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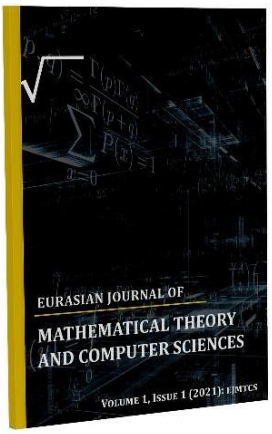

INCREASING THE EFFICIENCY OF USING THE BASE PLATE WITH A CUTTING DISK

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ABSTRACT

The article presents the results of laboratory experiments to determine the productivity and some other parameters of the disk working body, working with the scheduler bucket in order to improve the process of leveling fields that meet the agrotechnical requirements of pre-sowing background.

One of the main factors in improving the reclamation of irrigated arable land in agriculture is its leveling. The productivity of agricultural lands on leveled lands will increase by 40-45% compared to uneven lands, water consumption for irrigation will be reduced by 2 times, and in the next mechanized processes the working conditions of agricultural aggregates will increase and working conditions will improve [1]. It is known that the current and operational leveling of lands in irrigated arable lands annually 35 ... 40% of the total land area of farms in the short term before sowing in autumn and spring with long base P-2,8A, P-4, PA-3, PPA-3.1, PAU -1, PAU-4.2R, It is operatively leveled with SP-4.2 and other types of leveling devices [2]. Numerous scientific studies have been conducted in Central Asia in order to substantiate the rational processing technology of longitudinal straighteners. These scientific studies have shown that as a result of the fact that the levelers pass through the same place more than once, the top layer of soil becomes more compacted and hardened, reducing the working efficiency of the aggregate. These defects are almost common, especially in areas with small contours. Tests have shown that (e.g., P-4A leveler) the working volume is 300 m3 /ga at the first pass and 104 m3 /ga after the fifth pass [1]. To determine the effectiveness of the levelers depending on the number of passes, the average value of the inequalities was determined [2]. The main sharp decrease in notices after the 1st and 2nd transitions, the notices change less in the next

transitions. Taking into account the above, the number of passes should be reduced from 6 ... 7 times to 1..2 times.

Figure-1 General view of the experimental device of the leveler

When the unevenness is 10..12 cm, we find it necessary to cross the plot once on both diagonals. According to the results of scientific research, the average size of inequalities in Bukhara region is 15..30 meters in length and 20..40 meters in width. ..15 cm atrophied. [3]The analysis of the above-mentioned planes shows that the size of the inequalities in the small contour plots differs from the medium and large contour plots in terms of size. It can be concluded that the level of flatness is higher in small contour soils than in medium and larger soils. If we use longitudinal ground levelers in areas with small contours, the corners and turning areas of the plots will remain uneven. Because the base of these levelers is 15 ... 16 m, the turning radius is up to 15..20 m, the maneuverability is low. Given this, as well as the scientific work and experience of specialists, it is possible to use grader levelers GN-2,8A and GN-4A aggregates in small contour areas. But the base of these levelers is small, so the quality of work does not fully meet the students of agrotechnics. We therefore consider the use of small-sized straighteners in small contour areas to be effective. This is because most of the irrigated land is small land with a length of 100-150 meters, which is 20-25% of the total area. In such small areas, the productivity of all agricultural machinery will decrease and the quality of work performed in the field will decrease. As a result of repeated turning of the aggregates, the impact of the tractor wheels on the soil changes negatively, leading to excessive compaction of the agrotechnical norm and reduced plant growth and development.

In order to overcome the above problems, the teachers of the Department of "Mechanization of Water Resources and Land Reclamation" of the Bukhara branch of TIIAME improved the basic leveling body. The leveling bucket is equipped with a softening disc device at the front of the bucket, which simultaneously cuts and softens the soil, resulting in improved soil

structure and increased productivity of the unit up to 1.5 times. This creates a plane that meets the agrotechnical requirement in one and two passes with the recommended improved working part. As a result, the reclamation condition of the soil improves. In view of the above, in order to increase the efficiency of the small-sized leveler, softening discs were installed on its bucket and tested in practice. As a result of experiments, the quality of work of the leveler has improved, and operating costs have been reduced by almost two times. The research consisted of a long straightener, softening discs, an axle on which the discs were mounted and the bubbles that allowed it to rotate, a frame that held the bubbles in place, and a frame that held the disc device in place. The design of this device reduces the resistance to cutting and loosening the soil layer, cutting and crushing large lumps, plant rootstocks and weeds in non-loosened areas. The cutting softening discs are mounted at a distance equal to one axis. Cutting softening discs ensure uniform distribution of soil across the width of the bucket, resulting in improved leveling quality of the aggregate. An overview of the leveler is shown in the figure below.

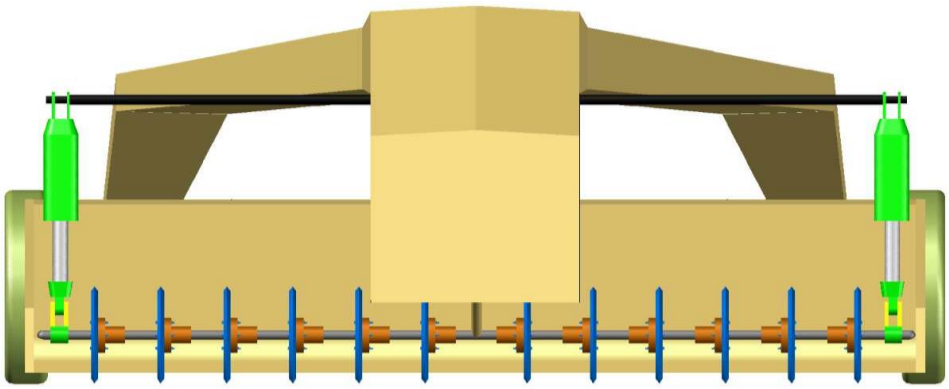

Figure- 2 Front view of the experimental device of the leveler.

In conclusion, it can be said that quality leveling of soils improves soil composition and increases productivity. This, in turn, will lead to a higher level of agricultural development.

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