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Pests and diseases of artichoke

Автор(и): гл.ас. д-р Дима Маркова; гл. ас. д-р Боян Арнаудов, ИЗК "Марица" в Пловдив; проф. д-р Винелина Янкова, ИЗК “Марица” в Пловдив
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Aphids (*Aphis spp.*)

They cause curling and yellowing of the leaves. Infested plants have reduced growth, which leads to the formation of small or deformed buds. In addition to the direct damage resulting from their feeding, the aphids excrete abundant honeydew, which is deposited on the leaves and gives a wet and glossy appearance to the developing buds. Black saprophytic fungi develop on the honeydew, covering the leaf surface and hindering photosynthesis. Losses can reach 10–15% of the yield due to poor product quality.

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Thrips (*Frankliniella occidentalis*)

At the site of damage, whitish–silvery spots with black dots are observed. Under heavy infestation, the buds become deformed.

Leaf-miner flies (*Liriomyza huidobrensis*)

Serpentine mines are observed on the leaves. Under severe infestation, the leaves dry out.

Cutworms (*Noctuidae*)

Cutworm larvae gnaw young plants at the base or near the soil surface. They also make holes in the leaves.

Two-spotted spider mite (*Tetranychus urticae*)

The mites feed by sucking plant sap. The first symptom of feeding is the appearance of whitish-yellow spots on the upper side of the leaf. Initially, the spots appear between the main veins of the leaves. As the damage increases, the leaf surface between the veins begins to yellow, later the entire leaf turns brown and dries out. The leaves are very often covered with webbing. Under heavy infestation, the photosynthetic capacity of the plant is reduced and it appears weak with crinkled leaves. The mites can also spread to the buds, on which white spots are observed on the surface and which are covered with webbing.

Slugs (*Limacidae*)

They are a major problem in perennial artichoke plantations, especially in winter. Juveniles and adults feed on all parts of the plant. While feeding, they make holes in the leaves. Slugs also damage the buds by eating out the soft tissues of the artichoke. This injury later turns black and the quality of the affected produce is significantly reduced.

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Verticillium wilt (*Verticillium dahliae*)

Symptoms of Verticillium wilt include wilting, chlorosis and cessation of plant growth. Necrosis appears on the leaves. Discoloration of the vascular system, which is characteristic of this disease in other hosts, is not always observed in artichoke. Infected plants form fewer buds, are stunted, turn yellow and die. The roots exhibit the characteristic vascular discoloration typical of this disease.

Powdery mildew (*Leveillula taurica*)

The pathogen colonizes the underside of older leaves. Severely infected leaves turn yellow, then brown. Over time, the brown leaves may dry out.

Gray mold (*Botrytis cinerea*)

The fungus that causes gray mold penetrates the plants and bracts through injuries caused by slugs, insects, frost or other factors. Infected plants turn brown on the outside. A characteristic gray mold growth develops on the inner surface.

Control of pests

Integrated pest management in artichoke includes sanitary practices such as removal of old infected leaves and plant residues in the soil after harvest. Weekly monitoring should be carried out, especially at the end of winter and during spring. Selective insecticides should be used when necessary. Registered products for artichoke are: Thiovit Jet 80 WG 500 g/ha against powdery mildew and mites; Deltagri EC 30–50 ml/ha against cutworms; Chlorsirin 550 EC 80 ml/ha against aphids.