

THE SELECTION OF AUSPICIOUS CULTIVAR AND HYBRID BROCCOLI

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ABSTRACT

In this article highlights of the significance of broccoli, its biological characteristics, technology of cultivation, as well as the auspicious cultivars and heterozygous hybrids grown in Uzbekistan, which included in the state register.

Keywords: Broccoli, hybrid, vegetation period, non-traditional crop, succulent, fleshy stem, core, bright Italian cauliflower.

INTRODUCTION

Broccoli cabbage (*Brassica botrytis* subsp) is a one of the types of cauliflower *Italica* (Plenck) Lisa (bright Italian cauliflower.). Many cultivars belong to the Italian evergreen species. There are also varieties and species with head florets of other colors, however they spread less.

Broccoli cabbage is related to annual plants like cauliflowers. Its homeland is southern Italy. Broccoli cabbage is used in food as a cabbage head consisting of florets. Broccoli cabbage is used in a variety of salads, dishes, garnishes and it is consumed fried, boiled, stewed and steamed. Broccoli could also be marinated, frozen and canned. It differs from cauliflowers with its slightly bitter taste and sweetness. It is more easily digested. The young leaves of broccoli are also used in food and not less than spinach in taste and nutritional value.

Broccoli cabbage is becoming more popular in Uzbekistan, and the demand for it is increasing among the population of our country. In addition, as it is an export product, the demand for it in foreign markets is growing. This is due to the fact that broccoli cabbage has high nutritional, dietary and medicinal-prophylactic properties. The presence of carbohydrates, proteins, vitamins, mineral salts, enzymes, antioxidants, pectin, lignin and cellulose in broccoli heads further increases its value.

Cultivar and heterozygous hybrids. Despite the fact that broccoli is a new vegetable crop, in this era about 10 heterozygous hybrids are included in the state register. Including



Fiesta F1, Marathon (2009), Ironman (2010), Tiburon (2011), Heraklion (2014), Naksoe (2015), Agassi F1 (2016), Atlantis F1, Quantum (2018).

In addition, cultivars of broccoli such as Beoumont F1, Lucky F1, Coronado F1, Hallmark F1, Belstar F1, Strobili F1, Partenon F1, Batavia F1, Malibu F1, Covina F1's seeds are grown and high harvest are taken by landowners, farmers and farmland in Uzbekistan, which are not included in the state register.[8].

Biological properties. Broccoli cabbage is a frost-resistant vegetable crop. Broccoli seeds begin to sprout at a temperature of 5 - 6 ° C. The optimum temperature for its germination is 18 - 20 ° C [7]. The moderate temperature for its growth and development is 16-25 ° C, and the plant can withstand short-term temperatures of -7 -10 ° C [4]. At high temperatures, heads of broccoli grow quickly, but their taste is not tasty as they have. When the temperature rises to + 35–40 ° C, the plant does not produced head at all. In Uzbekistan, when broccoli cabbage is planted in the medium term in early summer, its growth period coincides with the high summer temperatures and grows without the formation of cabbage, at the same time, the stem grows strongly and reaches a height of 40-50 cm. The formation of floret heads begins only when the autumn frosts. The temperature for flowering and seed ripening should be 18 - 20 ° C. When the average daily temperature exceeds +25 ° C, flower buds are not produced and pollen loses its fertilizing properties. So that it is much more difficult to grow broccoli cabbage seeds in the southern regions. Broccoli cabbage, like other types of cabbage - is a moisture-loving plant, so the lack of moisture in it during the formation of cabbage heads causes negative conditions. For comfortable growth and development of broccoli, soil moisture should be around 70-80% and relative humidity should be around 80-95% [3].

Broccoli cabbage is less demanding on soil fertility than cauliflower, but the demand for nitrogen is higher and more demanding, especially at the end of the growing season. Broccoli cabbage grows excellently in well-cultivated heavy and moderately sandy soils rich in high organic and nutrient content and gives abundant yields. Broccoli cabbage does not grow well in sour soil environments [5]

RESEARCH RESULTS

In order to develop the technology of growing broccoli in Samarkand region, which is a non-traditional and fresh vegetable crop, researchers of the Department of "Plant biology and Horticulture" of the Samarkand branch of Tashkent State Agrarian University are conducting experiments to select varieties and hybrids suitable for soil and climatic

conditions. The auspicious Fiesta F1, Agassi F1, Batavia F1, Malibu F1, Covina F1, which are included in the state register of broccoli cabbage, were obtained. The experiment compared the regionalized Fiesta F1, and Agassi F1 hybrids with Batavia F1, Malibu F1, Covina F1 hybrids, which are not included in the state register. The results of the experiments showed that Malibu F1, Batavia F1, Covina F1 hybrids prevailed in terms of seed germination, seedling viability and rapid growth, as well as the quality of cultivated cabbage. In particular, the Malibu F1, the hybrid, gave the best results in all respects. In particular, after sowing the seeds of broccoli, the beginning of germination was recorded in 7-9 days, and full germination in 11-14 days. The yield of broccoli cabbage hybrid seeds studied in the experiment ranged from 85.0 to 98.0 percent. At the time of planting in the open field, the prepared seedlings had an average of 4.0 - 5.1 true leaves, the leaves were 10.2 - 13.8 cm long and the leaf width was 5.3 - 6.9 cm.

Picture 1. The process of checking the quality level of floret heads of cabbages.



Among the broccoli cabbage hybrids studied in the experiment, during the period of full growth, an average bush formed 4.5-11.3 side branches, 78.5 - 134.4 leaves, the leaf weight of one bush was 1082.7 - 1514.7 g, fully formed. leaf length was 20.9–33.4 cm and leaf width was 8.9–12.9 cm. In the studied hybrids, the main stem cabbage head diameter was 12.7 - 22.8 cm, weight was 378.2 - 452.8 g.

The weight of small heads formed from side branches ranged from 98.7 to 132.8 g between average hybrids. In general, the yield of broccoli hybrids studied in the experiment was 18.7 - 25.7 tons per hectare.

CONCLUSION

To conclude, main and secondary crops in the conditions of farms of soil climate of Samarkand region, the cultivation of auspicious hybrids of broccoli cabbage such as Batavia F1, Malibu F1, Covina F1 provide high-quality cultivation of cabbage.

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