

POSSIBILITIES OF ELECTRONIC TECHNOLOGIES IN SOLVING AGRICULTURAL ISSUES

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<https://doi.org/10.5281/zenodo.10381289>

Abstract. *In this article, Spreadsheets are a powerful tool used to solve computational and economic problems in various areas of life, including the rapid development of rapidly changing problems, such as working with bank documents. written about.*

Keywords: *information, network, table, electronic magazine, national information, excel, panel, mouse.*

Today, human life cannot be imagined without information technologies. The computer facilitates work, provides the ability to quickly and qualitatively prepare new documents and various texts, exchange information through the network, quickly perform complex calculations and model the production process. Therefore, every person should have sufficient knowledge and skills in information technologies, no matter what field he is an expert in. When we talk about spreadsheets, we will first of all pay attention to the explanation of this word.

197 of the Cabinet of Ministers of the Republic of Uzbekistan dated April 19, 2022 "On the measures to prepare and implement registration works in the field of agriculture as a test in the Republic of Uzbekistan" Decision No. was adopted. In this decision, the work carried out in the field of agriculture and the important aspects of electronic tables during the information period as a novelty of today are also paid attention to.

Electronic spreadsheets are a very powerful tool used in solving calculation and economic problems in various spheres of life, including the development of fast-changing problems, such as working with bank documents.

The first spreadsheet program was created in 1979 by Software Artk under the name of Wikicalc (Vikiblencalculator - visible calculator). This program was developed for the Apple II computer, and in many ways it has proven to be popular in the market. With the appearance of the IBM PC in 1981, spreadsheets for this type of computer began to be developed. New versions of the Wikicalc and Kupercalc programs appeared, while the first application program from Microsoft - Multiplan appeared, which became the free star of the new generation of spreadsheets.

The next step in the development of this electronic table was the appearance of graphic modes, which were placed for more visual representation of the results of calculations. 1983 LOTUS 1-2-3 packages were released and became more successful than expected. But in 1997, Microsoft introduced Excel, which is still the most powerful program in its class.

This program not only allows you to process and save arbitrary information (texts, numbers, dates, etc.), but also allows you to decorate, display and print the result of your work. Editing tools in Win Word can be used for this. It is not difficult to master Excel's public capabilities, but due to the complexity of the program and the wide range of possibilities, it may take a long time to get to know them, so it is possible to transfer new and new capabilities in the process of work.

Worksheet. Basic methods and description of working with the worksheet.

1. Worksheet - designed for storing and processing information, is a set of cells attached to columns and rows. Each cell has its own worksheet with names found by crossing columns and rows.

1. Working with an optional object of Excel is done as follows:

First, the cell is selected, then to work with this cell, you can save the workbook using the button on the toolbar or by pressing Ctrl+S keys together.

If the book has not been saved, the "Save" dialog menu will appear. In the file name field, enter the name of your desktop or leave the one recommended by the program. Click OK. If the "Book" has been saved before, the dialog box will not appear. To save with a different name, press Ctrl+K, type the file name, and click OK.

Close the workbook - "Close" command from the "File" menu. If several workbooks are opened, then the command "Close all" is issued in the file menu. The workbook consists of sheets.

The workbook consists of sheets from 1 to 255. When a new workbook is opened, there will be 16 sheets known as Sheet 1, Sheet 2,... A workbook can have the following basic sheet views:

- A) worksheet;
- B) diagram sheet;
- C) VISUAL BASIC type module sheet;
- D) Communication sheet.

The sheet names appear in the window at the bottom of the workbook window. Moving from sheet to sheet is performed by placing the mouse cursor on the name of the desired sheet and clicking the left button. In the tab of the active sheet, the name of the sheet is distinguished by a semi-bold font.

Ways to work with worksheets:

A) Placement of sheet 1. Worksheet command in the "Placement" menu Shift+F1 keys.

B) Delete a sheet - 1 - select a sheet or sheets, press SHIFT+ on the sheet to be deleted, if there are non-adjacent sheets, press Ctrl+ on the sheets to be deleted. Delete sheet command in the "Edit" menu.

C) Renaming sheets.

Select the "Sheet" command in the "Format" menu, then rename it, write a new name in the sheet name field, double-click the window with the "Mouse" button, type a new name and press ENTER. EXCEL Workspace description. Worker the concept of a workbook. The main methods of working with a workbook. The main elements of the workplace. "Title bar" - consists of the name of the document, the first panel from the top. "Title bar" contains the document's system menu button and its control buttons.

Menubar - the second row consists of a list of menus, each of which has its own menu. Selecting a menu - hover the mouse cursor over the name of the menu in the menu bar and press the left button. Description of the functions of each menu: "File" menu - to open, open, save and print documents, "Udalit cell" command is used to delete the desired cell.

"Videlit stroku" - stolbets, tablitsu, commands respectively define row, column, table. Autofomat - is used for automatic formatting of table cells. "Preobrazovat v tablitsu" - selects the appearance of the table. "Sorting" - allows you to sort by the desired column. "Formula" - allows you to perform mathematical operations on the table. "Razbit tablitsu" - divides the table. "Otobrayat setku" - allows creating a grid in the table.

"Edit" menu - commands to ignore, delete, copy, search, replace the range; "Transfer" menu - display documents, adjust the tool bar and scale of the document image; "Installation" menu - placing grids, sheets, graphic images, and diagrams in the document; "Format" menu - change the appearance of the selected object;

"Service" menu - change the parameters of the Excel tool, analysis of the connection of document data; "Data" menu - commands for processing information on the page; "Window" menu - sorting of windows of open documents and moving the window to the document; "?" menu - get information about working with the Excel program;

Standard 25.08.978 Toolbar - Contains most of Excel's most important tools. Loading optional equipment is carried out by clicking the left mouse button on the equipment icon;

The Formatting toolbar consists of toolbars that allow you to change the font style, size, and font type. Change the number of panels:

Formula panel - extracting the information contained in the selected cell on the screen; The worksheet of the document is a set of cells attached to columns and rows; Transfer parts of document sheets between worksheets; Heading of rows and columns - extracts the headings of separated columns and rows of worksheets;

The status bar is the bottom bar of the screen that shows the current location, and when a menu or command is selected, the status bar displays information about what that command or menu does.

At the same time, there are vertical corridors in the workplace, on which the "cursor" is placed. It serves to move the cursor up and down and to determine which part of the worksheet you are working on. Through this electronic calculation indicates the importance of knowing information technologies in agriculture.

In our republic, the work of updating or creating agricultural maps is carried out with the use of remote sensing of the earth and digital aerial photography. This is one of the important aspects of information technology.

Decree of the Republic of Uzbekistan No. ORQ-683 of April 21, 2021

The Law "On Geodesy and Cartography Activities" provides for the technical regulation of "Geodesy and Cartography" activities and the procedure for organizing work related to the field, the accuracy, tools, methods and technologies of geodesy and cartography, geodetic networks, maps and the main technical requirements for the content of atlases, digital models of the place, as well as the performance of geodetic and cartographic works and their quality were defined in the regulatory documents in the field of technical regulation of geodetic and cartographic activities. Currently, remote sensing drones have been brought to our republic by the "Cadastre Agency under the Ministry of Economy and Finance of the Republic of Uzbekistan" and the Uzdavyerloiha Institute of Scientific Inspection on the order of our government, and are being used by system organizations to perform large-scale work. The flight of unmanned aerial vehicles is carried out in accordance with the legislation in special areas for the flight of aircraft. Flight control of unmanned aerial vehicles is carried out by the State Inspection of Flight Safety Control of the Republic of Uzbekistan. The results of measuring land areas using AN-2 aircraft and unmanned aerial vehicles were compared. It turned out that if a 50-hectare land area was surveyed in 10 hours using an airplane, it was possible to obtain the necessary results by spending 2 hours on the same amount of work when using unmanned aerial vehicles. In addition, using agrodrones for crops and wind for

cotton the capabilities of spray equipment and aircraft handling were also highly rated. Currently, Phantom 4 Pro drones are used in the agriculture of our republic.


	Technical capabilities	Phantom 4 pro
	Flight distance	10 km
	Rise height	300 m
	Speed	72 km/hour
	Flying on the power of one battery	30 minutes
	Accumulator	Lipo 4S, 5870 MA/hour
	Navigation modules	GPS and Glonas

Figure 1. Phantom 4 Pro drone and technical capabilities

Based on the above features, aerial photographs were taken using a remotely controlled device for monitoring agricultural land in our Republic and updating the electronic digital map on a scale of 1:10,000.

Field research work was carried out in cooperation with the state scientific design institute "Uzdavyerloyiha" and specialists of the regional division. In addition, the obtained results were widely used in agricultural land monitoring. With the help of remotely controlled devices, a mechanism for monitoring agricultural land and creating a cartographic basis was developed.

The drone was used in the following areas:

- ❖ cartography (making and updating maps on a large scale);
- ❖ monitoring (without destroying agricultural arable land during transfer);
- ❖ close-up image (during the implementation of internal land construction works on the farm);
- ❖ Tasks performed by an unmanned aerial vehicle in agriculture:
- ❖ on-the-spot inspection and inspection of land;
- ❖ identification of lands in a severe land reclamation condition;
- ❖ carrying out agrotechnical measures in land use at the level required by law;

Drones have several advantages not only in aerial photography, but also in chemical protection of plants.

Agrodron advantages:

- ❖ the density of the field soil layer does not increase, the crop does not grow;
 - ❖ crops, branches and elements of the crop are not damaged;
 - ❖ artificial spread of crop diseases is prevented;
 - ❖ will make it easier to handle fruit trees;
 - ❖ aircraft and wind sprayers are available from the ground
- it is considered convenient for processing non-existent areas.

Selection of land from electronic digital cards, land allocation, agriculture placement of crops and their monitoring, land preparation, implementation of land cadastre works, creation of a soil map of the land, accurate location and boundaries of land areas used by land owners, land users and tenants, as well as clusters and farms It was introduced to show them, give them cadastral

numbers in the prescribed manner, show the location of infrastructures serving farms, and use them in many other directions.

The field history book is the main operating mode of the ARMA program, which provides the system with information about fields, planted crops, harvested crops, used (vnosimix) fertilizers and plant protection products. allows input. Based on the entered data, it is possible to automatically create reports in the established form, as well as view the productivity map of the farm. Field History Book includes the following functional modules:

- List of fields (spisok plot);
- Map of fields (map plot);
- Productivity map (karta urojainosti);
- Field magazine (field magazine);
- Calculation of fertilizers (raschet udobreny);
- Reports (report);
- Seasons.

The field panel is an important control element in establishing and canceling links between the field list, map objects and information modules of fields. When a field is selected in the Fields panel, field selection on the map, a graphical representation of the relationship with the field, and information about the field in the data panel will automatically appear.

Productivity map (Karta urojainosti) and field history book. In this module, the productivity of the farm is displayed graphically on the map. At the bottom of the Productivity Map module window is a functional panel. The functional panel consists of the following elements:

- list of seasons;
- legend;
- map zoom;
- zoom out of the map;
- hand instrument;
- field instrument;
- card renewal;
- activate or deactivate the main card

Legenda - the value of the yield value of the colors on the function card serves to show information about the interval. The function of the remaining elements is as discussed above.

Field journal. The field journal module provides the ability to keep a field journal book in electronic form, to express field information in an expanded form, and to compile reports in an approved form. The field log module consists of three functional blocks:

- Field history book;
- Field parameters;
- reports.

Fields panel and to use the functions, the functional panel is used.

Field history book. The field history book is in the form of a summary (agregirovannaya) of information about the work carried out in this field, the type of crop planted, the harvested crop, the fertilizers used and the means of plant protection used.

References (Spravochniki). ARMA program reference normative information is located in two modules. In the references module the following unique data are available for each farm:
Module V

Directory - soderjit unique for every household information, please see:

- List of crops (with the color displayed on the map) (spisok kultur (p nastravaemim svetom autobrazheniya kulturi na karte));
- Agricultural machines (list of agricultural machines)
- Transport (list of vehicles of the farm) (spisok transportnix sredstv khozyaystva);
- Mechanics (list of mechanics of the farm) (mechanizer (spisok mekhanizatorov khozyaystva));
- mineral fertilizers (mineralny udobrenie);
- organic fertilizers (organicheskie udobrenie);
- means of plant protection (sredstva zashchiti rastenii).

The reference consists of the following fields:

- Abbreviation (short name) (Sokrashchenie (kratkoe naimevanie));
- Name (full name) (Naimenovanie (polnoe naimenovanie));
- Note (Primechanie).

To add a new row to the reference, place the cursor at the end of the table you need to enter the information in the line. To change the data, it is necessary to place the cursor on the line to be changed and enter new data. Appearance (Veshniy vid). The Appearance section is designed to change the color of the gradient (borders), the size of the frame and the scheme of the appearance.
Import fields (Import poley)

The "Import field" section is designed to import field contours.

SHP extracts information about field contours from the file and saves it to the ARMA database.

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