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IMPROVING THE QUALITY OF GROUND LEVELING WORK USING A SOFTENING DISC DEVICE ON A BASE GROUND LEVELER

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Annotation. Based on the experiments carried out in this article, information on improving the ecology of the soil using a softening disc device on the base rectifier and increasing the working productivity of the rectifier is covered.

Base phrases: mechanical composition, rectifier, porosity, leveling quality, wheel, technological process, humidity, suspension, working organ (disc).

The main problem of agriculture today is high yields, with low energy consumption. The increased demand for energy means that this problem needs to be solved faster. Therefore, it is advisable to make good use of the power of the techniques, improve the travel of work and reduce as much as possible the negative effects generated from the work performed.

In the agrarian sector, the main emphasis is on improving the reclamation of land irrigated by the head of state and the development of agricultural production, which is a proud and responsible task. Because it is this direction in the economy of the Republic that ensures the cultivation of the main food products of our people, the production of the necessary products and the introduction to the international market. Recognizing the extreme importance of this task, it should be noted that,

The development of the modern agro-industry of the Republic of Uzbekistan is based on all branches of Agriculture: rental contracting, farm, farm and peasant farm associations. The current development of production in agriculture is planned on the basis of general mechanization, as well as the use of intensive and industrial methods of production. Issues of production of small-capacity energy and working machine mechanization for farms and rental contractors, import from abroad are being resolved [4].

One of the main factors in improving the reclamation of irrigated arable land in agriculture is its leveling. The yield of agricultural crops in leveled areas increases by 40 – 45 percent compared to unregulated areas, water consumption in irrigation

decreases by up to 2 times, and working conditions are improved by increasing the working performance of the next expletive agricultural techniques, and the impact on ecology is reduced [2].

It is known that the current and explutative leveling of land on irrigated arable land is annually explutated with long-base P-2.8 a, p-4, PA-3, PPA-3.1 and other rusted land levelers before planting 35...40 percent of the total land area of farms in autumn and spring in short periods [3]. Leveling of irrigated land.-it creates conditions for increasing the yield of agricultural crops, preventing labor consumption and high waste of water during the irrigation of Fields, high-quality processing between the rows and high-quality execution of harvesting by machine.

As a result of several processing and watering of the soil, various irregularities occur in the fields: during the plowing process, long egats and furrows are formed, after watering, high-low ones and residual irregularities from the previous year. In addition, in certain sections of the field, from repeated watering, the soil is observed to sit and drown. All such irregularities can be eliminated by putting into practice the current (explutative) alignment in the process of preparing the fields for planting. It is necessary to carry out the current (operational) leveling process in a short agrotechnical period. The fact that existing farms currently have few long-base rectifier machines, as well as changing the geometric shape of existing rectifier softeners, makes the current rectification difficult to complete in time.

Such a problem can be solved only if you know the way to improve the softening device of long-base ground leveling machines and increase work productivity.

Studies show that when the speed of movement is increased to 8.5 km/h, the moderate movement of the rectifier and the uniform grinding of the incisors increases the leveling level, ensuring that the ground plane is of good quality. When the speed of movement of the rectifier is increased to more than 8.5 km/h, the vibration of the car frame increases, which begins to negatively affect the quality of work of the rectifier. This situation increases the resistance of the working body to fall and rise more than normal. This causes the drag resistance to change larger. This condition leads to a large change in the size of the prism, which is pushed into the junction. As a result, the plane quality of the field is impaired so that an unevenness is generated [3]. The improvement of the softening device of tall rectifiers has been the subject of much scientific research in Central Asia in order to substantiate the technology of rational operation. It is found in scientific research that as a result of many passes of rectifiers from one place, the upper fold of the Earth becomes much denser and larger, the aggregate is reduced by the productivity of work. These faults, especially those with small contours, make this process more common.

Based on the above opinions and considerations and a number of scientific research works, it can be said that to improve the working efficiency of the long-base

rectifier and further improve the quality of its ground leveling, as well as reduce its drag resistance, it is necessary to improve the softening device.

To do this, it can be achieved by using an emollient disk device. The base rectifier is made up of a softening disc device, cutting discs, a disc mount axle, and a frame that provides it to rotate, a clutch holder, and a disc holder. The structure of this device reduces the resistance to loosening the soil layer, cuts and crush large cuts, plant root stems and cartilage. Spherical discs, mounted at a certain angle to the axis of the disc, opposite each other from equal halves, ensure the uniform spread of the soil along the width of the junction, and as a result, the quality of leveling the aggregate is improved. The quality of work increases by 10-15% compared to ordinary kovsh, and the drag resistance decreases by up to 7%. As a result of the application of this device, the economic efficiency per hectare increases by 10-15%.

A disc softener mounted on a base rectifier has the following advantages:

- there is an option to apply to different types of base rectifiers;
- the discs perform softening at the expense of the movement of the movement of the rectifier with reference to the ground in the forward movement;
- by loosening the field to the rectifier, a relatively fine-grained rectifier of leftovers and roots from certain technical crops in the Bigal prevents clogging into the hive;
- fuel consumption savings are achieved at the expense of reduced drag resistance and the number of passes;
- crush large cuts in plowed areas;
- the quality and productivity of work is high compared to existing softeners.

Specifications of the disc device:

1. Speed of movement—2.2-2.8 m / s;
2. Disc diameter - 35-45 CM;
3. Disc positioning range:
 - * horizontal-50-60 cm;
 - * vertical-5-8 cm.

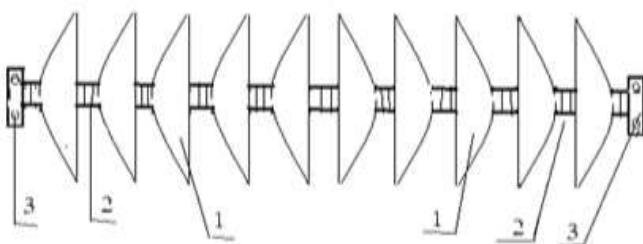
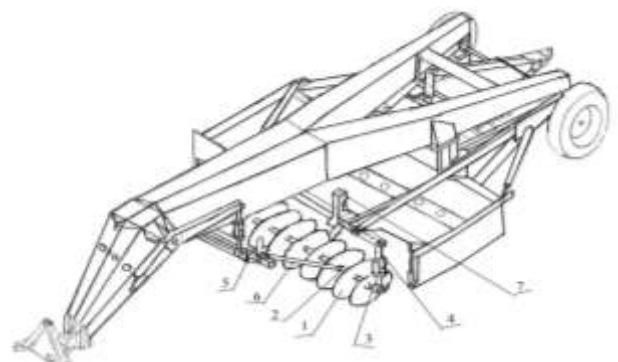


Figure 2. Softening disc mounted on base ground rectifier

Figure 1. General appearance of the device with a softening disc



The main function of the disc device is to reduce the resistance of the rectifier blade to shearing in pre-softened and large cross-sectional areas, to form the area surface plane corresponding to the agrotechnical requirement in 1-2 passes over the area surface. Qualitative leveling of areas and improvement of the soil fraction is carried out with the installation of a device with a softening disc in front of the leveler bucket. If a disc device installed on a tall Earth rectifier is applied in practice, the ecological essence and physical properties of the natural structure of the soil are improved, the fertility of the soil increases. Provides the opportunity to reduce the cost of work and leveling processes carried out in agriculture by a certain percentage, as well as the cost of products. In mechanized and improved agriculture, the quality of the work performed when leveling irrigated land is improved, the cost of irrigation is reduced. For plant development, the composition of the soil improves, increasing yields. It can be concluded that this is the result of the positive effect of the rectifier on soil ecology.

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