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WHITE SPOT DISEASE IN STRAWBERRY PLANT

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Abstract:

The article describes the damage, development and treatment of white spot disease in strawberry plantations in Ortachirchik district of Tashkent region Ramularia tulasnei Sacc. information on fungal infections.

Keywords: white spot, Ramularia tulasnei Sacc., Ascospora Mycosphaerella fragariae, fungus, disease, vegetation, strawberry, plant, leaf.

INTRODUCTION.

Along with fruits and vegetables, berries have a special place in the completeness of the human diet. Among the varieties of this crop in Uzbekistan, strawberry is an early berry. The largest area under strawberries is located in the Tashkent region, most of which is grown in residential areas. Full satisfaction of the demand of the population and processing enterprises for strawberry products can not be achieved only through the expansion of arable land. It is therefore important to look for ways to increase the productivity of strawberries without expanding the area under cultivation. One such way is to find effective measures to combat the most dangerous diseases that cause great damage to its productivity. Despite the prevalence of strawberry diseases in Uzbekistan and their great harm, they have not yet been studied. Among these diseases, white spot is one of the most common diseases in the areas where strawberries are planted and is the leading cause of damage. White spot disease Ramularia tulasnei Sacc. stimulates the fungal type.

The disease affects the leaves, petals, roses and berries of strawberries. The first appearance of the disease is manifested by the appearance of odorless round brown spots on the affected plant organs. Such spots on the surface of young leaves merge with each other and turn into large brown spots. On the surface of the spots are formed conidial bands and conidia of the pathogenic fungus with a shiny appearance. On adult leaves, reddish or brown-streaked white spots appear, and when there is enough moisture, their surface and back are covered with fungal conidia and conidia. As the disease progresses, the center of the tissue spots often fall off due to the fall of the damaged leaf. The disease manifests itself in the form of elongated spots, first brown, then white in the middle, on the leaves, petals, fruits and whiskers. Such members of the damaged strawberries thin out from the spot and lie on the ground.

RESEARCH OBJECTS AND METHODOLOGY.

The pathogenic fungus goes through the stages of conidia, sclerosis and sac formation in its developmental cycle. Its conidia are branched, colorless, up to 30 mm in length and 3-4 mm in thickness in a bunch of conidia. Conidia are colorless, cylindrical, single or 2-3-celled, measuring 15-45 x 2,5-4,5 mm. Forms sclerotia with a diameter of 0,5-0,8 mm. These sclerotia have an elongated or various other shape, and the strawberry is embedded in the damaged tissue or located on its surface. Mycosphaerella fragariae Sacc, which forms the sac of the disease. perithecia with a diameter of 120-150 mm. They are half-sunk into the damaged plant tissue or placed on their surface. They are bagged in size 50-60 x 7-9 mmk, the ends of which are bent, cylindrical, sticking under the peritoneum. The ascospores are cylindrical, single-stemmed, the tetanus is elongated, dilated, colorless, measuring 12-5x3-4 mm. Dementeva M.I. (1985)., Chumakov A.E., Zakharov T.I. (1990). Conidia of the pathogenic fungus play an important role in its spread, infecting other strawberry plants around it throughout the summer. Sclerotic and perithecia of the fungus are formed mainly on the dried leaves, which are located irregularly on the surface.

Sclerosis and perithecia have almost no role in the spread of the disease in Uzbekistan. This is because the disease-causing fungus spreads to the environment using overwintering conidia.

RESEARCH RESULTS AND THEIR DISCUSSION.

The spread of white spot disease in strawberries was studied in the fields of farms in Ortachirchik district of Tashkent region. In all the fields occupied by the observed strawberries, the white spot disease was reversed. A relatively higher prevalence (31,3%) and development (19,4%) of the disease was observed in the 2nd farm. A relatively low rate was recorded on farm 3, with disease prevalence (24,7%) and development (12,8%). Such a figure was (27,9%) and (16,8%) on farm 1, respectively.

Table 1.
The spread of white spot disease of strawberries..

№	Name of the farm	Strawberry planted area, ha	Disease prevalence%	Disease development%
1	"Agro eco crop"	0,56	27,9	16,8
2	"Shoxbosbek Abosbek agro"	0,69	31,3	19,4
3	"Bardosh agro"	0,48	24,7	12,8

Such a difference between farms in the spread and development of the disease may be due to the agro-technical measures taken and the navigation of planted strawberries. Outbreaks appear to be exacerbated during early spring. The spots on the damaged strawberry branches in the previous year are enlarged, and conidia are rapidly formed on its surface. This condition can also be seen on the surface of sclerotia. Conidia occur from a temperature of 50ºC. At this temperature the strawberry itself begins to grow. After 2–3 weeks, the conidia on the surface of the leaves, which overwinter, go unnoticed. Occurrence of white spot disease is observed in late April and early April. The incubation period of the pathogen is 10–15 days. The formation of conidia on the surface of the spots is observed from 7 days, and the process can last up to 14 days and sometimes up to 20 days. After this period, conidia are not observed at all on the surface of the spots. However, when precipitation is high and the relative humidity is above 85%, the rapid formation of conidia on the surface of spots on the affected plant organs is observed. The optimum temperature for the development of conidia is 20-22ºC, where up to 100% conidia can be recorded. When the air temperature is 32-340 C, the conidia stop growing. Light has a positive effect on the development of the disease. The development of the disease is more rapid in the open ground than in the shade. On the surface of the spots on the affected leaves of the plant grown in the shade, fungal conidia are rarely or almost not formed.

Symptoms of white spot disease on strawberry leaves

The development of the disease stops with an increase in air temperature and continues to develop again with a decrease in temperature in late summer. It has been observed that the most developmental period of the white spot disease of strawberries lasts from the time of flowering to the time of harvest. It is noted that this condition leads to a decrease in strawberry yield by up to 15%.

CONCLUSION.

From the above, it can be concluded that strawberry white spot disease occurs in areas occupied by this type of crop, and in order to take proper and effective control measures, it is possible to do so without knowing the timing, development dynamics and biological characteristics of the pathogen. not.

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