

## THE ROLE OF AGRICULTURAL SCIENCES IN THE SUSTAINABLE DEVELOPMENT OF AGRICULTURE

Agricultural science is a branch of knowledge that studies the processes of growing plants and animals in agriculture. This branch of science includes the study of crops, soils, climate, tillage methods, animal husbandry and other aspects related to agriculture.

The study of agricultural sciences helps agricultural enterprises to increase productivity, create more resistant types of crops to harmful factors and improve the quality of products. This branch of knowledge is important for providing food for the population and development of rural areas.

Agriculture has always been an important part of human life. Its development took place over thousands of years and was full of interesting events and achievements. From the initial methods of growing plants and animals to the introduction of the latest technologies, agricultural sciences have come a long way.

Since the Neolithic Age, when people began to move from hunting and gathering to a sedentary lifestyle, agriculture has undergone many changes and improvements. Inventions in the field of tools, the use of animals for work, the introduction of irrigation and the improvement of varieties of cultivated plants – all these aspects make up the history of the development of agricultural sciences.

### **Main fields of research:**

- Genetic technologies in crop and livestock breeding aimed at improving varieties and breeds;
- Environmental sustainability in agriculture: methods of combating erosion, soil and water pollution;
- Innovative technologies for growing and storing agricultural products, including the use of greenhouses and automation systems.

Agricultural sciences study a wide range of fields, including the use of the latest technologies, the development of resistant varieties of crops, and increasing the productivity of animal husbandry. Genetic research helps in the creation of hybrid varieties with high resistance to pests and diseases, as this is critical for maintaining crop yields and ensuring food security. The fight against erosion and environmental pollution are also priority areas of research that require the development and implementation of ecological technologies and methods.

Agriculture has a huge impact on the economy, social development and the environment. The availability of modern research in this field allows reducing the negative impact on the environment by implementing sustainable methods of farming. In addition, a high level of technology in agriculture can

have a positive effect on improving the quality of products and ensuring food security.

Also, an important component of the influence of agriculture is ensuring the socio-economic development of rural areas. The availability of productive and sustainable agriculture contributes to the support of livelihoods and development of rural communities. This influence is very important for ensuring sustainable development in the regional plan.

Modern achievements in agriculture include the introduction of the latest technologies and innovative methods in production. For example, it can be the application of modern irrigation systems and drones for crop monitoring. Such technologies help to increase productivity and reduce production costs.

In addition, a major breakthrough in the field of genetic modification of plants and animals allows obtaining more productive varieties and dairy products with a high content of useful substances. Innovative methods of soil cultivation also help to increase the yield, and the effective use of fertilizers allows to preserve the fertility of the soil.

In particular, modern science in the field of agriculture studies and implements the principles of agroecology, which contribute to the balanced use of natural resources and reducing the negative impact on the environment.

#### **Problems and challenges:**

Land degradation: Continuous use of agricultural land can cause a decrease in soil fertility and loss of the fertile layer.

Water pollution: The use of chemical fertilizers and pesticides can lead to groundwater pollution, which threatens the quality of drinking water.

Climate change: The presence of extreme weather conditions and changes in rainfall patterns can affect crop productivity and yield.

#### **Development prospects:**

1. **Technology development.** In the future, widespread use of modern technologies is expected in agriculture. The introduction of robotics, drones and automated systems will help increase production efficiency and diversify methods of work in the field.

2. **Environmentally friendly production.** The development of agriculture should be aimed at preserving the environment and reducing the negative impact on nature. The use of organic fertilizers, alternative energy sources and pest control methods is a mandatory step in the future.

3. **Global cooperation.** In connection with the growth of the world population and climate changes, cooperation between countries in the field of agriculture will become even more important. The exchange of experience, technologies and plant varieties will increase the productivity and sustainability of agricultural crops.

Agricultural sciences play an integral role in the sustainable development of agriculture. Their impact on agriculture, modern achievements and development prospects testify to the importance of these studies. Thanks to

agricultural sciences, it is possible to effectively solve problems and challenges that arise in the field of agriculture.

Educational programs and scientific institutions are actively developing, contributing to the training of highly qualified specialists and conducting innovative research. Thanks to this, agriculture has the opportunity to adapt to global changes and ensure a sustainable supply of food for the population.

In conclusion, it should be noted that agricultural sciences play a key role in ensuring sustainable development and solving current problems in the field of agriculture. Their influence on the economy, ecology and social sphere of the village is extremely important, which emphasizes the need for further development of this field of science.

### References

1. [https://agrovoly.gov.ua/sites/default/files/attachments/monografiya\\_strategiya\\_silski\\_terytoryi\\_volyn\\_2018.pdf](https://agrovoly.gov.ua/sites/default/files/attachments/monografiya_strategiya_silski_terytoryi_volyn_2018.pdf)
2. <https://niss.gov.ua/doslidzhennya/regionalniy-rozvitok/organizaciyno-ekonomichni-mekhanizmi-innovaciynogo-rozvitku>
3. [https://protocol.ua/ua/pro\\_derjavnu\\_pidtrimku\\_silskogo\\_gospodarstva\\_ukraini\\_stattya\\_17\\_2/](https://protocol.ua/ua/pro_derjavnu_pidtrimku_silskogo_gospodarstva_ukraini_stattya_17_2/)
4. <https://uk.wikipedia.org/wiki/%D0%90%D0%B3%D1%80%D0%BE%D0%BD%D0%BE%D0%BC%D1%96%D1%8F>

*Данило Щоголь*

## **ВОЛОНТЕРСТВО ТА СОЦІАЛЬНА РОБОТА: СПІЛЬНІ Й ВІДМІННІ РИСИ ДВОХ СФЕР ДІЯЛЬНОСТІ**

Волонтерський рух та участь в ньому стало невіддільною частиною життя кожного свідомого українця та українки в умовах сучасних реалій. Особливого піднесення це явище набуло двічі: після початку російської агресії та окупації АР Крим у 2014 році та після початку широкомасштабного вторгнення – у 2022 році.

Зауважимо, що В. Голуб розглядає історію волонтерства в Україні у два періоди: «Передісторичний», коли воно формувалося, і «Історичний», коли стало важливим суспільним явищем. Різниця між ними полягає в інституціоналізації волонтерства, що стало актуальним після незалежності та обрання демократичного шляху. Стан волонтерства українських державних відносин залежить від суспільно-політичної ситуації та рівня розвитку волонтерства світової спільноти. Розуміння основних принципів волонтерства у світі може допомогти модернізувати національну систему шляхом впровадження відповідних елементів західних аналогів [4, с. 28].

В контексті різних досліджень та аналізу теоретичної бази у питаннях волонтерства та соціальної роботи часто можна помітити, що