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## MODERN INFORMATION TECHNOLOGIES IN AGRICULTURE

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The modern agricultural and industrial complex is an important part of the economy of Ukraine. Information technology has fundamentally changed the concept of agriculture, making it more profitable, efficient, safe and simple. Today, a lot of attention is paid to the issue of effective use of geoinformation technologies in land resource management, mapping of the state of land resource usage. To solve the issue of optimization and rational use of the land, it is necessary to analyze the data in several directions at the same time.

To obtain research results, it is necessary to collect information, process it and present it in quality shape - implement the latest information processes, the complex of which can be defined as information technology (IT). Modern information technologies process information with the help of computers, using various software tools, databases, computer networks for fast transmission of information over long distances. Information technology is a tool used for increasing profits and improving labor productivity [1].

The most popular modern technologies in agriculture are GIS and GPS, satellite imagery, drones, online data, dataset fusion, etc. An important feature of modern innovative technology in agriculture for monitoring various indicators is usage of application programs. Scouting application program uses digital field maps. Using this program, farmers assign scouts to do a series of tasks that check problem areas on the spot. GIS maps are becoming an incredibly useful tool in terms of precision agriculture. Using geoinformation technologies, it is possible to map current and future changes in rainfall, temperature, plant productivity, etc.

Modern topography is issued in electronic form, as a rule - it is DWG format. If you correctly open such a file in the ArchiCAD application program and adjust the scale, then the horizontal relief can be created very quickly and quite accurately [2]. The three-dimensional design method allows you to create a visual model, taking into account landscape features. This will significantly reduce the time to agree on the issues that arose during the laying of engineering communications and networks.

It is most efficient to use satellites and drones to collect valuable data about vegetation, soil conditions, weather and land relief. Satellite data makes it possible to forecast plant yields, as well as monitor fields in almost real time. With the help of drones, it is possible to determine with high accuracy the biomass of the crop, the height of plants, the presence of weeds and water saturation in certain areas of the field. They provide even more accurate data with a higher resolution than satellites. This saves time for making the necessary reliable decisions and preventive measures. With the introduction of this innovative communication tools, the problem of goals, content and technology of professional training of specialists in the agricultural sector of the country is solved.

### **References.**

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