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ALTERNARIOSIS IN TOMATOES AND MEASURES AGAINST THEM

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ABSTRACT
In article given materials about various diseases of tomatoes. It is known that the tomato plant is one of the most important food crops. In recent years, tomatoes have been found to cause various diseases and damage to crops. One such disease is the disease of tomato fruit black mold (alternariosis).
KEYWORDS: *Tomatoes, Alternariosis, fungal diseases, monitoring diseases.*

INTRODUCTION

Fruit black mold in tomatoes Alternaria alternata f.sp. The lycopersici stimulates the gifomycete fungus. The leaves, stems and fruits of the plant are damaged. On the fruits of tomatoes develop dark brown or black, sunken wounds, and they pass into the fruit Wounds are more common in areas where the fruit is attached to the stalk.

In Uzbekistan, alternariosis caused by the fungus Alternaria solan has been reported in greenhouse tomatoes and 60-70% of crops have been affected, but according to the author, the disease is most likely caused by the fungus A. alternata, as the symptoms of conidia (dark-colored, inverted egg-shaped, arranged in chains, 20–63 μm long) does not resemble Alternaria solan fungus (light brown, ellipsoid-shaped, without chains, 150–300 μm long); the microscopic signs of the fungus should be carefully studied for a definitive diagnosis [1].

The most important of the conditions necessary for the strong development of the disease - the presence of high humidity for a long time. By removing the lower leaves of the tomato and ensuring that the humidity is 70-80% by heating and ventilating the greenhouse, the crop will not be severely damaged. In order to prevent the accumulation of infection, damaged plant remains should be removed from the greenhouse and disposed of. If there is a strong risk of developing the disease, it is recommended to spray the crop fungicide (dixlofluanide, iprodion). Resistant to the stimulant benzimidazoles; If dicarboximides (iprodion, vinclozoline) are used regularly, it is necessary to develop a carefully prepared program of fungicide application, taking into account the possibility of developing resistance to them in the pathogen.

Lack of nutrients or toxicity can lead to the development of the disease. When nutrient deficiencies are observed, the following symptoms develop in tomato plants Nitrogen: chlorosis spots appear on all leaves (starting from the bottom), they gradually dry out, the plant height decreases, the leaves take the shape of a spike and light green. Phosphorus: stems, twigs, leaf veins and bands turn reddish-orange, or the leaves turn dark green, dark red spots appear on their underside, plant growth slows down. Potassium: Chlorosis develops between the veins of all leaves (starting from the bottom), the edges of which look like burns and can be twisted. Manganese: young and middle-aged leaves turn purple, the space between the leaf veins is filled with light green chlorosis. Calcium: young leaves take an ugly shape, turn yellow, then develop chlorosis and dark brown necrosis on their edges. Magnesium: first chlorosis spots appear between the veins of the lower leaves, then all the leaves gradually turn completely yellow; young leaves may twist, become brittle and wither. Iron: Chlorosis spots appear between the main veins of young leaves, the tissues quickly turn yellow and lose color, but the leaf veins retain their green color. Zinc: mainly between the veins of young leaves, first chlorosis, then necrosis spots develop, the leaves become opaque. Boron: chlorosis and weak necrosis spots develop on the edges of the leaves, when there is an acute deficiency of boron, the growth points of the branches turn yellow and dry

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out, the side branches grow. Molybdenum: Chlorosis develops between the veins of the lower leaves, they turn yellow, the edges can be twisted upwards. Copper: mostly young leaves turn bluish-green, twist upwards, take on a boat shape, the plants stop growing and are covered with chlorosis spots. Sulfur: the leaves turn light green, chlorosis and partial necrosis develop between their veins (from the bottom), dark red spots appear on the leaves, the branches may become woody and thin.

CONCLUSION

In short, alternariosis fungal disease is very dangerous for tomatoes, and if no control measures are taken against it, the quantity and quality of the crop will fall sharply. Preventive measures, ie agrotechnical measures, play an important role in the fight against this disease. In order to normalize the pH and absorption of plant nutrients, it is recommended to add lime to acid soils, sulfur to alkaline soils, and, if necessary, spray a solution of micronutrients on crops.

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