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Research Article

ABOUT COTTON GROWING METHODS

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ABSTRACT

The article discusses methods of sowing cotton in horizontal and vertical planes. The most effective method of seeding – square-nesting-is justified and recommendations are given for the wide use of this method. To obtain a square-nesting cotton crop, it is planned to create a new mechanism in the design of the seeder.

KEYWORDS

Cotton, methods of sowing, yield, consumption, row spacing, distance between nests, mechanism.

INTRODUCTION

In the conditions of the Republic of Uzbekistan, cotton is the main agricultural product, so its seeds are sown in many areas. Therefore, the country pays great attention to the quality and productivity of cotton as a necessary raw material [1-4]. His planting methods play an important role in increasing the yield of cotton and reducing its cost. Different sowing methods, on the one hand, affect the yield of cotton, on the other hand, have a significant impact on the amount of seeds sown, i.e. consumption.

Materials and methods

When we talk about the method of planting cotton, we do not mean just looking at it in one plane. Therefore, the methods of sowing cotton are understood to be the placement of the seed in the horizontal and vertical planes (Figures 1 and 2) [5-9].

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In both planes, cotton planting methods are important. For example, in the vertical sowing method, the planting depth of the seed and the temperature of the soil under sunlight are required, while in the horizontal sowing method, the seed needs to be cared for during the feeding and growth period. It should be noted here that the choice of the method of planting cotton in the horizontal plane is of particular interest, while meeting the agro-technical requirements for cotton in the vertical plane. In this regard, we choose the most important method of planting cotton in the horizontal plane [10-17].

Cotton seeds are of two types depending on their appearance: hairy and hairless. The technologies of preparation of these seeds for sowing are different, and they are planted in the fields prepared for sowing with special technology in advance in different ways: row, nesting, ribbon nesting, square nesting and dotted (Fig. 1) [18-21].

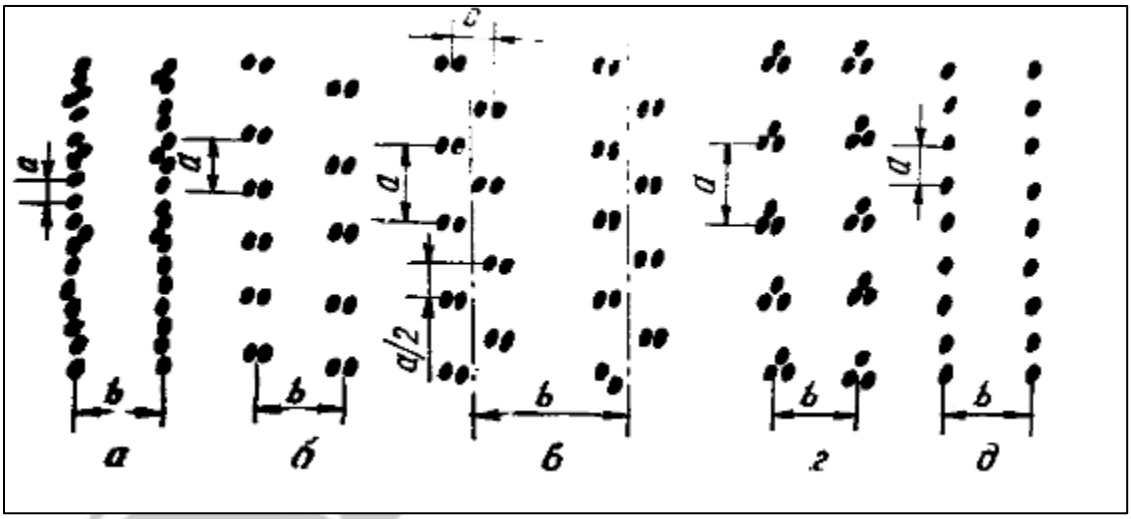

Figure 1. Methods of sowing seeds in the horizontal plane: a - row, b - nesting, c - ribbon nesting, g - square nesting, d - dotted.

Nowadays, it is common to plant hairy seeds in rows and nests. This consumes a large amount of seeds, but although the technology of preparing hairless seeds is difficult, the sowing cost is small, as it is planted in a nest with an sowing machine that accurately removes the number of seeds [22-29]. As can be seen from the figure, in the row planting method, the distance between the nests is almost no a (Fig. 1, a). This means that the feeding area of the seed will not be on the row [28-31]. The larger the feeding radius of each seed or a pile of 3-5 seeds, the more the seed is saturated with many minerals. In nesting, however, such a feeding radius appears depending on the distance between the nests. Figure 1, b, shows the method of planting a narrow number of nests in a row of cotton. In this case, regardless of whether the distance between the rows is 60 cm or 90 cm, the distance between the cells will be 20 cm, 30 cm, and so on. Even the distance between such nests does not guarantee that the seeds are satisfactorily fed from minerals.

The method of sowing the seeds in Fig. 1, v, with ribbon nesting is rarely used on farms. Especially with the help of mechanization, ie when harvesting with a cotton picking machine, most of the cotton remains in the cotton stalks.

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As a result, productivity decreases.

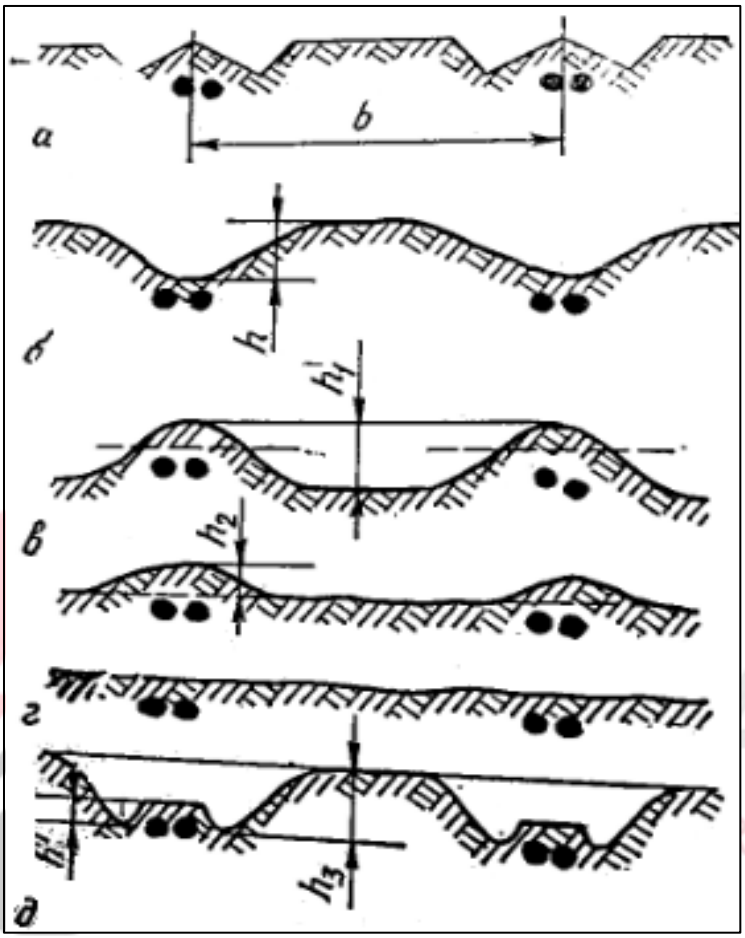

Figure 2. Methods of sowing seeds in the vertical plane, mm:

a – flat field, b – inside the field, v – above the field, g – sprinkling, d – W-shaped field, b – between rows, h=150; h1=160…180; h2=80…100; h3=120…150; h1=20…30..

Figure 1, g shows the method of planting cotton in a square nest. Most of all, the most economical and most productive way to sow seeds is to plant cotton in a square nest. In this case, the feeding range of the seed is the largest compared to other methods. But currently using this method requires additional power and tools.

Figure 1, d, shows the method of dotted sowing of cotton, which is less common than row sowing. The reason is that since the seeds are located one by one, there is a risk that it will not grow. Thus, the analysis of cotton planting methods in the horizontal plane requires the widespread introduction of square nest planting. This indicates the need to invent and use a new, compact modern mechanical device in the design of the drill.

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Figure 2, a, shows the method of planting cotton in a flat flat field. This is the simplest and most efficient method, occupying a large area of cotton.

Figure 2, b, shows the method of sowing the seed in the field. This method of planting is used in soils with saline soils, as harmful salts are less at the bottom of the field.

Figure 2, c, shows the method of sowing seeds on ditches previously obtained with another working body.

Figure 2, g shows the method of sowing the seeds, sprinkling the soil to a height of 8 ... 10 cm to form a ridge of ditches. The methods in v and g are used in areas where rainfall is low during spring.

Figure 2, d shows the method of sowing seeds on W-shaped branches. This method is used in areas with strong winds and saline soils.

CONCLUSION

Thus, the methods of planting cotton in the vertical plane are used only depending on the temperature and condition of the air and soil, weather and other characteristics of nature. This is not necessarily due to the methods of planting cotton in the horizontal plane.

At a time when the mechanization of cotton was developing, a great deal of attention was paid to the planting of square nests. This is due to the fact that on the one hand, the consumption of seeds was low, and on the other hand, during the growing season, cotton was cultivated horizontally between rows. In addition, the feeding area of the seed was wide and it would grow well. As a result, it plays an important role in increasing cotton yields. Our goal is to propose a new approach to the method of square nesting of cotton, which is currently receiving little attention, and a compact mechanism in the construction of the seeder.

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