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MECHANIZATION OF GARLIC PLANTING TECHNOLOGY

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Annotation: *The article contains information about the agrotechnology of growing garlic and its importance today. In addition, the relevance of the mechanization of the garlic planting process was noted as an important issue, and information was provided about the innovative garlic planting device.*

Key words: *garlic, planting depth, agriculture, variety, planting scheme, ribbon, double row, technological process.*

It is known that in our Republic, since the technological process of planting garlic is not mechanized, the practice of planting garlic is carried out with the help of manual labor. For this reason, garlic, which is grown today, is grown in relatively small fields using traditional methods is planted. It usually takes 60-65 working days to plant one hectare. In this research work, an innovative device for planting garlic and onion was used. This innovatively designed device is intended for planting garlic and onion grains in a single-row tape-like manner (Fig. 1). The distance between the tapes (egate width) is 60 cm, and the grain step is 15 cm. The burial depth is 7-8 cm. The productivity of the garlic planter is more efficient than the conventional one. Today, the technological process of planting garlic is carried out by manual labor, and this technological process causes a decrease in labor costs and productivity. In addition, due to the lack of equipment and technical means for the cultivation of garlic, the demand for garlic of our population could not be sufficiently satisfied.Currently, if garlic is grown using the device we recommend, it will significantly contribute to meeting the demand of our population for garlic. The granularity of garlic bulbs grown with the help of a garlic planting device, i.e., the size of the bulbs, is significantly larger than that of conventionally grown garlic bulbs. The larger the size of the garlic cloves, the better the quality and more results of the medicine used in the field of medicine. The principle of operation of our garlic planter is simple, so it meets the requirements of today's time, and the landscape design easily meets modern requirements. Garlic planted with a garlic planter germinates faster and better than conventionally planted garlic. It contributes to our having quality seeds, which is one of the main problems.

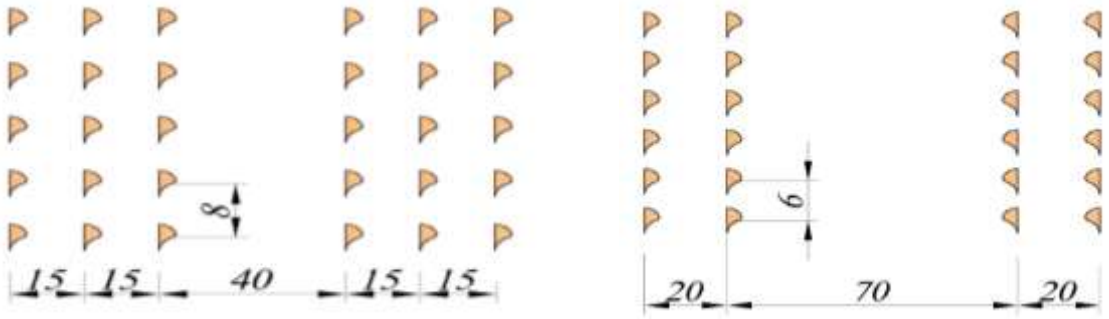
MATERIAL AND METHOD

The device consists of a mounting device, a frame, and a seed hopper fixed to it and supporting wheels, a pipe fixed so that garlic seeds fall into the hopper, a funnel-shaped softener at the bottom of the pipe, and a horizontal plane between the pipe and the hopper. consisting of a relatively vertical belt drive. Spherical spoons are placed on the conveyor belt at a certain distance to direct the garlic cloves.

The principle of operation of the garlic planter is driven by the walking equipment. It moves the spoons in the hopper by transmitting the movement to the bullet through the belt transmission installed on the walking stick. The movement of the walking wheels is important when planting garlic. Due to the simple design of the principle of operation of the device, we can learn the operation process quickly and use it easily. The speed of the tractor connected to it is important in the operation of the device. The speed of the tractor should be suitable for the planting interval and the desired one It is one of its main tasks to ensure constant movement at speed.

Figure 1. The appearance of garlic planted with the help of the device

Garlic is planted in a two-three-row ribbon method (Fig. 2). The distance between the strips (the width of the field) is 70 cm, the distance between the strips in the strip is 20 cm, in the three-row planting, the spacing is 15 cm, and the rows are planted with 7-8 cm between the garlic and onion strips. As a bunker, planting scheme of garlic: 5-6 cm and x 7-8 cm. apparently, 450-600 thousand plants are placed per hectare. The planting depth is 5-8 cm. constitutes Sowing rate, i.e. 1000-1200 kg of garlic and onion bulbs per hectare. is spent



A) **B)**

Figure 2. Garlic planting schemes:

A) in the scheme (40+(15+15))/2x(7-8); **B)** in the scheme (70+(20+20))/2x(5-6).

Summary. Based on the above, the construction and technological work process of the garlic planting device was developed. It was found in the experimental process that the use of agrotechnics in planting garlic is a solution to several problems of traditional planting.

LIST OF USED LITERATURE:

1. A collection of 100 books prepared in cooperation with the Ministry of Food and Agriculture of the Republic of Turkey and Denizbank.

2. State register of agricultural crops recommended for planting in the territory of the Republic of Uzbekistan. - Tashkent, 2020. - p. 55.

3. Scotton D. C. et al. Response of root explants to in vitro cultivation of marketable garlic cultivars //Horticultura Brasileira. - 2013. - T. 31. - P. 80-85.

4. Decision No. PQ4863 dated October 15, 2020 of the President of the Republic of Uzbekistan "On measures to increase the cultivation and export of vegetable products by the method of garlic and onion and ninetyfive ".

5. Li X Y, Geng A J, Hou J L, Zhang M Y, Zhang J, Li W. Research status of garlic seeding machinery. Farm Machinery, 2017; 2: 105-107, 109.

6. Ostanakulov T.E., Zuev V.I., Kadirkhojaev O.Q. Vegetables T. —Navro’z‖ 2018. - p. 497-505.

7. Zuev V.I., Abdullayev A.G. Vegetable crops and technology of their cultivation. T., "Uzbekistan", 1997. - p. 342.

8. Boriev Kh.Ch, Zuev V.I., Kadirkhojaev O.Q., Muhamedov M.M. Progressive technologies of growing vegetable crops in open ground T., —Uzbekistan national encyclopedia‖ 2002. -p. 245-251.

9.Li yu X, Wu yu K, Li T X, Niyu z R, Hou J L. Development and experiment of a machine vision-based garlic clove orientation device. Computers and Electronics in Agriculture, 2020; 174: 105513.

10. Go and F. Study of the method of determining the direction of garlic in the planting technique. Xi'an: Northwest University of Agriculture and Forestry Science and Engineering, 2011. (in Chinese).

11. Suizi S, Song j L, Xu T, Li N, Sai S R. Development of garlic planter. Journal of Agricultural Mechanization Research, 2017; 39(11): 131-135. (in Chinese).

12. Xu T, Song Ji L, Tsuizi S, Li N, Tsai S R, Song Gyu et al. study of characteristics related to mechanical sowing of garlic seeds in ucbunker. Journal of Agricultural Mechanization Research, 2018; 40(5): 137-141. (in Chinese).