and followers of V.V. Dokuchaev □ who are: G.M. Vysotsky, G.I. Tanfiliev, N.N. Klepinin, A.N. Sokolovsky, D.G. Vilensky, etc.

Thus, there is evidence of a special contribution V.V. Dokuchaev to formation of progressive school of Ukrainian scientists, and it is not only in soil science, but, as in the case of Russia, in agronomy, physical geography, geobotany, botanical geography, geomorphology, dynamic geology etc.

If you do not take into consideration the date of October 31, 1883, when it signed the preface of the book «Russian Chernozem» [3], the December 10, 1883 □ the day of magnificent defense of doctoral thesis based on it by V.V. Dokuchaev at St. Petersburg University, is the beginning of the agricultural experimental work as a field of knowledge, domestic agricultural experimental works organization received the official state support through legislation after the Edict of Nicholas II on May 28, 1901 "Regulations on Agricultural Experimental institutions" [16]. According to it the domestic industry research institutions for the first time in the history of the state received the task of implementing the basic functions, namely: "... to carry out scientific and practical experiments and researches in the field of agronomy and agriculture for determination of the best farming methods and their distribution among the population, as well as to explore the local geological and climatic conditions having an impact on agriculture ...", or it was fully consistent with previously expressed by V.V. Dokuchaev: "Any

agricultural economy must be strictly zonal ... And our rotations and our cattle and our crops and our gardening, horticulture and forestry should... be timed to zonal Russian physical and agricultural conditions ..." [17]. Furthermore, according to paragraph 4 of the "Regulations" their structural divisions was formally approved: a) experimental stations and b) experimental farms, fields and sites, and c) demonstration farms and sites. All they were subordinated through the Department of Agriculture to Ministry of Agriculture and State Property. According to the document set of research was funded by government on a par with interested parties.

Parity has changed in favor of the government after the adoption of the new Law on June 9, 1912 "On some measures on the construction and the keeping of agricultural experiment stations", coordinated by the State Duma, the State Council and approved by the Supreme Council. Under the new statute, the means of the state treasury was made "... to three quarters of one-time and annual costs on the construction and the keeping of agricultural research stations established by the individual provincial zemstvos of adjacent provinces, as well as agricultural societies and other public agencies...". Finally, the organizational structure of the agricultural experimental work was worked out in the country before the events of 1917: 1) the district experimental stations or central ones, and 2) local experimental stations or intradistrict ones, and 3) experimental fields, and 4) experimental sites and 5) collective experiments. Since 1912 Regional Agricultural Research Stations began to coordinate their activities. In addition, there was a network of institutions of different types for special purposes. According to V.V. Wiener, for example, in 1912 there were 20 types of institutions, and they were divided into 9 groups on the departmental affiliation [18].

As of 1912 the total number of all types of industry experimental institutions officially reached 110 [18] and has been steadily increasing. In 1913 their number was 264 [19] and in 1917, according to various sources, numbered 391 research institution [20]. Positive impact of their activities was apparent therefore the state lagging behind in development nearly three centuries from the leading European countries at the beginning of the XIX century in 1913 quite rapidly became one of the five the most important countries in the world not only for exports of manufactured agricultural products as raw materials, but also its products. On this occasion, I want to bring only one digit. The average level of productivity of winter wheat in 1883 in Poltava province was 7.2 c/ha, and in 1913 it reached 13.0 c/ha. In addition, in some large farms of private landowners it was even 15.2 c/ha [21].

Today is hardly remembered that the first plan of structuring of domestic agricultural experimental work also belonged to V.V. Dokuchaev. This plan he described in no less outstanding work □ «Our steppes before and now" [22], which was published in 1892 in St. Petersburg. It has been praised by not particularly large cohort of agricultural researchers, which only being formed and it largely considered «Russian Chernozem» and "Our steppes before and now" of Dokuchaev its "Bible" regarding own actions and thoughts for the benefit of the Fatherland. If the first book helped to understand what is the soil as the product of its interaction with the air, plants or living matter, to find ways of increasing the productivity of fields with consideration of climatic features, the second one in the final section allows to construct the system or organizational vertical of relevant scientific and educational institutions to perform its tasks. In addition, on the pages of last book V.V. Dokuchaev argued with influential government official and no less famous scientist A.S. Yermolov, who before becoming the first minister of agriculture in 1894, worked as a Assistant (Deputy) Minister of

Finance and headed a special commission to study the various possibilities of domestic agriculture, the results of which are then summarized in his book "The poor harvest and national disaster" [23]. Alexey Sergeevich allowed himself to speak, that domestic science "... too far from the demands of life and ignores its barest necessity ...". To which V.V. Dokuchaev replied: "... scientists represented to responsible persons dozens of projects and applications for the study of Russian borderlands, on the study of individual physiographic regions of Russia, on the study of gullies and rivers, on the establishing of Soil Institute, the organization of pests control, about drying of wetlands, on irrigation, on water management in the south of Russia, etc.; □ projects sometimes approved by congresses and supported by entire societies, but, if not always, in the vast majority of cases it received approximately such answers: "... it is no funds, there are more important needs, □ this question has already been scheduled, □ Russia is vast, it is impossible to investigate the whole of it, □ your job will run for decades, god knows what it will turn out, etc. All this A.S. Ermoloff perfectly knows himself".

The foregoing shows that V.V. Dokuchaev was keenly aware that without government support of any undertaking is impossible to rise as domestic agriculture in general and especially in the organization of its scientific support. Only then the latter would be an effective or an agricultural experimental work, if at all this will stand the state order with financing and the relevant procedures. According to V.V. Dokuchaev, no other way, if "... if they willing to put Russian agriculture on solid legs on the even way and deprive it of the character of gambling speculation, if they will it to be adapted to the local physiographic (as well as to the historical and economic) conditions of the country and on it be based (and without it this always will be the speculation, although very reasonable in years) ...".

He offered his own tricyclics complementary model of organization of agricultural experimental work on the basis of the main conclusion made. The first cycle demonstrated the necessity of the establishment of three exclusively research institutes or: "... Committees, notably Soil, Meteorological and Biological (the study of plants and animals)". Thus, scientist for the first time in the country substantiated the institutionalization of agricultural experimental work as an organization, defined its main task: "... strictly scientific study of the most important natural and historical foundations of Russian agriculture", that is what we are now talking about as the theory and methodology.

For testing or adaptation of achievements of the first cycle institutions to local conditions scientist suggested to establish "... different kind of experiment stations, as a scientific and practical and purely practical, □ both government (approximately in five major physiographic regions of Russia) and that belong to Zemstvos, □ of provincial agricultural societies, and - even private individuals, in the provinces, districts and individual estates". Concerning specialization of its scientific activities, V.V. Dokuchaev put on the first place the general agriculture and animal husbandry, and in certain areas flax cultivation, fruit farming, wine-making, sericulture, pisciculture, apiculture, etc. The main challenge for research stations became "... application (otherwise, the testing) of obtained by science provisions and truths of life and elaboration of the methods by which such use would be most beneficial for both the state and private owners". Thus, according to V.V. Dokuchaev, activities and especially the creation of any experimental station should be carefully adapted to the physiographic and agri-economic conditions of the region.

However, the scientist and the equally well-known teacher and organizer of the educational process in the country is well aware that the success of the proposed

activities of both types of institutions is impossible without "... well-trained conductors (and in part the figures in the committees and in the stations) produced truths in life ..." if there is no "... specialists-agronomists, who alone, combining the results of science and an indication of experience will be able and have a wish to inculcate the mentioned results to life and to clothe abstract truth in flesh and blood." To do this, V.V. Dokuchaev suggested third cycle of institutions, namely: the higher educational institutions in three agronomic zones of the country: 1) nonchernozem, 2) chernozem and 3) west for training of agronomists-technicians.

Among the prerequisites of fruitful activity of all three cycles of the organizations according to V.V. Dokuchaev are: "... the most complete task sharing and distribution of their functions ...", and "... digress from this principle, namely, mixing of scientific tasks, educational ones, and experimental problems (so to speak) of agriculture and its merge into one organ of any kind has always been the most important brake of the development of agricultural science and proper progress of Russian agriculture". Thus, he categorically opposed any coordinating superstructure for proposed organizational model of tricyclic agricultural experimental work.

When justifying and considering all the components of its organizational model V.V. Dokuchaev warned that for its implementation public funds should not be saved, because that are "... nothing comparing with the tens and sometimes hundreds of millions ... who our fatherland loses in major crop failure". Among other things, the scientist also suggested to use extensively the state credit for model farms creating for the needs of clearly defined rural areas. Moreover, he warned that "... no science, no technology can help a patient, if the latter does not wish to be treated".

Concluding the substantiation of all the advantages of the proposed approach to increase productivity of domestic agriculture after the devastating drought in 1891, V.V. Dokuchaev expressed his last wish: "... if you really want to raise the Russian agriculture, □ it is not enough only science and technology, victims of the state is insufficient, this requires □ goodwill, enlightened view of business and love for the land of landowners themselves, and in this grief can help only one school, namely □ lower school, middle school and higher school, the university", or, of course, □ general professional education of all those who practice it.

I should say that V.V. Dokuchaev not only theorized system of organizational structure of the domestic agricultural experimental work, but also developed and implemented the coordinating implementation of specific scientific objective through a special network of institutions created May 22, 1892 at three sites through a "Special expedition to the test and taking into account of various methods and techniques of forestry and water management in the steppes of Russia " [24]. As a result of five years of research not only forests were planted on more than 200 tithes of forest belts, but scientific and theoretical parameters of the optimal ratio between the forests, fields, meadows and other lands, or, in contemporary terms, a landscape approach was worked out [25]. Over time, this largely allowed to V.V. Dokuchaev and A.A. Izmailsky not only to determine the features of the water regime of saucers and understand their place in the distribution of moisture in the soil, but also, more importantly to work out theoretical and practical bases of steppe or dry farming as one of the greatest achievements of the domestic agricultural experimental work as a branch of knowledge before the events of 1917 [26]. According to some historians of agricultural science, this development was "reformatted" by American colleagues as own one subsequently.

Summing up, it should be recognized that the proposed by V.V. Dokuchaev, the creator of agricultural experimental work as a branch of knowledge, the tricycle model

of its organizational structure was the first institutional structuring in the country. Incorporating the best of similar developments of leading countries of the world, the model had the national colouring in synergistic functioning of sectoral education for science, and not vice versa, as, for example, in the U.S. in accordance with the Hatch law in 1887 with Adams additions in 1907. It is no accidently the best domestic historians of agricultural experimental work have argued that it was "... developed distinctive way ..." because "... the original arrangement in solution of major theoretical and practical questions" according to A.A. Verbin [27] with B.K. Enken additions: "Domestic sectoral research institutions in its idea and filling are the product of national creativity and have original Russian print" [28].

It should also be noted that the expressed by V.V. Dokuchaev principles of organizational construction of agricultural experimental work that on the base of their own long-term investigations, five periods conventionally have been in Ukraine, not lost relevance a hundred and twenty years for the current reality of search of the adaptive existence of sectoral academic science, but also they in the general approaches are implemented in the "Concept of Reform and Development of agricultural education and science" for an independent Ukraine, approved by the Cabinet of Ministers of Ukraine № 879-r dated April 6, 2011.

Concerning Russia, after projects of V.V. Dokuchaev and later V.G. Rotmistrov (1895) in author's versions had been rejected, the other project of P.A. Kostychev and V.V. Wiener came into effect. It was a project of regional agricultural experimental work building with the appropriate network, which has been continuously improved in accordance with governmental and legislative decisions. For its coordination idea of A.S. Ermolov to create in May 2, 1923 Central Agronomic Institute – the State Institute of Experimental Agronomy in times of RSFSR has been realized. However, both in the RSFSR and in the USSR in the late 20-ies of the last century, after a period of experimental work territorial organization the broad institutionalization of its main directions began. It is V.V. Dokuchaev, who the first substantiated its idea and principles of activity. Today it does continue to be based on the same general approaches, despite the fact that, during their development, 85 % of the population was engaged in agriculture, and now only 26 %.

In turn, V.I. Vernadsky who was the pupil of V.V. Dokuchaev, knowledge able of the visions of the teacher on the agricultural experimental work organization, in years of the first hopes of Ukrainian statehood offered to some extent similar general principles of its existence with a mandatory component of the fourth additional presence of a single coordinating body in the form of sectoral Academy [29]. The idea was realized in the creation of All-Union Academy of Agricultural Sciences named after Lenin in 1929, and Ukrainian Academy of Agricultural Sciences in 1931 and remains effective today both in Ukraine and in Russia with some recent changes under the Federal Law on September 27, 2013 № 253 -FZ "On the Russian Academy of Sciences, the reorganization of the state academies of sciences and amendments to certain Legislative acts of the Russian Federation" (Article 18, paragraph 2).

Thus, the emergence of agricultural experimental work as a phenomenon I give the same status as one of the outstanding achievements of global domestic science or cultural and educational environment that existed within the common Fatherland on modern Ukrainian lands before the events of 1917.

Taking into account the outstanding importance of the creative contribution of Professor V.V. Dokuchaev for the future of humanity, I convinced that his 170-year anniversary, which falls on 2016, deserves celebration within the official events of the

Interparliamentary Assembly of the CIS member states. Pleased that the leadership of the Verkhovna Rada of Ukraine supported our initiative with a list of appropriate measures in this regard, made a submission to the headquarters of the organization in St. Petersburg. Among them I would like to highlight the second, namely the holding of international conferences on: a) the 130th anniversary of the appearance of the agricultural experimental work as an organization, and b) the 120th anniversary of the creation of the first academic department of soil science in the world in 2014, which coincides with the 130th anniversary of Poltava experimental Station named after N.I. Vavilov and the 120th anniversary of the department of Soil Science of the Kharkiv National Agrarian University named after V.V. Dokuchaev and proposed to hold in Ukraine.

We hope that the Assembly also will approve the other activities proposed to worthy celebration of this event at the State level, as we have every reason to equate V.V. Dokuchaev made for to a prominent Russian reformer P.A. Stolypin, but only in the organization of scientific support of domestic agriculture.

Many works of various kinds are written about V.V. Dokuchaev, his biography, scientific and social activities. But, in our opinion, if we disregard the section 2 of the unique edition of I.V. Ivanov "History of Russian soil science: the development of ideas, differentiation, institutitsionalization" (2003) [30], the best or reference should be considered a scientific publication of S.V. Zonn dated 1991, in a series of USSR Academy of Sciences "Scientific Bibliographic Literature" edited by Academician E.M. Mishustin [31].

I would like to complete by the statement of Sergei Vladimirovich Zonn, which fully meet the main gist, why do we celebrate the 130th anniversary of the publication of the book of V.V. Dokuchaev «Russian Chernozem»: "V.V. Dokuchaev will forever be a shining star in the galaxy of the great Russian scientists of late XIX and early twentieth century: Mendeleev, Timiriazev, Vernadsky, and many others" [31, p. 200]. It could not be in a different way in the case of a typical intellectual, Democrat-man of the sixties of the XIX century with its motto: "Scientific sowing will rise for the people's harvest", "Objectives of science are foresight an ultimate goal is benefit" and "Working for science, writing for the people". It seems that for us, everyone in the hall, if we really are anxious for the future of science as a component of national culture, the principles of the founder of the agricultural experimental work should be the basis of all actions for the further development and prosperity, no matter what the any reformations, and optimizations etc. V.V. Dokuchaev oneself as far back as in 1881 prophetically claimed that "grace" will come "... only when in our agricultural sector reform happen deeper, covering the entire structure of it when ... our agricultural business will be organized on a regular basis of agricultural and economic knowledge, and the capital and labor ones" [32]. Finally, completely unknown when it was harder: when V.V. Dokuchaev all created, or today, when we in the first time in the history of our society, not through a jubilee of individual institution or branch academy officially pay tribute to its creator and to the affair, which he introduced to us all in the form of genetic soil science and agricultural experimental work as a field of knowledge.

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