

## REVIEW

on a monograph

**KOVALENKO N. P. BECOMING AND DEVELOPMENT OF  
SCIENTIFICALLY-ORGANIZATIONAL BASES OF APPLICATION OF  
HOME CROP ROTATIONS IN SYSTEMS OF AGRICULTURE (THE  
SECOND HALF OF XIX – BEGINNING OF XXI CENTURY):  
MONOGRAPH / N. P. Kovalenko [after the scientific release of  
V. A. Vergunov]. – K. : LTD «Nilan-LTD», 2014. – 490 s.**

As historical experience proves, without the due of the research and educational providing further development of agrarian industry is impossible, as a guarantor of food safety and stability of pertaining to national economy complex of our country. On internal and external markets the further increase of culture of conduct of home agriculture, that foresees introduction in practice of measures that present him scientifically reasonable system, continues the effective lever of providing of competitiveness to remain. Among them historically an important place belongs to deployment of scientifically reasonable crop rotations that are the basic and irreplaceable link of agriculture and occupy the special place after various favourable influence on fertility of soil and basic – the productivity and quality of agricultural cultures.

A crop rotation provides effective development of corresponding technologies of growing of agricultural cultures taking into account their cross-coupling, and also then actions of every agrotechnical measure that is used at growing of previous cultures. That is why the increase of culture of conduct of agriculture can be provided only in case of combination of the mastered scientifically reasonable crop rotations, that answer certain ground-climatic and economic terms, and specialization of agricultural production.

The monograph of N. P. Kovalenko is offered to the reader is the first in Ukraine edition that recreates history of development of scientifically-organizational bases of application of home crop rotations in the systems of agriculture during the protracted period: beginning from the second half of XIX – to beginning of XXI of century from the point of view of his scientific providing. By an author generalized and in theory the important constituent of national history of agrarian science is reasonable on the basis of systematization of scientific knowledge about an optimal duty, satiation and correlation of agricultural cultures in crop rotations, why the done analysis of payment of higher educational establishments, research establishments, scientific schools and centers and individuals promoted.

A monograph consists of entry, 6 divisions, conclusions and recommendations, 18 additions, nominal and in-thematic pointers. The list of the used sources unites 1080 names.

The first division of monograph is sanctified to the detailed illumination of historiography of problem, analysis of a spring base and ground of theoretic-

methodological principles of research. On the basis of analysis of historical labours of research problem it is possible to assert about her insufficient illumination. Integral scientifically-historical generalization of dynamics of scientific directions, payment of branch higher educational establishments and research establishments, scientific schools and centers is absent in development of scientifically-organizational bases of application of home crop rotations. The scientific achievements of many home scientists are not intelligent properly, not outlined ways of the use of their acquisitions on the modern stage of development of industry of agriculture, that predetermines actuality of the research carried out in a monograph.

Considerable array of a spring material, collected N. P. Kovalenko, counts 409 businesses 96 descriptions 50 funds 6 archives of Ukraine: the Central record office of higher organs of power and management of Ukraine, Central record office of public associations, Central record historical office of Ukraine, Record office of the Kyiv area, Record office Kyiv, Scientific archive of NSC «Institute of agriculture of NAAS». The marked materials are clearly structured and logically well-organized in accordance with the put tasks of research. Orders, orders, memorandums, circulars, directive folias, reports, reports, protocols, production plans, certificates, statistical information of profile departments, gave an opportunity to the author to discover and inculcate in a scientific appeal materials are unknown before about the improvement of scientific bases of application of different rotary crop rotations. It was assisted also by wide research work of branch higher educational establishments and research establishments in the different ground-climatic zones of our country.

The presence of valuable methodological tool, critically-objective analysis and synthesis of different plans sources, assisted the recreation of the real facts of research period, account and effective use of creative achievements of home scientists in industry of agriculture, to the complete and sound working of the archived materials.

In the second division author comprehensively analysed the historical features of origin and becoming of scientific bases of crop rotations in the systems of agriculture. It is marked by her, that the process of origin of knowledge about the duty of cultures in crop rotations has centuries-old history, that is based on folk agronomics, natural, humanitarian and economic sciences. In the second half of XIX – at the beginning XX of century of becoming of scientifically reasonable crop rotations took place in accordance with development of productive forces of society, him socio-economic features and scientific and technical progress. Development of crop rotations took place after intensity of production: from primitive to extensive, transitional and intensive. On the method of proceeding in fertility of soil, as well as the systems of agriculture, crop rotation classified on a dinking-fires, earthens, grain-growing-steams, pascuals, grain-growing-grass, improved grain-growings, replacement of plants, siderats.

The third division of monograph is base on selection of separate sentinel structures, where development of scientifically-organizational bases of application of home crop rotations takes place on the basis of account of socio-economic,

socio-political, scientific, theoretic-methodological, scientifically-organizational and technological factors. An author marks, that in 20th of XX of century of reformation of agriculture of Ukraine according to the directives of leading organs assisted distribution of multifold crop rotations. Reduction of area of arable soils took place with the imperfect three-field crop rotations due to their replacement rational. The system of application black is created and busy steams in crop rotations for droughty terms, theoretical soil of development of scientific bases of application of high-performance public, peasant and collective crop rotations of different specialization. In 1930–1955 the network of branch higher educational establishments and research establishments is organized for establishment of theoretical and methodological bases of crop rotations in the different ground-climatic terms of country.

Researches of N. P. Kovalenko ground to assert that in a period intensification of crop rotations on soil of zonal specialization (1956–1990) takes place further expansion and organization of network of branch higher educational establishments and research establishments. Their even geographical location overcame scientific researches of crop rotations all zones of country. As marked author, in this period complex classification of crop rotations is worked out on types and kinds, that exists to this day. Classification of predecessors of agricultural cultures is carried out on four groups: the best, possible, conditionally possible, impermissible; the effective periods of return of agricultural cultures are certain in crop rotations for different ground-climatic terms.

An author marks, that in the years of state independence of Ukraine the further improvement of network of branch research establishments took place by creation of powerful scientifically-methodical centers in industry of agriculture, increase of level of scientific and methodical works in relation to rationalization and increase of efficiency of growing of agricultural cultures in crop rotations. Research of complex action and cooperation of basic factors of agriculture broadened – crop rotations, to till of soil and fertilizer on fertility of soil, productivity of cultures, productivity, economic and power efficiency of crop rotations. In this period the Ukrainian scientists are improve classification of crop rotations on types, kinds and specialization, the ball estimation of efficiency of predecessors and periods of return is worked out in connection with the action of factors of intensification, found out efficiency of basic factors of agriculture, weather terms and their influence on the productivity of cultures, impurit of sowing, damage illnesses, quality of products, state of agrophysics, agrochemical and biological indexes of fertility of soil.

An evolution over of methodological bases of rational researches of crop rotations is brought in the fourth division of monograph, as groupments of agricultural cultures. The basic method of research is worked out in agriculture is experimental experience, that evolved from laboratory, vegetation, lysimetry – to the field. An author marks important rules that it follows to adhere to at implementation of researches of crop rotations. The requirements of expediency, typicalness and exactness of the field experience belong to them; to principle of only abolition between variants; to the fitness of terms for implementation of

experience; possibilities of recreation of results of researches are at equal terms and methodology; providing of introduction of the additional experienced and control variants; implementation of researches is with the districted and perspective sorts and hybrids; realization of account of concomitant supervisions; to the presence of necessary documentation; there is determination of interdependence and interconditionality of watching agricultural cultures in crop rotations.

An author is mark an important value in methodology of the field experience of crop rotations, that influences on diminishing of errors, presence of her basic elements: amounts of variants in the chart of experience, area of the experienced areas and defences zonal, form of the experienced areas and their orientation on locality, reiteration of experience, placing of variants and reiterations in experience. Effective combination of all elements of methodology provides maximal exactness and typicalness of experience. It is set that the basic task of methodology of experiments from determination of scientifically reasonable crop rotations is development of the program of researches, that consists of aggregate of methods of expedient implementation of her stages: planning of experiment, implementation of the field experiments and complex of accounts and supervisions, analysis and generalization of the obtained data.

A fifth division is sanctified to the achievements and works of scientific schools and centers in relation to the theoretic-methodological monitoring of home groupments of agricultural cultures. It is distinguished an author to Dnipropetrovsk, Zhytomyr, Kyiv, Lviv, Myronivka, Odesa, Poltava, Kharkiv, Kherson, Uman scientific schools; pay attention Bila Tserkva, Vinnytsya, Kyiv, Luhansk, Podilsk to the scientific centers from the improvement of crop rotations in the systems of agriculture of different ground-climatic terms of Steppe, Forest-steppe and Polesye of Ukraine. The departments of branch higher educational establishments and laboratories of research institutes, that played the role of leading subdivisions from piling up and distribution of scientific knowledge in industry of agriculture, became the basic cells of their creation. Genesis of basic scientific theories and conceptions, traditions of scientific work, succession of generations, is clearly traced in their activity.

As presented in a monograph, acquisitions of scientists in relation to establishment of optimal duty, placing and correlation of agricultural cultures in crop rotations in combination with the newest agrarian-technological measures are considerable scientific work of the Ukrainian association, certify her capacity for self-realization in the best traditions of outer scientifically-informative space. They present considerable theoretical and methodological basis for working of modern strategy of further development of agriculture in Ukraine.

Solution of problem of optimization of land-tenure, that foresees the construction of scientifically reasonable crop rotations with application of worked out the author of quality estimation of efficiency of predecessors and periods of return of agricultural cultures into previous place of growing, establishment of dependence between cultures and their predecessors, is offered in a sixth division. N. P. Kovalenko offered to applying in industry the effective structure of sowing

areas and scientifically reasonable crop rotations for the economies of different specialization, adapted to the corresponding ground-climatic and economic terms of Ukraine, worked out by her: South Steppe, North and Central Steppe, different terms of moistening of Forest-steppe (insufficient, unsteady, sufficient), Polesye, Before Carpathians. By her certainly the best predecessors for vegetable cultures in crop rotations for the terms of Steppe, Forest-steppe and Polesye of Ukraine.

To indisputable advantages of monograph it follows to take the offered divisions into periods improvements of branch scientifically-educational and research branch institutes, that extended effective searching activity from research of crop rotations in different ground-climatic terms. It is set an author, that by long-term researches, in the first turn branch higher educational establishments and research establishments, the row of fundamental problems of theory and practice of application of crop rotations is decided in the separate ground-climatic zones of Ukraine, namely: place, duration of growing, compatibility and periods of return of certain cultures in crop rotations taking into account the requirements of intensive technologies, increase of production of plant-grower goods; role black and busy steams during intensification of agriculture; degree of satiation of crop rotations by leading cultures in the economies of different productive direction and others like that.

To the positive aspects of monograph it follows to take the presence of portraits of prominent figures in industry of agriculture, namely S. M. Bogdanov (1859–1920), A. T. Bolotov (1738–1833), P. V. Budrin (1857–1939), O. S. Iermolov (1846–1910), A. Ie. Zaikevich (1842–1931), O. O. Izmailskiy (1851–1914), S. P. Kuljynskiy (1880–1947), O. P. Ludogovskiy (1840–1882), M. G. Pavlov (1793–1840), B. M. Rojestvenskiy (1874–1943), V. G. Rotmistrov (1866–1941), V. I. Sazanov (1879–1967), O. I. Skvortsov (1848–1914), A. G. Ternychenko (1882–1927), Ie. H. Chikalenko (1861–1929) but other scientists and practical farmers-workers that perfected theoretical and methodological principles of duty of agricultural cultures in crop rotations. Their names the present generation of scientists-agrarians is proud of.

Important is successful and rational application by the author of tables, that represent and complement text such with a plot components as sowing areas, structure of sowing areas, productivity, production of goods of basic agricultural cultures in the economies of Ukraine of all patterns of ownership.

Conclusions and to recommending a production, an author ends scientific work that, is argued and logical. They will have a certain influence on further development of scientifically-organizational bases of home crop rotations, introduction of that will provide an increase and stabilizing of production of high-quality goods of plant-grower and stock-raising on condition of maintenance of the ecological state of environment, increase of level of fertility of soil and economic efficiency.

Summarizing, it should be noted that the offered monograph of N. P. Kovalenko «Becoming and development of scientifically-organizational bases of application of home crop rotations in the systems of agriculture (the second half of XIX is beginning of XXI of century) is sound and independent

scientific research that is based on a ponderable spring base and exposes ways for the creative searches of researchers in industry of history of scitech. Theoretical and methodological works, conclusions and to recommending a production, the documents and materials presented in a monograph inculcated to the scientific appeal can be used by scientists and specialists, teachers and students of higher educational establishments of agrarian profile of II–IV of levels of accreditation, as the marked labour notably extends scientific knowledge about the range of problems of research and is considerable work in modern historical science.

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