

### Improving the Working Efficiency of the Base Ground Rectifier in Improving the Reclamation Condition of the Lands

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#### ABSTRACT

*This article describes the results of a study on the productive use of land rectifiers in order to improve the reclamation of land in the conditions of the Bukhara region.*

One of the main factors in improving the melorative state of land areas planted in agriculture is this leveling. In the leveled field, the yield of all agricultural crops increases, the water consumption in irrigation decreases, and the working performance of further exploited agricultural techniques increases, the working conditions improve.

The main problem of Agriculture in the present time is high yield 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 cuvat of techniques, improve business travel and reduce as much as possible the negative effects generated from the work to be done. Depending on the soil zones in the conditions of the Bukhara region, the impact of the techniques on the soil was studied as much as possible on the example of the land leveling process in field conditions, and analyzes were carried out on the basis of the work process of all types of land leveling machines.

As you know, the current and operational leveling of land in the conditions of our region is held annually in a short agrotechnical period. 25 from the total land area in each farm...30%, before planting in autumn and spring, the explutation is leveled with long-base P-2.8 A, P-4, Pa-3, PPA-3.1 and other branded rectifiers. While these land rectifiers are visually simple, the performance, technologically, is very complex, and their efficiency depends on the dimensions of the area and irregularities and several other factors. In addition, they have very low maneuverability, large metal capacity, are not adapted to providing other agricultural machinery machines, and

consume a lot of power in the process of operation.

In order to substantiate the technology of rational operation of longitudinal rectifiers, a lot of scientific research has been carried out in Central Asia. This scientific investigation found that as the rectifiers pass through one place many times, the top layer of the Earth becomes much denser and harder, as a result of the work of the aggregate, the top layer of the Earth becomes much denser and harder, the productivity of the aggregate is reduced. In addition, the environment is polluted, the operating conditions of the mechanizers are aggravated. These disadvantages are almost numerous, especially on land with small contours. Inspections show that (e.g. P-4A rectifier) the workload is 350m<sup>3</sup>/ha on the first pass, while the workload after the fifth pass is 104 m<sup>3</sup>/ha. To determine the effectiveness of rectifiers based on the number of transitions from one place, the average value of the unevenness is determined. (Table 1).

### Moderate irregularities along the direction of irrigation

Mean the unevenness cost, mm	Brand of rectifiers			
	ПА-3	Д-719	П-2,8А	П-4А
To pass	8,1	137	83	118
After the transition				
First	62,5	85	62	81
Second	53	72	58	71
Third	5,3	6,9	5,9	7,3
4th	50	-	64	74
Fifth	52	-	65	71

The main drastic reduction in irregularities was almost unchanged after transitions 1 and 2, in alternating transitions. Considering the above, the number of transitions is 6...7 times 1...It is necessary to bring to 2 times. Unevenness 10...At 12 cm, we find the plot to be crossed once along both diogans. The main criteria for the effective operation of land rectifiers: the quality of work, the cost of work and the amount spent on the unit of work performed.

Longitudinal rectifiers are used for light leveling of land. These often have an unevenness length of 20...It can be used in places up to 30 meters, up to 20 cm high. In the results of scientific research, it is noted that the size of the irregularities in the Bukhara region is 15 to an average length of...30, Eni 20...The Balad of up to 40 meters is on average 10...20 cm. On small contoured plots (3...Up to 5) the average length of the irregularities is 7...11 m, the average height of the irregularities is 10...Around 15 cm. The analysis of the above irregularities shows that the irregularities on the plots with small contours in relation to the plots with medium and large contours differ in size. From this it follows that land with small contours has a higher level of flatness than middle and larger land. When we use long ground rectifiers in areas with small contours, the corners of the plots and the turns remain unaltered. Because the working length of these rectifiers is 15...16 m, turning radius 15...Up to 20 meters. Due to its low maneuverability, there is little working success. It is necessary to align the corners of the plot with the help of hands. Taking into account these as well as the scientific work and experience of specialists, it is possible to use grader rectifiers in small contoured areas, branded aggregates GN-2.8 A and GN-4A. But the base of these rectifiers is small, so the quality of work does not fully meet the requirements of agrotechnics. Therefore, we consider it effective to use small height rectifiers in areas with small contours.

For full use of irrigated areas, it is necessary to align them well. Many years of research have shown that all technological work on steep plots is carried out without quality. This negatively affects the yield of crops. Usually even small irregularities in the field cause vibrations of the working organs of the machine, which means changes in the processing depth. Under such conditions, the soil warms and moisturizes unevenly, the biological processes in it slow down,

and the development of the root system of plants slows down. In carefully leveled fields, on the contrary, the soil is moistened evenly along the entire length of the egat, at the same time. This creates conditions for timely and high-quality processing of plants. In flat fields, water consumption is 30-40% less than in uneven fields, in turn, its productivity increases by 50%. The important thing is that in flattened fields, the working performance of tractor units will also be higher. This is natural: on uneven surfaces, the tensile resistance of agricultural machines, while the mode of operation of the aggregate, is constantly changing, in which its speed of movement is unconditionally reduced, and vertical fluctuations increase. This negatively affects the details of the tractor unit. Current ground rectifiers have low efficiency (P-2.8 a, Pa-3, PPA-3.1). These rectifiers have low maneuverability, high metal consumption and low energy consumption, low work productivity. This also requires the improvement of the working organs of the rectifiers to solve the improvement of the working organs of the rectifiers to make problems. Usually the base rectifiers flatten the surface of the Earth at a depth of 4-5 cm in one pass. The Resistance will be very large in this alignment. As a result, the speed and quality of operation of the aggregate decreases, and productivity decreases.

For the resistance that forms on the aggregate blade, the Blades cut the ground floor by floor. Resistance decreases when the floor is cut from floor to floor. To soften the ground by installing additional Blades on the improved bucket, a tooth is installed on the Blades. The tooth is 2 cm long and fastened to the Blades in the form of a chess. Teeth reduce resistance to cutting the ground. The ground cutting depth of each knife is set at a certain interval of 2 cm.

This Leveler is leveled by cutting the ground to a depth of 6 cm in one pass. In this case, it is possible to increase the width of the rectifier coverage due to the reduction of resistance. The work performance in this rectifier will be 20-25% higher than in the existing rectifier.

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