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UPDATE OF AGRICULTURAL ELECTRONIC DIGITAL MAPS

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ABSTRACT
This article analyzes new ways to update agricultural electronic maps. Updating of electronic maps was approached by the space-speed method and practical experiments were conducted. The advantage of the new method of creating and updating agricultural electronic maps is that the work is delivered to the user with efficiency, low cost and speed.

KEYWORD: Electronic map, aerial speed, space speed, contour.

INTRODUCTION
One of the main tasks of annual planning of agricultural crops is to organize the efforts of all sectors of the agro-industrial complex in order to achieve sustainable growth of agricultural production, full supply of the country with food and agricultural raw materials and effective results. Planning work is carried out on electronic digital maps. To do this, electronic digital maps are required to meet the requirements of the period.

THE MAIN PART
In order to apply new technologies in updating electronic maps, reduce labor costs, dramatically increase the volume of work performed and fully provide agricultural workers with modern electronic maps (as an experiment) using the electronic map of the Shodlik massif created in 2010 and aerial photographs in 2019 the electronic map of the area was updated.
The following were identified in the experimental work.

POSITIVE RESULTS:
1. All elements of the electronic map created in 2010 (roads, canals, ditches, rivers, arable lands, forests, buildings and structures, cliffs, power lines, oil, gas, water, sewage pipes, etc.) if there is no change in use, it can be displayed on the updated electronic map without being replaced.

Fig. 1 An electronic digital map of the massif created in previous years

NEGATIVE RESULTS:

2. All elements that are not present in the electronic map created in 2010 are required to be specified on the spot.

This includes what new buildings and structures (for example, field sheds, warehouses, gas stations, shops, factories or workshops, etc.) are, what they are built for and who they serve, and their legal boundaries.

Fig. 2. Work on updating the electronic map of the Shodlik massif created in 2010 and the electronic map of the region in 2019 using cosmic velocity (Figure 2).

3. Newly constructed canals, ditches and ditches, their dimensions, direction of flow, (Fig. 3) the boundaries and terms of the lands allocated to them should be clarified on the spot.

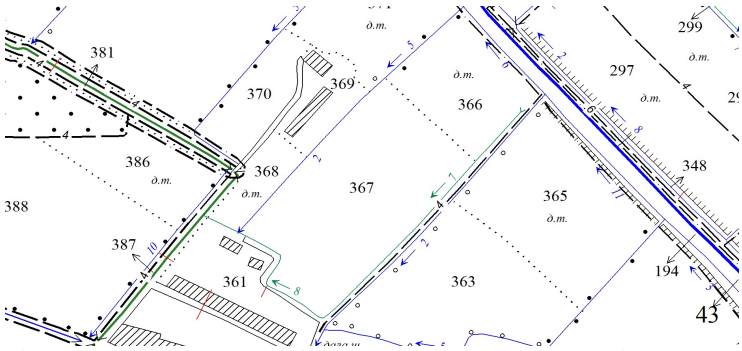

Fig. 3 Update the map of crop areas created in previous years

4. Newly constructed, underground drains can only be identified on site.

5. Newly created gardens and mulberries are not visible in the aerial photograph, and secondly, it is possible to clarify whether the garden is shown in these contours or whether the mulberry tree is in place.

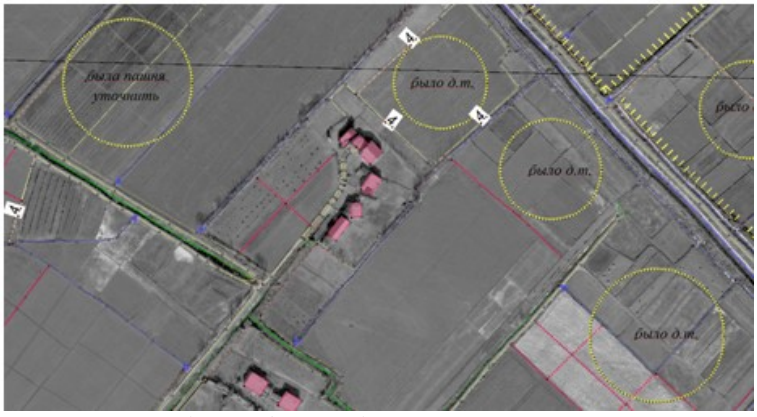

Fig. 4 Changes in crop areas

6. On the electronic map created in 2010, it is possible to identify on-site irrigation and reclamation facilities that are working and are currently out of order. For example, even though canals and ditches are visible at high speeds, are they currently leaking or not, are the canals and ditches working or damaged? this question can be answered on the spot. For example, in Nurabad district of Samarkand region ("Dustlik" massif), Nishan district of Kashkadarya region, a number of districts of Jizzakh region, irrigation is planned by means of pumps and trays, and for the last 10-15 years there are many waterless irrigation systems.

Although tray systems in these areas are clearly visible at aerial speeds, it is not possible to make it clear that they are working without going into place. Due to the requirements of the map, non-drainage irrigation systems (indicated by dots) must be indicated by the words "dried".

7. It is not possible to determine the size, ie the width, of linear objects (roads, ditches and ditches, canals, etc.) at existing aerial speeds. Typically, cosmic and aerial photographs are on a 1: 10,000 scale, and aerial photography can be magnified and measured on a computer to measure the width of canals that are 1-10 meters wide. However, aerial photography has such a negative feature that as you increase the speed, the accuracy of the speed decreases and blurs, and as a result, accurate measurements cannot be taken.

8. Due to the requirements of the map, the word "dried" must be written in the outlines of the dried gardens and orchards. It is impossible to know the garden and the trees that have dried up without leaving their place.

9. Are a number of trees planted on the edge of arable land mulberry or fruit tree? What is the area (width) they occupy? This question needs to be answered clearly because the areas occupied by these a number of trees affect the size of the cropland.

10. Lands are given to agricultural lands on the condition that no construction is carried out, and different crops are planted and used by citizens, and in aerospace they look like ordinary arable lands, (Figure 2) but in the land use type account need But this needs to be determined on the spot.

11. An electronic map created in 2010 shows a type of land that is not used for agriculture, and in 2012, another type of land (for example, a garden, arable land, field land, or arbitrarily acquired land) can be found on the spot.

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