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TO EXAMINE THE EFFECT OF LEVELING AGGREGATES ON PRODUCTIVITY IN THE LEVELING OF CROP AREAS

Musurmanov Ravshan Kurbanmuratovich
Doctor of Technical Sciences, Prof.

Kuchkarov Jurat Jalilovich
Bukhara branch of the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, the Republic of Uzbekistan

Ibodov Islom Nizomiy Ugli
Bukhara branch of the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, the Republic of Uzbekistan.

Najmiddinov Manguberdi Ma'rufjon Ugli
Bukhara branch of the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, the Republic of Uzbekistan

Abstract
The following article dears with the issues of right utilization of planning machines with existing working organs. The erotically done the watering of the influence of not flatness of watering fields on stability of the work and firmness of planning aggregate. It has theoretically proved that with the in crease of height of firm sand before drawing wheels of the tractors power of aggregate on leading wheels 'll not be able to get the restrictions.

Keywords: leveling, grunt, leveling, wheel, technological process, elastic, hanging, contour, working body (blade).

As a result of climate and regional geo-economic changes taking place in the world, the relevance of effective use of available water resources is increasing. One of the most common technologies for effective use of Water Resources in irrigation of agricultural crops in Uzbekistan is the leveling of the fields, which is currently the most common, when using irrigation techniques. Now, for the purpose of effective use of Water Resources, the wide introduction of laser land leveling is one of the main issues that are waiting for today's solution and the direction of ustivor modernization of agricultural production.

It is known that for a long time in Uzbekistan, medium-sized, long-base, laser land levers have been widely used, and as a result of which the irrigated lands are washed with saline, the quality of irrigation works, the productivity of Water workers, the

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quality of melioration and agricultural work (leveling, desalination, planting, maintenance, harvesting) and as a result of effective use of machines, there will be an opportunity to reduce.

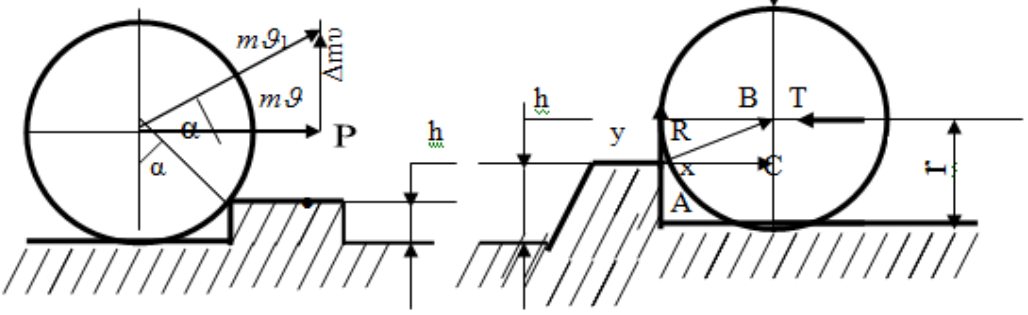
As a result of many years of research by a number of scientists, it was found that in uneven areas, up to 40% of the water brought to the field is spent unprofitable, the machines can not move at the high speed determined by strong shaking and vibration, the consumption of sideilg'i increases, the productivity of work decreases. In the following theoretical analysis, the machine wheel (Figure 1) (m/s) moves at a speed, the unevenness of which is low-height h, m, and the change in the amount of motion that can be encountered in resistance over a period of Δt seconds and the increase in H height during the transition over the wheel barrier is studied.

$\Delta m\ \vartheta = m \cdot \vartheta \cdot tg\alpha$

We determine the force using the basic equation of dynamics:

$$P = \frac{\Delta m \cdot \vartheta}{\Delta t} = m \cdot tg\alpha \cdot \frac{\vartheta}{\Delta t}$$

bunda m-bearing moving wheel weight, at kg



Расм 1.

Расм 2.

It is known that the grunt, like complex bodies, has hardness, molarity and plastic properties, and its deformation can be assumed to be proportional to the wheel speed and the stroke time due to the obstacle [1,2], just as well:

$$a = \vartheta \cdot \Delta t, \quad \Delta t = \frac{a}{\vartheta},$$

in it, the coefficient of inertia, which determines the duration of the A-wheel hit to the obstacle, determines the overall elasticity of the grunt and The Walking part of the car.

$$P = m\vartheta^2 \frac{tg\alpha}{a}.$$

(1) from this it is known that the force is proportional to the square of the speed, and with an increase in the height of the unevenness it also increases, with the change of the radius of the leading wheel, the amount of force also changes.

If the machine hanging parts and The Walking part are tight, the shaking force will increase, if the elastic hanging and pneumatic tire consists, the vibration and shaking forces will decrease. The state of the Grunt is also important, as its plasticity increases, the dependence of the time of hitting the bump (barrier) on the speed decreases. (1) if we substitute Δt· in the formula, the force acting on the machine moving on the plastic grunt will be as follows:

$$P = m\vartheta\frac{tg\alpha}{\Delta t}$$

The force that is formed on softened or soft grinds, P approaches the force. It is necessary to give it separately, it determines the periodicity of the force effect, the vibration of the machine and the periodicity of the resonance formation, depending on the speed of motion.

Meliorative machines and tractor-leading wheels make vertical barriers more difficult to press than the leading wheel, that is, when the leading wheel is trapped in the barrier, the leading wheel will overcome it.

Figure 2 shows the scheme of forces acting on the front leading wheel of the reclamation machine. The Bunda is shown to overcome the vertical barrier at the height of the leading wheel H.

we mark the forces acting on the wheel as follows:

T-the force pushing the front wheel through the reclamation machine Ram, kg.

R-the reaction force of the barrier, kg

and-the barrier is the vertical and horizontal arrangement of the reaction force, kg.

from the condition of the balance of the wheel

y =Gk ; x =T we know that it is.

the forces acting on the wheel are interconnected using the following equations:

$$y = x\cdot tg\alpha = T\cdot tg\alpha, \qquad G_k = T\cdot tg\alpha \quad \text{or} \quad T = \frac{G_k}{tg\alpha}$$

Let t denote the value of the triangle av denominator as follows:

$$tg\alpha = \frac{BC}{AC} = \frac{r-h}{AC}$$

in addition to $AC = \sqrt{(AB)^2 - (BC)^2} = \sqrt{r^2 - r^2 + 2rh - h^2} = \sqrt{2rh - h^2}$

(2) by putting the found value of AS on the equation, we form the following:

$$tg\alpha = \frac{r-h}{\sqrt{2rh-h^2}}$$

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And so on, $T = \frac{G_k}{tg\alpha} = G_k \frac{\sqrt{2rh - h^2}}{r - h}$, кг

(3) - as can be seen from the formula, if the height exceeds the amount of the barrier that is h, the tractor will stop completely, because when h=r, the T the quantity of the force will be infinitely large, just as well as the leading front wheels will not be able to press the barrier, the tractor will not be able to

Taking into account the above, in order for land reclamation machines to perform high-speed quality work, of course the area must be well leveled, scientific studies of a number of scientists [1,2,3] showed that the height of the machines at the base of the Russian tractor "Belarus" is 0,1 meters to the unevenness of the area 4...4,5 can process freely at km/h speed, under such conditions 7...7,5 by increasing the speed up to km/h, it will not be desirable to process, while at a speed of 10 km/h, the vibrations of the machine are much higher, and the melioration machine parts can come out the danger of disconnection. If the trailer meliorative parking wheels are in solid condition without being pneumatic, the landing on the load caused the movement speed to be twice as low, so it is advisable to install pneumatic wheels on the trailer meliorative machines. In the future, if machines with elastic straps and a chain of resinamethals are manufactured or purchased, then under the above conditions 7...It will be able to work at a speed of 10 km/h. It turns out that the melioration machine works at high speed when the field is uneven, the working and working conditions of the steward are much worse.

As a result of the correction and leveling of the irregularities in the irrigated land, water consumption is reduced, with high movement speeds, high work productivity is ensured. To these, it is possible to add the following, that is, in the leveled state of the field there will be an increase in the productivity of land reclamation machines, tractor aggregates and the yield of agricultural crops, there will be a waste of the amount of harvest when harvesting, and at the same time the labor and working conditions of workers and

Melioration machines when the speed mode is changed evenly, the quality of multi-leveled work does not change to the bad side. Such a situation brings about the possibility of extensive use of the speed mode of land reclamation machines, increases the productivity of work, reduces the duration and improves economic performance.

Of particular importance is the magnetism of the speed of melioration drills, since it leads to the fact that the forces of reciprocity that affect it during movement are overcome at a high level, it is desirable to work at optimum speed when there is more difference in the weight of machine units with earth resistance in large irregularities.

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The goal of manipulating the speed of melioration drills is a technique to achieve high performance of the machine at low cost, which leads to a more complete use of the power of the engine.

Melioration mesh is a decrease in work productivity in the process of changing the movement speeds in the transmission box, a link to the length of the printed path in the process of changing the transmission [2] . B.S.In accordance with svirshevsky's opinion, the transition from one stretch to another is possible only if in childbirth

$(\vartheta_2 - \vartheta_1)t_p \geq 2\vartheta_1 t_{\text{пер}}$

1 and 2 – represent the speeds of the aggregate transmission after switching and switching, m/s

tp-aggregate working time after switching to new extension, s

tper-aggregate transmission replacement vakti, s

Number 2-the coefficient, which accounts for the double execution of the speed change. (4) th equality

$$tp = \frac{2\vartheta_1 \cdot t_{nep}}{\vartheta_2 - \vartheta_1}, \text{ с.}$$

If the working time of melioration mesh tr is reduced as much as possible when working on a new stretch, it depends on the qualification of The Machinist, the minimum value of the field length at which the aggregate is processing bunda will be equal to the following. At this time, the minimum that the aggregate presses during the period of replacement of the stretch masofasi will be as follows.

$L_{\min} = \vartheta_2 \cdot t_{p\min}$,м ёки $L_{\min} = \frac{2\vartheta_2 \cdot \vartheta_1 \cdot t_{nep}}{\vartheta_2 - \vartheta_1}$, м

A.F.Zasovoy's research [3]showed that 1 and 2 are connected to the selected extension. Tper in the equation is the time lost when changing the speed of the reclamation machine, which depends on the following main factors:

1) to the working conditions of the melioration mesh, the parameters of the technological process to be performed, the speed, loading, the weight of the aggregate;

2) melioration mesh to the structure of the transmission box, transmission replacement mexanizm;

3) to the skill and experience of melioration Machine Manager;

The result of scientific research is tper=1...10 sec, the results of a series of scientific studies of scientists [2,3] and including TIQXMMI and TIQXMMI Buxoro fliali SX and mim kafedra showed that when using the existing transmission box construction,

it is desirable to switch from transmission to transmission when a medium-skilled machinist manages, if the length of the field on the contrary is less than 100 m, the In land leveling work, this process is also considered important for chain construction machinery, when land leveling work with a bulldozer is carried out, if the carriage is more than masofasi 100 meters, return to the ground-edging site in the upper leg of the uzutma brought back in order to increase the productivity of the work, the return of the bulldozer is

In addition to the above, opportunities are created to improve economic performance and quality of work by increasing the productivity of work by magnetizing the speed of land reclamation machines, saving water resources up to 30%, when the average indicator of unevenness of arable irrigated lands is h≤ ±5 mm.

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