



DEVELOPMENT OF AGROTECHNOLOGY AND CULTIVATION OF THORNY ARTICHOKE (CYNARA SCOLYMUS L.) IN THE CONDITIONS OF TASHKENT REGION

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Article history:	Abstract:
<p>Received: 1st October 2022 Accepted: 1st November 2022 Published: 7th December 2022</p>	<p>In Uzbekistan, the spiny artichoke (<i>Cynara scolymus</i> L) is a new unconventional perennial edible vegetable and medicinal plant. In the conditions of serosemic soils of the Tashkent region, we studied the morphological-biological and economically valuable features and varieties of spiny artichoke, analyzed the biochemical indicators of the fruits of the thorny artichoke and determined the medicinal properties, identified optimal planting schemes (90x50 cm for early varieties, 100x100 cm for late ones), application of organic and mineral fertilizers at a rate of 20 t / ha of manure (background) + N₁₅₀P₁₂₀K₆₀ kg / ha, which ensured the yield of the variety Maykopsky 41 - 61 t / ha, Zamorsky 56.8 t / ha, respectively, as well as developed an approximate agrotechnical map of growing thorny artichokes.</p>
<p>Keywords: Plant samples, spiny artichoke (<i>Cynara scolymus</i> L.), introduced varieties, sowing rates, timing, planting schemes, yield, assessment of the biochemical composition of fruits</p>	

INTRODUCTION. Today, all over the world, special attention is paid to the cultivation of non-traditional vegetables and medicinal plants, a more complete use of their nutritional and medicinal properties, the expansion of the production of natural vegetables and medicines for their raw materials. One of these plants, the cultivation of artichoke in the world in 2019 amounted to 128 thousand hectares, with a yield of 13 tons per hectare. The largest producers of artichoka are Italy (383,000 tons), Egypt (343,000 tons) and Spain (207,000 tons), which account for 54 percent of total production, while Peru, Algeria e, Argentina, China, France and the United States account for the largest share of 35 percent of production. per capita in 2019 was in Italy (6.51 kg per capita per year), Peru (4.75 kg per capita per year) and Spain (4.14 kg per capita per year).

In this regard, it is important to expand research on the development and implementation of agricultural technology for growing non-traditional vegetables, taking into account their nutritional and medicinal properties. It is important to identify the possibilities in the cultivation of artichokes and thornyit, which is an unconventional vegetable crop, to determine the norms, terms, schemes and areas of sowing, to develop a technology for applying organic and mineral fertilizers, to study the healing properties.

MATERIALS AND METHODS. To solve the above problems, we conducted field experiments in the conditions of typical serozemsof the Tashkent region, where foreign varieties of spiny artichoke were introduced, based on the analysis of the biochemical composition of the varieties, the amount of rutin, quercetin and other substances belonging to the group of biologically active substances - flavonoids was determined. , ($r = 0.91$) and the correlation between the planting scheme ($r = 0.93$) is explained by scientific validity.

All phenological observations and biometric records in the cultivation of spiny artichoke in the field plot were carried out according to the method of Belik V.F. "Method of field experience in vegetable growing and melon growing" (1992) and "Methods of physiological and biochemical research in vegetable growing and melon growing" (1987), biochemical analysis of artichokes was determined by the methods of V.P. Pleshkov (1976) and A. S. Spirin (1964) and statistical processing of the results of the study was carried out on the basis of based on the dispersion method, B.A. Dospekhov "Methods of field experience" (1985) using the program Microsoft Excel.

RESULTS OF THE STUDY. The results of the study showed that the field germination of artichoke varieties did not differ much by variety, and the difference between the germination of 10% of the seeds was 2-8 days. At the same time, the earliest germination - November 27-29 - 10% was noted in the varieties Maykopsky 41 and Purple early, the latest - December 3-5 - the varieties Zamorsky delicacy and Lyon 19. The timing of germination of the studied varieties of artichoke also directly affected the duration of the phase of their technical ripeness. The earliest technical ripening inflorescences in the varieties Maykopsky 41 and Purple early, noted June 13-20. In the varieties Zamorsky delicacy and Lyon 19, technical ripening was the latest and was observed from June 24 to July 4. In terms of technical ripeness, the Sultan and Handsome varieties occupied an intermediate place, and in them this biological phase coincided with June 18-24 and ripened between the above varieties in terms of ripeness (Table 1).

The studied varieties were conditionally divided into early-ripe (Maykopsky 41 and Purple Wound), medium-ripe (Sultan and Handsome) and late-ripening (Overseas delicacy and Lyon 19) varieties, taking into account the transitional period of germination, technical ripeness, flowering and biological maturation.

When studying the economic values of promising varieties of artichoke, it was found that on average for varieties in the average mass of inflorescences, a sharp difference was recorded. The largest inflorescences in the varieties of Lyon 19 weighed up to 185 g. The smallest inflorescences of the precocious variety Purple early did not exceed 98 g. The remaining varieties of spiny artichokes occupied an intermediate position in the average mass of the inflorescence and ranged from 101-165 g, respectively.

Tablica -1
The duration of the phases of development of varieties of artichoke spiny, 2016-2019

After planting seedlings in the open ground, days				
Initial technical maturity	Mass technical maturity	Before the first flowering	Before mass flowering	Period of biological maturation
Early ripe variety Maykopsky 41				
188	192	196	202	237
Early ripe variety Purple wound				
190	194	198	204	239
Middle spehlium variety Sulton				
193	197	201	207	242
Medium-sized variety Handsome				
194	198	202	208	243
Late-ripe variety Overseas delicacy				
231	212	242	215	270
Late-ripe variety Lyon 19				
233	214	244	217	272

Formed inflorescences on the plant - the number of baskets and their average weight had a significant impact on productivity and unit area. At the same time, depending on the number of baskets and their average weight, the greatest yield was noted in the late Zamorsky delicacy variety. The yield per unit area of this variety was about 56.8 tons. early depending on the total mass of baskets on one plant. The yield per unit area of this variety did not exceed 27.1 tons, which is 29.7 tons less than that of the Zamorsky delicacy variety, and in the remaining studied varieties, the yield per unit area was intermediate and, depending on the variety, fluctuated within 30.8–52.7 tons per hectare (Fig. 1).

FINDINGS. Based on the results of the studies, it was determined that the following varieties are conditionally divided into early ripe (Maykopsky 41 and Purple early), medium-ripe (Sultan and Handsome) and late-ripening (Overseas delicacy and Lyon 19) varieties, taking into account the transitional period of germination, technical ripeness, flowering and biological maturation.

In the conditions of typical serozems of the Tashkent region, the highest yield per unit area of the late Zamorsky delicacy variety is about 56.8 tons, the lowest - for the Purple early variety is 27.1 tons, and the rest of the varieties are respectively 30.8-52.7 tons.

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