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Efficient Sowing Unit

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ABSTRACT: The article discusses the results of research on a method of weed control that allows farms to save costs on weeding weeds, removing soil crust, improving the structure of the soil and giving additional products by increasing yields. The results of the experimental study have shown sufficient efficiency of the sowing unit.

KEYWORDS: New technology, weed control, efficient way, seeding machine, save costs, weeding, cultivator, hopper, fertilizer distributor, compost, glauconite, cotton seeder.

INTRODUCTION

Weed control in cotton crops is one of the significant operations in the process of its cultivation. Mechanization of weed control is one of the problematic issues.

There is a method of weed control, which consists in the mechanized application of herbicides. Against annual weeds, herbicides are used, which, along with environmental pollution, is ineffective and requires a lot of costs [1]. Therefore, until now, this operation is carried out mainly by hand, which takes a lot of effort and money.

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A new technology for sowing row crops has been developed and proposed as an effective way of weed control, excluding manual labor. This method, along with the elimination of weeds, helps to increase soil fertility, prevent soil crust, increase heat and increase yields. (The novelty is protected by the patent of the Republic of Uzbekistan No.-3450).

The method is carried out by the fact that in advance on the fields prepared for sowing, a strip of compost or glauconite litter is formed, with a thickness that does not allow overgrowing of seeds of downstream weeds and is carried out along them, sowing with an existing means.

THE MAIN FINDINGS AND RESULTS

When implementing the method, along with the elimination of the appearance of weeds, mulch is created near the plants in a protective strip of 10-15 cm, which prevents the appearance of a soil crust, increases heat, light and the absence of salts in the mixture, contributes to the full emergence of seedlings and further compost, as fertilizer favors the growth and development of cotton.

The proposed development has a resource and energy-saving economic value, that is, it allows farms to save costs on weeding weeds, removing soil crust, improves soil structure and provides additional products by increasing yields.

The seeding unit is created on the basis of the CCU-4 row-crop cultivator (Fig. 1).

In front of the row-crop tractor, four or two sections of the CCU-4 cotton cultivator are hung, a truncated furrow cutter with a fertilizer pipe is installed, a support wheel with an increased width, a bunker for the mixture and a fertilizer dispenser are installed. A seeder is attached to the rear of the tractor.

The results of the experimental study have shown sufficient efficiency of the sowing unit. The depth of the rake's stroke varied in the range of 6.8-10.5 cm, the temperature was higher by 0.4-1.3° C the density was in the range of 1.25-1.33 g / cm3, depending on the options for the experiment. There were no weeds, and no crusts were formed in the developed variants [2].

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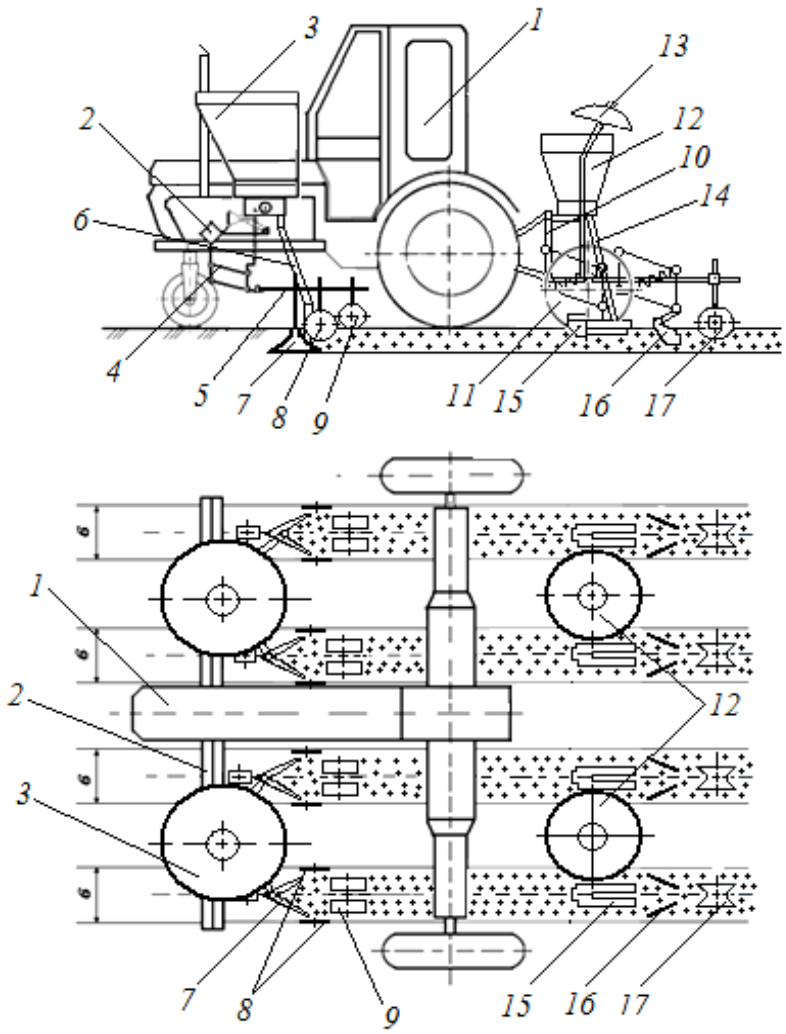

Fig. 1. Sowing unit based on a row-crop cultivator CCU-4

1-tractor; 2-frame; 3-fertilizer sowing hopper; 4- parallelogram mechanism; 5-beam; 6-pipeline; 7-furrow cutter; 8-discs; 9-pressurized support roller; 10-hitch of a cotton seeder; 11 support wheels; 12-seed hopper; 13-marker; 14-seed tube; 15-skid opener; 17-harrow; 18-roller.

CONCLUSION

In short, improved soil heating, high moisture content accelerated the emergence of seedlings. Good contact of seeds, optimal moisture in the seeding zone and favorable air and temperature conditions, which are a consequence of the better physical properties of the litter, ensured most friendly and faster emergence of cotton seedlings.

Thus, the use of sowing technology on compost litters developed by the working bodies, along with the prevention of weeds and soil crust on the sowing rows, improves the thermal and water-physical regimes of the soil, thereby increasing the yield of cotton.

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