

STRAINS OF *CRYPHONECTRIA PARASITICA* IN BULGARIA AND OPPORTUNITIES FOR A BIOLOGICAL CONTROL WITH THE PATHOGEN

Eva Ilieva Filipova

(Summary)

Deterioration of health status of chestnut (*Castanea sativa*) in Bulgaria is caused by the negative impact of local and introduced fungal pathogens and insect pests. During the period 2018-2020, studies were conducted on the processes that caused irreversible damage to chestnut stands as a result of prolonged pathological processes from the development of virulent strains of the fungal pathogen *Cryphonectria parasitica*. Thirty-four sample plots were established, located on the territory of seven State Forestiers at an altitude between 481 and 1138 m. The pathogen *C. parasitica* has caused necrotic disease, damaging non-renewable and difficult-to-renew tissues, resulting in the death of infected trees. In the worst condition were the sample plots situated at lower altitudes - between 400 and 600 m a.s.l. in the area of Brezhani (Pirin), Dupnitsa (Rila), Krumovgrad (Eastern Rhodopes) and Belasitsa Mt. At the higher parts of the mountains Belasitsa and Ograzhden, the health status of the trees was satisfactory due to the better conditions for the development of the host and negative for pathogen development.

In 96% of the isolated cultures, the mycelium of the fungus was virulent strain with orange color, and in the other samples it was whitish, which suggests the presence of hypovirulence of the fungus. The most common strain of the pathogen is EU-12, but strains EU-2, EU-10 and for a first time and EU-5, were found.

The pathogen *C. parasitica* was registered on *Quercus petraea* in Bulgaria. It was conducted a molecular identification and mating type of the pathogen from chestnut and oak samples.

In 2021 an attempt was made for a biological control of the disease with inoculation of the hypovirulent strain on five sample areas in the region of SF Brezhani and Petrich.