

AMARANTH LOCAL CLIMATE SUPERVISION AUTHORITY UZBEKISTAN CONDITIONS FOR THE DEVELOPMENT AND DEVELOPMENT OF PHENOLOGICAL RESEARCH

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Annotation. Today, amarant is known to many as a weed. The most unique properties of this plant are its ability to stimulate tissue regeneration, reduce inflammation, prevent chronic diseases, increase bone density, lower blood pressure and strengthen immunity. Externally it is a tall growing plant with broad green leaves. Its flowers are silvery and have a bright violet, red or golden-yellow color. Many varieties of amaranth are considered weeds, but its cultural species is also present and is grown as a medicinal and decorative plant.

Keywords: Amarant, chemical composition, local varieties, soil, climate conditions, yields.

Amaranth has high quality products. It is used as a raw material for the production of amaranth essential oils. In the food industry, seeds and leaves are used. So far, the technology of obtaining color, oil and flour from the seeds and leaves of Amaranth in the food industry has been widely established.

This plant, whose homeland of origin is South America, spread throughout Asia and began to have its place in the eastern mammals. In the countries of Pakistan and India, Iran, the color obtained from this plant is widely used in industry as a nutritional supplement. Today, these plants can be found in China, Russia, Thailand, Nigeria, Mexico and some regions of South America. Amarant prefers to grow in places with high altitudes, but if necessary, it will easily adapt to any conditions. It grows well on moist, loose soil, which is well drained at almost any height, medium latitudes. A warm-loving plant. As it is considered an excellent source of calcium, iron, magnesium, phosphorus and potassium, it is a practical choice.

In recent years, research with amarant has been intensively conducted in many countries of the world. Amaranth galophyte is considered a plant and is able to develop even in a salty environment. It was also observed that the soil recultivation, that is, it improves its ecological environment. This plant, which grows well even on low-score soil of 37 bonitets of Andijan, can expect to be grown as the main cultural crop of large areas, whose yields are extremely low-saline.

The climate of the Andijan region of the Republic of Uzbekistan. Andijan region borders with the Kyrgyz Republic from the North-East and South, Fergana region



from the West and Namangan region from the North-West. The climate of the region is sharply continental, dry. Since the mountain formations block the penetration of cold air into the Fergana Valley, the weather in winter is moderate for some time. Summer is hot, the average temperature in July is 27.3 °C, winter is relatively cold, the average temperature in Yanvar is -3 °C. The vegetation period is 217 days, the annual average precipitation is 200-250 mm. makes up ni. The soils consist of burlap, Beetle, Meadow, swampy soils, sandstone, Merkel Calluses. Andijan region is distinguished by its richness of water resources compared to other regions of Uzbekistan, that is, it carries water from rivers, mountains, many years of snow and ice. Andijan district relief consists of Lowlands, villages and Adirs. The average character of July is 27,3, yanvarniki minus 3 degrees. The vegetation period is 160-180 days. An average of 225 mm per year. the rain falls. The soil of the adir part of the district is arable, in the remaining lands is burzy soil. In the spring, the princes are covered with ephemeral plants. In arable land, Wormwood grows.

Amaranth is a plant that adapts to any conditions. Varieties of Amarant "Lera", "Gelios", "Varonezhsky", "Kharkovsky" are fertile, it is possible to obtain from 0.5 kg of seeds 2-5 tons of grain per hectare. These varieties were localized by introduction by scientists and became the basis for the creation of varieties "Uzbekistan", "mercy", "Andijan", "Ulugnor". In the soil with an average of productivity adapted to the local climatic conditions in Uzbekistan also observed good crop growth of the plant. Amarant's "Uzbekistan", "mercy", "Andijan", "Ulugnor" varieties planted in Andijan District of Andijan region were planted on April 10, 2022. Air temperature +17 C, soil temperature +11 C, relative humidity 72%, (since there is an increase in the amount of precipitation), the amount of organic fertilizers in the soil 25%, to seedsarfi 0.5\Plant adaptation to any conditions amarant do it. Amarantning "le" could, "Gelios", "Varonejskiy", "Xarkovski " be fertile varieties, 2-5 0.5 kg of seed per hectare link you can get tons of grain. It was by way of these varieties by scientists localization introduktsiya "Uzbekistan", "Blessing", "Andijan", "Ulugnor" is the basis for the creation of varieties. Adapted to local climate conditions in the soil-plant average productivity in uzbekistan andk were observed in the growth of sprouts good. At andizhan region, in the district planted at andizhan Amarantning "Uzbekistan", "blessing", "Andijan", "Ulugnor" varieties planted on the date of 10 April 2022. Air temperature +17 S, the soil temperature is +11 S, relative humidity 72%, (the amount of precipitationorteeth because of the observation time), and organic fertilizers in the soil, the amount of 25%, itrug'sarfi 0.5\ha.



Amarant morphological features of local varieties

1-table. Root

<i>varieties</i>	<i>of the root system</i>	<i>length, M</i>	<i>diameter, m</i>
Markhamat	<i>right</i>	<i>0.22</i>	<i>0.46</i>
Ulugnor	<i>tugri</i>	<i>0.31</i>	<i>0.41</i>
Uzbekistan	<i>tugri</i>	<i>0.42</i>	<i>0.54</i>
Andizhan	<i>right</i>	<i>0.28</i>	<i>0.51</i>

2-table. Stake

The varieties	View	of the stem height, m (in 2022 y)	the number of leaves	the flowers, the color of	placed flowers
Markhamat	steep	1,45	12-15	pink	series ball
Ulugnor	steep	1,66	15-18	red	series,ball
Uzbekistan	steep	1,74	17-19	green	series ball
Andizhan	steep	1,65	11-13	yellow, light green	series ball

3-table. Leaves

varieties	for plant height,		cm growth ratio 1 month
	15.05.2022	15.06.2022	
Markhamat	48	1,45	3 more times
Ulugnor	51	1,66	many times 3,2
Uzbekistan	53	1,74	3,2 many times
Andizhan	49	1,65	3.3 times as much

3-table. Height of local amarant varieties (sm), 2022 year 15.05.- 15.06 months



varieties of	leaf appearance			of the form of the	
	type	of the plate leaves the length\ width,	color	the edge	apical edge
Markhamat	simple	16-17 sm 13-15 sm	light green	wave	Egg-shaped tapering
Ulugnor	simple	14-15 sm : 14-16 sm	light green	wave	Egg-shaped tapering
Uzbekistan	simple	16-17 sm : 13-15 sm	light green	wave	Egg-shaped, tapering
Andizhan	simple	16-17 sm : 12-15 sm	light green	wave	Egg-shaped, tapering

5-table. Seeds and in the Shape of a flower

varieties of	color	and flower color,	length, m	the form of
Markhamat	pink	Pink	12-25	Inflorescences, shingil
Ulugnor	dark red	dark red	28-33	Inflorescences, shingil
of uzbekistan the	green	green	23-27	Inflorescences, shingil
Andizhan	light green	light green	25-31	Inflorescences, shingil

Amaranth seedlings sprouted after 9-11 days from 22-25 April 2022 year. The seedlings are light green. The height of the seedlings was 1,2-1,3 CM, the number of First leaves was 2-3 pieces, the size of the leaves was 0,6-0,7 x 0,2 CM. The bud leaf phase occurred on 1 - ten days of may, the phase of the second real leaf on 2-ten days of may. The branching phase of the buds coincided with the 3-th decadence of may. The height of the plants is 60-70 CM, the size of the leaves is 10.2x6.2 cm. Number of leaves 15-19 pieces. The flowering stage began on June 1-2nd decade. At this time, the height of the plants was 120-170 CM, the size of the leaves was on average 12,6 x 8,5 CM. The plants were distinguished by their height, length, width and shape of the leaves, the strength of the root systems. There was no infection, micro organism and insect damage.



As a result of adaptation of Amaranth's fertile varieties "Lera", "Gelios" to the climatic conditions of Andijan region of Uzbekistan by introduction, "Uzbekistan", "mercy", "Andijan", "Ulugnor" varieties were created and planted by selection. According to the results of the study, in Andijan district soil conditions with low fertility, it was also observed that these varieties grow well. If the amaranth processing industry is created in our country, then in the future crops can be increased tenfold, because the products obtained from it are in demand by the food market and attract new consumers every year. In other areas of livestock production, fishery, food production, amaranth DOI is expensive, and in this case the raw material base is covered. The intake of flour, oil and other nutritional supplements from it is cost-effective and sparing.

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