CORN FUSARIOSIS (FUSARIUM MONILYIFORME) DISEASE AND MEASURES TO CONTROL IT

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Abstract: This article discusses the harm of malaria fusariosis, the factors that cause the disease, the stages of development of the disease, the measures to combat them using chemical and agrotechnical measures.

Key words: Corn, fusarium wilt, control measures, development cycle.

ФУЗАРИОЗ КУКУРУЗЫ (Fusarium monilyiforme) БОЛЕЗНЬ И МЕРЫ БОРЬБЫ С НЕЙ

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Аннотация: В данной статье рассмотрен вред малярийного фузариоза, факторы, вызывающие заболевание, стадии развития болезни, меры борьбы с ними с помощью химических и агротехнических мероприятий.

Ключевые слова: Кукуруза, фузариозное увядание, меры борьбы, цикл развития.

Maize is of high importance in the national economy and is an important cultivated plant grown in large areas for grain and green mass. In recent years, along with its use in a number of industries, the importance of corn in its use as a nutritious food crop for food and livestock has increased.

Maize is the most valuable and high-yielding crop in the world's agriculture, ranking second in terms of total grain yield and third in terms of area under cereals.

Maize is superior to other cereals in terms of productivity and nutritional value. Due to the high content of fat in the sprouted part of the grain, corn flour is fermented quickly, so when making flour, the sprouts are separated, and the sprouts are used to make quality oil for food. Corn is covered with bread by adding 20-30% wheat flour to it. Infusions made from corn poppy are used as a diuretic in the treatment of kidney and liver diseases. Popuga is rich in vitamin K. The oil is a cure for atherosclerosis.

The disease is common throughout our country, where corn is grown. The disease is especially active in regions with high humidity. affects corn cobs during the period of milky-wax ripening, the disease tends to progress at high humidity during the period of crop conservation.

The disease is caused by the marsupial fungus Gibrella Savada. Condial sporulation of fungi is represented by numerous microconidia and, to a lesser extent, macroconidia. Microconidia are colorless, egg-shaped, unicellular, 5-25x2-5 microns in size. They are formed on the tops of conidiophores in the form of chains or heads. Macroconidia are colorless, awl-shaped, with several septa, 25-90x2-5 microns in size. An outbreak of disease development occurs at air temperatures from +5 to + 35 degrees and soil moisture above 40% [1].

The disease manifests itself during the period of milky-wax maturation and can continue its development at high humidity. At first, one, later several infected areas appear on the cob, which gradually expand and cover most of the cob. A white mycelium appears in their center, under which are brownish in color, without a characteristic sheen, soft consistency of grain. The grains are easily pressed, crumble and crumble into a powdery mass. At a distance from the center, the color changes from white to pink, under this coating there are not infected grains, hard, brown in color, and a pink, fluffy mycelium develops on the border

with healthy ones. First, it spreads between the grains, then covers the entire surface of the cob. Over time, the source increases and covers the entire cob, which dies [2].

The disease develops primarily on damaged cobs, which are damaged by a cotton scoop, a moth, infected with linen. In such cases, the pathogen enters the epidermis, destroys it, and then penetrates into healthy grains [3].

The main source of infection is plant residues on which the fungus is stored in the form of mycelium, sclerotia, marsupial and condial sporulation. Also the source is the infected grain of corn.

Fusarium of corn is a disease caused by various types of fungi of the genus Fusarium. Plants are susceptible to infection by fungi from the stage of seedlings up to the ripening of cobs [4].

Fusarium corn can cause significant damage - a significant part of the crop is lost, its quality suffers, seed germination decreases, and diseased plants can cause poisoning in animals, even death.

Favorable factors for the development of Fusarium corn

Fungi that cause maize Fusarium develop in a fairly wide temperature range - from +3 to +30°C. Particularly intense spread occurs at elevated temperatures - +20 - +30°C in combination with high humidity - up to 80%. Insect pests (corn borer) also contribute to the spread of Fusarium corn.

Symptoms of fusarium corn

Seedling rot occurs as a result of sowing infected seeds, most of which do not even germinate. On their surface, white or pinkish shades of mycelium are formed.

In the second half of the growing season, maize Fusarium can manifest itself in the form of root and stem rot. This type of disease occurs in the phase of milky-wax ripeness. The leaves begin to wither, then the whole plant dries out. On the cut of the stem, one can see the destroyed parenchyma, only vascular bundles remain.

Cob rot appears after milky-wax ripeness and proceeds during storage. A white-pink mycelium of the fungus is formed on the cobs, the affected grains acquire a dirty brown hue and are destroyed.

Development cycle of Fusarium corn

The fungi that cause fusarium in corn survive on plant debris. They are typical soil-dwelling microorganisms, which allows them to remain in the soil on their own even after the decay of the remains of the affected plant. Upon contact with the roots of corn, they cause their rot at the seedling stage. Further, the whole plant is affected - the stem, leaves, cobs. This is especially intense in humid and warm summers.

Treatment of fusarium corn

Treatment of Fusarium corn is important to start at the stage of preparation of seed.

If affected seeds are found in it, and also as a preventive measure to prevent the onset of the disease, it is recommended that the seeds be treated with fungicides, which include active ingredients - tebuconazole, thiabendazole, flutriafol, triadimefon.

Upon reaching the stage of milky-wax ripeness, it is important to timely identify the foci of Fusarium, to destroy (it is better to burn) the affected plants. At this time, it is necessary to treat crops with insecticides in order to reduce the number of pests that contribute to the spread of the disease. After harvesting, autumn plowing of the field is carried out with the removal of corn residues.

Prevention of fusarium corn

Preventive measures against the emergence and spread of Fusarium corn include:

Storage of cobs in conditions of optimal temperature, humidity and aeration.

Seed dressing before sowing.

Removal of diseased corn cobs during the growing season.

Carrying out the treatment of crops with insecticides in order to reduce the number of insects that damage the cobs.

Plowing the field after harvesting with the removal of corn residues.

In conclusion, it should be noted that the disease of corn fusarium wilt can cause significant damage to crops and prevent the disease as a result of timely implementation of chemical and agro-technical measures.

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