



DISEASES OF FRUIT TREES AND THEIR CONTROL MEASURES

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Diseases of seedlings grown from seed and replanted in the nursery. Among the diseases that occur in the fields where seedlings are delivered to the nursery, we can include powdery mildew, powdery mildew, root cancer and viral diseases.

Root cancer . 50-80% of seedlings are damaged by this disease. The causative agent is the bacterium *Pseudomonas tumefaciens* , which infects many fruit plants. Bacteria entering the affected part of the root and root hairs cause rapid death of root cells and form a large number of tumors. The disease spreads widely when there is little moisture in the soil. An infected plant quickly dries up. The causative agent of the disease can infect seedlings grown from seeds even after 2-3 years of survival in the soil. The strongest manifestation of the disease is manifested in damage to the root neck and arrow root. Due to the disease, the water supply of seedlings is severely disrupted, growth and development lag behind. When such seedlings are transplanted into the soil, it is very difficult to turn green. Root canker is mainly spread by seedlings, tools and insects.

Countermeasures: establishment of nurseries in fertile soils, timely tillage of the soil, destruction of diseased plants and their root remains.

Brown spotting of the leaf. The disease mainly affects the leaves and branches of fruit trees. The first symptoms of the disease appear in the form of brown spots on the surface and back of the leaf at the end of May, beginning of June.

The causative agent is *Entomosporium maculatum* Lev. is a type of fungus and belongs to the class of unimproved fungi. The disease is more common in young seedlings. The formation of conidia of the fungus is in the form of dark colored dots on the affected parts, and pycnidia spores mature in these spots. Such spots are also formed on the leaf band, stem, and fruit. The fungus develops at a temperature of 0-5°C, at a temperature of 13-25°C, the fungus forms conidia or bags in the soil.

Countermeasures: deep plowing of the soil, pruning of diseased branches, treatment of plants with Bordeaux liquid, fertilization of nursery beds with phosphorus and potassium fertilizers, planting of resistant varieties.

The main measures against the disease should be aimed at agrotechnical, disease prevention, and increasing plant resistance. Chemical control measures: when applying, it is necessary to take into account its duration, frequency and amount of fungicide.

The primary infection source of the disease is infected leaves and branches of seedlings. Spores ripen in the bags formed in them in winter. Ripening of pseudothecae occurs in late spring and early summer. Ascospores open in rain and release many spores.

The mycelium formed on the primary infected leaves develops under the epidermis, producing conidia and causing secondary damage to the plants. Among apple varieties, Renet, Simirenko, Colville, Belfir, Kitanka varieties are strongly affected.



Countermeasures: treating the infection in the soil and plant residues with a 2-3% solution of nitrofen, treating the infected plant with burgundy liquid, Vektra, Impakt fungicides, planting resistant varieties.

Powdery mildew disease. This disease occurs in orchards on farms where all fruit trees are planted. Especially in densely planted fields, crops cause great damage. The disease damages leaves, branches, flowers and fruits. Infected young leaves and branches, leaf bands are covered with mold spots. Affected leaves become discolored and later fall off. The shoots lag behind in growth. The mature conidia in the mycelium formed on the upper side change its color. The causative agent of the disease is *Podosphaera leucotricha*, which belongs to the powdery mildew fungus. The fungus overwinters in the bud in the form of mycelium in the diseased parts of fruit plants. Conidia are formed from the cleistothecia formed in the bud. The disease also affects plants in nurseries. Dry, warm conditions are favorable for the spread of the disease. Disease-resistant varieties: Saffron, Renet, Champansky, Kandel, Kitaika.

Umbrella (shark) disease of plum. This disease infects plants such as cherry, cherezhnya, cherry, peach, plum. This disease is spread in European countries (Austria, England, Bulgaria, Hungary, Netherlands, Poland, Czech Republic, Sweden, Switzerland, Croatia, Turkey, Germany) and should be considered a quarantine object for our Republic. This disease is Prunus virus 7 caused by The virus infects all parts of the plant: leaves, branches, flowers, fruits, especially in the flowering phase of plants. Infected plant leaves develop broad, ring-shaped spots, and infected plant leaves turn a colorless green or yellow-green color.

Infected fruits have light green or light yellow bordered spots. The virus, which is considered to be the causative agent of the disease, spreads through saplings, cuttings, and root buds. Due to the disease, millions of trees die when 20-50% of the plants are infected.

Quarantine measures against the disease include: not bringing seedlings and cuttings from areas where the disease has spread; control of imported materials in introduction quarantine kennels for 3 years; when the disease is detected, all trees should be destroyed; treatment with Bordeaux liquid and streptomycin during the flowering period of trees; timely fight against sucking insects, weeds.

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