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ОБРАБОТКА ПОЧВЫ МЕЖДУ РЯДАМИ САДОВ ЧИЗЕЛОМ РЫХЛИТЕЛОМ

SOIL TREATMENT BETWEEN ROWS OF GARDENS

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В статье предложена технология обработки почвы между рядами садов чизелем рыхлителем без подрезания корней деревьев края почвы 12–22 см, глубина обработки 35 см. В дополнение к предложенному чизельному рыхлителю, комбинированное использование мульчи для выравнивания почвы было сочтено энергосберегающим, а также предотвращающим эрозию почвы.

In the stats, a technology is proposed for soil cultivation between rows of gardens with a chisel ripper without damaging the roots of trees at the edge of the soil 12–22 cm, the depth of processing is 35 cm. In addition to the proposed chisel ripper, the combined use of mulch for leveling the soil was found to be energy efficient as well as preventing soil erosion.

Ключевые слова: почвы, глубины, чизелевание, садах, между рядами.

Keywords: soils, depths, chisel-growing, gardens, aisles.

INTRODUCTION

The technological process of soil cultivation in gardens is a set of targeted effects on a biological object or the cultivated environment (soil, fruit plantations) by the working organs of the machine to ensure the necessary quality indicators. Most of the processes are accompanied by the execution of several technological operations simultaneously, of which one or two are the main ones, and the rest are concomitant.

To ensure the fruiting of plantations in the garden, it is necessary to create favorable conditions in the soil for active long-term growth of the root system, which replenishes the need for trees in moisture and nutrients. For this purpose, deep chiseling is periodically carried out in the aisles of the garden, and in a row, surface loosening.

Depending on the depth of travel of the working bodies and the technological operations performed, there are surface (up to 8 cm), shallow (8–16 cm) and deep (over 25 cm) tillage. At the same time, rotary working bodies have some advantages over passive ones in terms of the quality of loosening the seam, creating better conditions for the activity of soil microorganisms. Therefore, rotary working bodies are not opposed to passive ones. By crushing soil lumps, completely destroying rhizome weeds, rotary working organs only create favorable conditions for the use of passive ones [1, 2].

The soil maintenance system in orchards should ensure a constant replenishment of organic matter in the soil, improvement of its structure and physical and mechanical properties, protection from erosion, weeds, as well as pests and pathogens of fruit crops.

The system of soil maintenance in gardens is selected and adjusted taking into account the soil and climatic conditions of the region and the biological characteristics of fruit crops. orchards, the following tree planting schemes have been adopted: 8×8, 8×6, 8×4, 7×7, 4×4, 4×3, 5×2.5 m, etc. Wide row spacings provide good illumination of fruit crops and allow the use of technical means, and thickening in a row improves growth conditions, increases their stability to unfavorable conditions and has a positive effect on productivity.

In the aisles there are free passages for cars, in a row the crowns of trees close up. In young stands, due to the undeveloped crown of the tree, the working body of the tillage machine can freely approach the boles. As the plants grow and the crown diameter increases, the untreated area increases.

A similar adjustment is provided for in the design of the developed [3] garden chisel plow with a differentiated changing depth of soil cultivation, the extreme working bodies of which perform mid-depth loosening (12–18–22 cm), and the middle (central) deep chisel-forming (up to 35 cm). In this case, the lower generatrix of the furrows after the passage

of the working organs is zigzag, copies the location of the root system of trees along the depth of occurrence.



Figure 1 – Chisel ripper

The design of the garden chisel plow provides for the possibility of implementing the technological process of intra-soil fertilization. For this, equipment is installed on the frame of a garden chisel plow for the maintenance and distribution of fertilizers or herbicides directly at the level of the root system of trees [1,3].

CONCLUSION

In the southern regions of Uzbekistan, the developed machines for cultivating soil in orchards have passed production tests and have shown good results. There is a decrease in the untreated area near the trunk, a decrease in fuel consumption. A high economic effect was obtained from the use of the developed machines.

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ОБРАБОТКИ МЕЖДУ САДОВЫМИ РЯДАМИ**

**JUSTIFY RIPPER PARAMETERS WHICH ARE PROCESSED
BETWEEN GARDEN ROWS**

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В статье приведены сведения о времени и глубине обработки почвы между рядами для получения высоких урожаев плодовых деревьев. Кроме того, проанализирована взаимозависимость скоростей обработки и сопротивления тяговому усилию рабочих органов между садовыми рядами.

The article provides information on the time and depth of soil cultivation between rows to obtain high yields of fruit trees. In addition, the interdependence of processing speeds and resistance to tractive effort of working bodies between garden rows has been analyzed.

Ключевые слова: почвы, глубины, саду, фруктах.

Keywords: soil, depth, garden, fruit.