AGROECOLOGY: CONCEPTUAL PRINCIPLES AND WORLD TENDENCIES OF SCIENTIFIC RESEARCHES

The main directions of scientific researches and conceptual basis of agroecology science are presented. Attention is focused on the evolution of the concept of "agroecology". The importance of agroecology science in the world scientific community is highlighted. The results of the study of agroecology science by domestic scientists are submitted. The expediency of further studies and researches of the main aspects of agroecology in the context of sustainable development is considered.

Keywords: agroecology, agrosphere, sustainable development, world experience.

Actuality of the theme of research. The negative tendency of environmental degradation in the agrosphere led to the emergence of new independent science – agroecology. Today the role of this science in solving the problems of sustainable development has key aspects, because in the today's realities there is worsening of socioeconomic and political situation in Ukraine that negatively affects on the ecological condition of agrosphere [1].

In the world scientific community a concept of "agroecology" has becoming increasingly popular and is a topical issue of scientific discussions. For example, in France 2015 year is announced a year of agroecology. Here agroecology is officially ratified by the French legislation, combining economic, environmental and social efficiency of agriculture activities and also reducing the consumption of energy, water, fertilizers, pesticides and veterinary medicine, and is guided by the motto "with the natural mechanisms rather than against them".

The new project of the EU concerning agroecological issues – ARC2020 was set up in 2010 ahead of the latest reform of the Common Agricultural Policy (CAP) in order to: give civil society a strong voice in the current reform debate, prepare common actions across European borders and mobilise individuals and organisations beyond traditional stakeholder interests. In other words, ARC2020 is a multi-stakeholder platform that has involved over 150 civil society organisations all working on issues affected by the EU’s CAP [2]. So this project aims at appropriate measures of natural resources management and rural development. Project measurements spread on EU countries and in each country is used an individual approach and relevant instruments of influence and public policy.

Analysis of recent research and publications. An important contribution to the development of agroecology made such foreign scientists: Bensin B.M., Gliessman S.R., Warner K.D., Wezel A., Monique Axelos, Michel Mench, Jean Tirole, Oliver Moore, Ewa Tendziagolska and national scientists – Sozinov O.O., Furdychko O.I., Popova O.L., Chernikov V.A. etc.

The aim of research is an analysis of the main aspects of scientific research in agroecology.
To the opinion of prominent Ukrainian scientist, academician of the National Academy of Sciences and National Academy of Agrarian Sciences Sozinov O., agroecology is a science that aims to form a new philosophy of agrosphere. In this instance, this science not only decides problems of agricultural production and environmental preservation but also creates conditions for better life for the next generations and revival of traditional spiritual values of the Ukrainian village [4].

O. Sozinov is also a founder of the "agosphere" concept in Ukrainian scientific space and his researches focuses on the fact that modern agosphere is not only one of the many economic sectors, but also a part of the biosphere with its inherent patterns of energy and matter circulation and specific biota where human actions have a significantly greater impact than in the global biosphere on the Earth. In view of this, agosphere simultaneously is natural and social category and occupies about 70 % of the territory of Ukraine. An integral component of agosphere is rural area that in recent years is relevant theme and subject of scientific research [5].

According to the opinion of Ukrainian researcher of the concept "agosphere" Popova O.L., she points out that "application of the term "agosphere" in economic science is caused by awareness of multifunctional role of agriculture in society, changing of principles of this industry development in the context of sustainable – socially, economically and environmentally balance progress. As a result, agosphere become a voice of agriculture functioning in accordance with modern requirements to this socially significant industry" [6].

National sciences [7, C. 6] sum up that agroecological research is a special synthesis of environmentology (environment science) and ecosozology (conservation science). Agroecology serves not only a sectoral of agricultural science which investigates agosphere for the main needs of humanity but also studies general agri-environmental problems connected with nature conservation as an important component of sustainable development of environment.

In Ukraine agroecology (agricultural ecology) is accepted to be considered in the following aspects:

- independent branch of knowledge and already formed direction of ascientific researches which began from applied agriculture and ecology; studies the influence of environmental factors on productivity of cultivated plants, as well as the structure and dynamics of communities of organisms that exist on agricultural land;
- scientific discipline about agroecosis which considers type or crop variety to be a central object by the sake of which agroecosystems are created;
- section of ecology that studies autoecology of agricultural plants and animals as well as cultures of ecosystems;
- section of ecology that examines the relationship between agricultural plants and animals with the environment.

In the "Guide directory of Agroecology and Environmental Management" established by the scientific staff of the Institute of Agroecology and Environmental Management of NAAS is submitted the following definition. Agroecology – a science that studies the possibility of rational use of agricultural land for obtaining crop and livestock products with a simultaneous preservation of natural resources (soils, natural water, air, etc.), biodiversity and habitat protection of human and agricultural production from pollution. As a section of ecology, agroecology was formed in the second half of the 20th century. Due to the sharp deterioration of the environmental situation in agosphere, agroecology especially have been developing rapidly during the past two decades. By the way, ideas towards conservation of agricultural resources were actual even in the ancient times. Bolotov A.T. and Williams V.R. made an important contribution for the development of modern agroecology [8, C. 7].

In order to speed up the European integration processes in Ukraine, the role of agroecological science is very important. Based on the research results [9, C. 17], the main five tasks of scientific researches in agroecology were marked, namely: environmental assessment and regulation of human and technogenic impact on natural resources agosphere; ecological condition and optimization of the structure components of agrosphere; basis of environmental safety and agriculture; agro-ecological monitoring and scientific basis of environmental prediction of agrosphere; adaptation of agricultural production to the predictable climate changes.

Conclusions and recommendations for further researches. Today agroecology is an important area of scientific researches and topical issue of scientific debate. In the context of world experience it was found that the concept of agroecology has a long history of evolution and is now considered in the following three areas: science, environmental movement and agricultural practice. It is advisable to note that a significant contribution to agroecology science have also made Ukrainian scientists.

Література