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# LOCAL FERTILIZER APPLICATION DEVICE BETWEEN COTTON ROWS

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**Abstract**

*The article mainly deals with plant fertilizing machines, i.e. types of organic and mineral fertilizing machines, hay cultivators, fertilizer seeders, and other modern fertilizing machines. The purpose of fertilization is to cause a positive change in plant growth and productivity. The operation process of the installation of local fertilizer between the proposed rows.*

**Key words**

*Fertilizer, bunker, mineral, local fertilizer, plant, auger, hydromator, cotton, row, phosphorus, potassium, nitrogen.*

The use of local fertilizers in the production of high yields of agricultural crops is considered important in increasing their productivity. Local fertilizers are divided into solid (manure, peat, compost, etc.), liquid (liquid manure) and sidereal (various types of fast-growing green grass) types.

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According to the laws of agriculture, the reduction of the yield depends on the minimum number of conditions that make it up. For example, the more mineral fertilizers or nutrients there are in the soil, the more water (moisture) productivity of plants and the lack of water (moisture) and product supply, at least create conditions for the formation of crops. This is called the minimum return condition.The content of this law is clearly shown in Figure 7. As can be seen from the figure, the amount of water in the bucket indicates the yield. The vertical boards that make up the water bucket create conditions for growing crops. The preservation of nutrients in the soil and their appropriate form, the rate of conversion of nutrients that cannot be absorbed by plants into the appropriate form and the return of these conversions are the main factors that determine the nutrition of crops and their demand for fertilizers.

The greater the amount of nutrients in the soil of plants, the less their need for fertilizers, and if less, it increases. The supply of nutrients and their appropriate forms are not the same in different types of soil. Therefore, the need for fertilizers in different soils is not the same. If local solid and liquid fertilizers are mainly sprinkled on the soil before plowing, the fast-growing green grasses planted in the fields are crushed and sprinkled on the surface after growing in sufficient quantity, plowed with plows and mixed with the soil. Currently, animal waste (manure) and compost (a mixture of manure, plant stems and various waste) are widely used as the main local fertilizers. Preparation and application of solid local fertilizers are carried out in two ways: directly (farm-field) and in the form of collection in one place (farm-storage place-field). In this case, local fertilizers are mainly loaded from the storage places of livestock farmers to the transport vehicle and they are transported to the storage place prepared at the beginning of the field. Then they are stored in that place until the time of application and when necessary, they are put into the soil. In non-saline fields, before plowing, solid and liquid local fertilizers are applied to the surface of the land, and then plowing is organized. It is advisable to apply to the saline areas after washing off their salt during tillage.

**Figure 1.1. Mineral fertilizing machines.**

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Mineral fertilizer spreading machines are mechanized complexes for spreading loose and granular fertilizers on the soil surface, as well as substances necessary for changing the alkaline-acidic composition of soils and their density structure - dry limestone, gypsum and sand. According to the method of combining with the main machines, spreaders are divided into trailer and semi-trailer machines, which are manufactured using wheeled chassis and mechanisms mounted on tractors.

Depending on the insemination technique, the units that perform this operation are divided into the following. Mechanisms for introducing substances into the soil during plowing or planting - plows, seed drills and chisel-cultivator complexes equipped with special mechanisms.

• Complexes that scatter mineral and organic substances on the soil surface after fertilization plowing, they include various spreaders, as well as aggregates for spraying liquid substances.

The structural elements of complexes that distribute solid mineral fertilizers include:

**Figure 1.2. Organic fertilizing machines.**

Nowadays, after planting, only mineral fertilizers are used as feed between the rows, which leads to a decrease in the porosity of the soil, and the crops we eat are saturated with harmful chemicals.

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**1.3 - picture. Cotton planted in rows.**

To prevent these problems, a local fertilizer application device is installed between the rows. Due to the lack of a device that provides local fertilizer between the crop rows and the increased use of mineral fertilizers, the productivity of the cultivated area is decreasing. This device consists of the following parts (Figure 1.4)

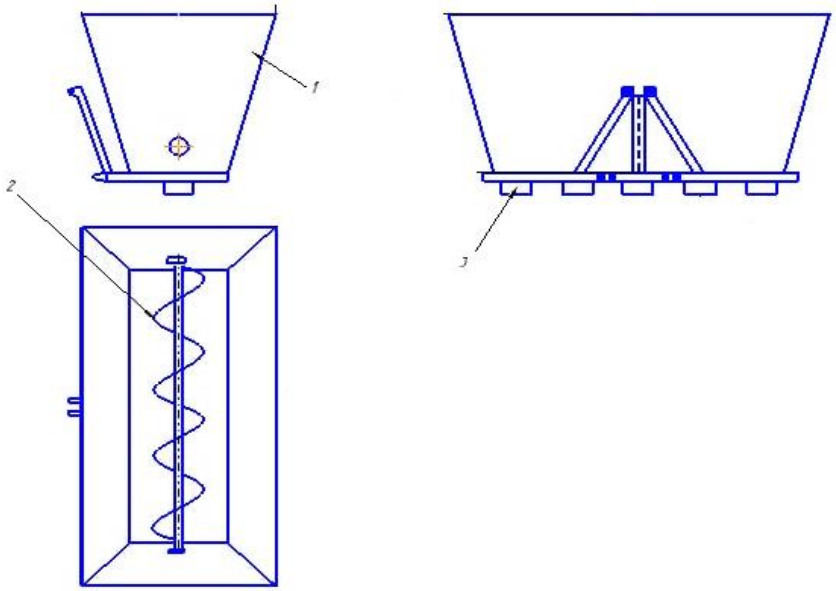


**Fig. 1.4. Device for applying local fertilizer between rows.**

1-fertilizer tank; 2-drum; 3-part where fertilizer falls.

My device is mainly adapted to apply fertilizer to 5 rows. it takes from the tractor's rear drive transmission mechanism, it is connected to the tractor by three points.

The advantage of this device is that it provides the land with the same local fertilizer, which is a very low cost and a good harvest in the future.

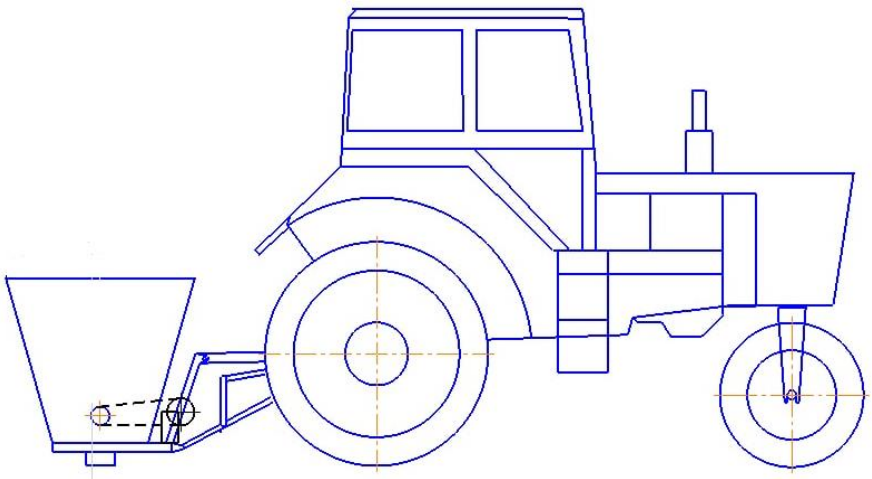

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**Fig. 1.5. Device for applying local fertilizer between the rows connected to the tractor.**

Between the rows, the local fertilizing machine is attached to the tractor. The length of the device is 3 meters, height is 1.2 meters, width is 13 meters, the distance between the two parts where fertilizer falls is 0.60 meters. The device is mainly adapted for applying fertilizer between rows of 60 cm.

**Summary:**

The study of the condition of constructions of technical tools used in the application of local fertilizer between cotton rows, the development perspective and the research conducted on the improvement of their technological work processes showed that It allows to optimize the parameters of the devices used in fermentation, to increase its work quality and productivity. As a result of this, crop productivity increases, the damage of cultivated areas decreases, productivity increases, and the level of salinity decreases.

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