

ABSTRACT

Investigations were carried out during 1996, 1997 and 1998 with two varieties of tobacco: Prilep 12-2/1 and Yaka 125/3. Conditions for appearance of **Phytophthora parasitica var. nicotinae** were studied, and seedlings were analyzed together with field and laboratory research on diseased plants of *Phytophthora parasitica var. nicotinae*. During the three years period of research, no existence of the fungus was recorded in the seedlings

In field trials, every year, two varieties were present, in four repetitions. Every repetition consisted of a control variant non-irrigated and three variants with different number of irrigations (6, 10 and 14), during the vegetational period. Results have shown that variants with highest number of irrigations at two varieties have the highest percentage of diseased plants per plot, which suggests that appearance of **Phytophthora parasitica var. nicotinae** in tobacco plantation is stimulated by abundant irrigation.

Analysing the obtained results for the number of infested plants and percentage of infested plants in the three years of research, we have confirmed that two examined varieties of tobacco are susceptible to fungus **Phytophthora parasitica var. nicotinae**, but the variety Yaka 125/3 is twice as resistant as the variety Prilep 12-2/1.

Beside irrigation, the other conditions of the environment, which affect the development or inhibition of the fungus, have also been studied.

Analyzes were made of kind of nutritive medium, air temperature, air humidity in laboratory condition, pH-reaction and light on development of the fungus **Phytophthora parasitica var. nicotinae**. The research showed that the optimum air temperature for the fungus growth was 24-28°C, the optimum air humidity was 45-65 % and the optimum pH reaction was 4,5-

5,5 in the laboratory conditions. The intensity of light didn't show a big influence on the growth on the fungus **Phytophthora parasitica var. nicotinae**, on the nutritive medium.

The influence of various chemical products on this patogen was investigated in laboratoy conditions. We analysed the efficacy of the fungicides: Dithane M-45, Fundazol, Sporgon, Ridomil MZ 72 VP in concentration of 0,1-2%. It was confirmed that the most efflcient was Ridomil MZ 72 VP in concentration of 0,4-2%, incorporated in the nutritive medium.

We have examined the effect of chemical compounds: aluminium sulfate and copper sulfate on the fungus **Phytophthora parasitica var. nicotinae**, at concentration of 0,003-0,03% of the nutritive medium. It was confirmed that the least effective rate of aluminium sulfate was 500mg/100ml medium or 0,005%, and of copper sulfate of 0,01% of the medium.

Key words: tobacco, *Nicotiana tabacum*, *Phytophthora parasitica var. nicotinae*, *Phytophthora* spp, irrigation, control.

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