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TECHNOLOGICAL WORKING PROCESS OF THE COMBINED PULSE-FERTILIZER

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Abstract- *The article presents the scheme and technological workflow of the device that implements the improved technology of fertilization of the fall field, as well as the assessment of soil cultivation, fertilization standards. In this case, the fertilizer conveyors installed on the softener column are designed to apply fertilizer in the upper and lower layers in a fixed amount to the place being formed by the pushers.*

Keyword:- *Land preparation, fertilization standards, seed picker, fertilizer spreader, softener with fertilizer discharger, metering reel, adjusting valve, driving support wheel, belt method of fertilization.*

It is known that one of the main crops in our Republic is cotton, and its intensive development and reduction of the cost of cultivation in many cases depends on the improvement and optimization of agrotechnical measures.

The importance of cotton in the national economy is huge. Because there is probably no economic network that does not use cotton or its products in one or another quantity [1].

Cotton differs from other agricultural crops in that it provides three types of valuable products: raw material for textile products, oil for food, and animal feed - kunjara and shelukha. Cotton is grown mainly for fiber. On average, 320-340 kg of fiber and 560-580 kg of seed are obtained from 1 ton of raw cotton. From 340 kg of fiber, 3500-4000 m2 of gas oil is produced, and from 580 kg of seed, 112 kg of oil, 10 kg of soap, 270 kg of kunjara, 170 kg of shelukha and 8 kg of lint (fluff) are produced [2].

Increasing the productivity of this valuable product without changing its quality should be done not by expanding the cultivated area, but by increasing productivity. In addition, basic and shallow soil cultivation, fertilizing, planting, maintenance, protecting them from pests and diseases, timely completion of harvesting processes, structure of used machines, working processes, construction of aggregates, selection of machines and equipment, their workers It depends to a large extent on the organization of adjustment and efficient use of parts, as well as their preparation at the level of agrotechnical requirements [3].

Before the autumn plowing, in addition to ensuring the plowing of cultivated fields in the agrotechnical period, the machine-tractor assembly should be sufficiently maneuverable, perform work processes in high quality, have a product unit, maximum productivity, and ensure minimum labor and fuel consumption. In order for the unit to work efficiently, the engine must always be in good technical condition and its systems and mechanisms, especially the fuel pump, must be adjusted to work at different loads. In addition, it is necessary to use mechanical and chemical control measures to destroy hibernating insects, to adjust the technical means for plowing, to determine the type of plowing (simple or double-layer) depending on the condition of the land and the level of contamination with wild grass [4].

Evaluation of the quality of work of machines. The quality of work of the machines used in land preparation is determined by the depth of cultivation, the flatness of the field surface, the quality and density of soil compaction, and the level of weed loss. The average depth of tillage in the fields prepared for planting is ±1 cm from the indicator set by the agronomist. should not differ more than 25 mm in the seed layer. the amount of soil particles smaller than 80 percent, size 50 mm. there should be no lumps larger than , the density of the processed layer should be between 1.1-1.2 cm^3 and the weeds should be completely gone [5].

The advanced farms of our republic have proved that it is possible to achieve a high and sustainable yield of cotton through the effective use of mineral and organic fertilizers under advanced agrotechnical conditions [6].

Phosphorus is also important in the metabolism of nitrogenous substances in plants. The reduction of nitrates to ammonium, the formation of amino acids, their deamination and reamination occurs only in the presence of phosphorus [7].

The purpose of applying phosphorus fertilizers to the soil during the main fertilization period is to provide crops with phosphorus throughout the growing season. In the main fertilizing, special attention is paid to the form of fertilizer, rate, time and depth of

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introduction into the soil [8].

In temperate soils, the period of application of phosphorus fertilizers is not very important, because their loss due to alkalization is almost not observed, as a result of chemical bonding, calcium diphosphate is formed, which is also absorbed by plants. in observations conducted on black soils, phosphorus fertilizers did not lose their effect even after 557 days of application to the soil [9].

In the main fertilization, the first attention is paid to the burial depth of phosphoric fertilizers. When superphosphate is applied to a pasture, P_2O_5 is only spread to a depth of 2.5 cm along the soil profile. The very slow movement of phosphorus even under irrigated conditions can be shown by the example of experiments carried out in the state of Virginia, USA. When applying 112-224 kg/ha P_2O_5 per hectare of soils with heavy mechanical content, phosphorus moved only 5 cm [10].

Phosphorus fertilizer is better absorbed by plants if it is introduced deeper than 10 cm. In the summer months, the surface layer of the soil dries out and naturally, plants cannot use the phosphorus in it. K.A. Timiryazev, based on his observations on phosphoric fertilizers, proved that burying fertilizers to the specified depth increases the resistance of cereal crops to drought [11].

The annual rate of mineral fertilizers in fertile and saline lands is as follows: nitrogen - 250 kg/ha, phosphorus - 175 kg/ha, potassium - 125 kg/ha. It is desirable to ensure that their ratio is 1:0.7:0.5. Before driving, it is recommended to apply 70% of phosphorus or 112.5 kg/ha, 50% of potassium or 62.5 kg/ha, all prepared compost [12].

In farms specializing in cotton cultivation, the method of removing the husks after plowing and leveling the cultivated fields in the fall began to be widely used. Because when the powder is collected, the lumpy parts of the soil freeze in the winter, and when the ice melts in the spring, the large lumps are crushed and the graininess of the soil is improved. In early spring, the germination of the sown seeds is accelerated due to the high temperature of the field. At the same time, in order to increase the yield of cotton, it was found that the application of phosphorous fertilizer at the same time as cotton harvesting accelerates the ripening of the crop by 10 days [13].

Based on the analysis of the conducted research, the technology of expanded band fertilizing by layering the aggregate in one pass and the construction of the aggregate implementing it have been developed [14].

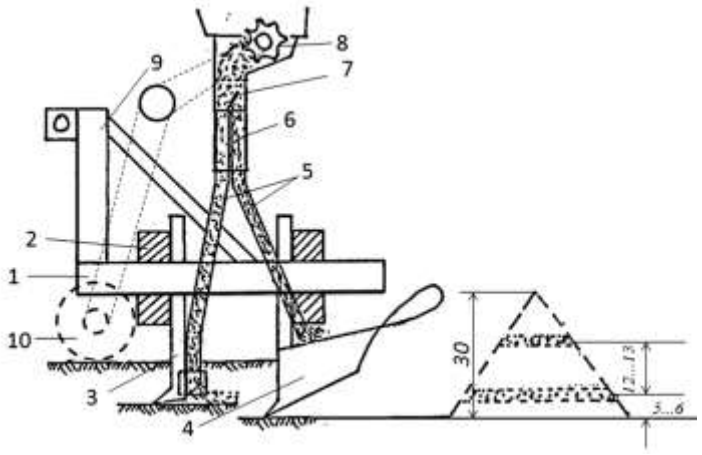
In this case, fertilizers fall in two directions - that is, from the quantifier-distributor in the I and II directions. Fertilizer falling in the first direction to each row

10...15 cm of the flat surface through the fertilizer conveyor installed in the chain of the softener goes deep. Fertilizer falling in the second direction is through the fertilizer conveyor falls on a flat surface or to a depth of 2...3 cm.

The softeners in the first direction are located at a distance of 18...20 cm from each other.

The width of the fertilizer conveyor is 2.5 cm. Softeners are fertilizers opens the way to the mushroom [15].

The unit is designed for harvesting husks in the autumn, not in the form of strips, but by applying fertilizers in layers, longitudinal and transverse frames 1,2, softener with a fertilizer conveyor 3; It consists of a dust collector 4, fertilizer conveyors 5, a distributor 6, an adjuster 7, a meter 8, a suspension device 9, and a base wheel 10 that moves the meter. Picture 1.



Picture 1. Combined fertilizer spreader that applies fertilizer to the specified layer

At a certain distance (30...50 cm) from the box receiver, in the transverse direction between the rows, at a distance of 16 cm from each other, five softener poles are installed on it. the conveyor is designed to apply a specified amount of fertilizer to the place where the buds are being formed.

Summary

1. The development of the root system of the plant develops in accordance with the expanded tape fertilizer, not only in the width of the bush, but also in the length of the bush.

2. The design of the paddy receiver-fertilizer, which applies fertilizer to both layers of paddy in the form of an expanded ribbon, has been developed.

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