

SUSCEPTIBILITY OF Highbush Blueberry Cultivar Brigitta Blue at Five Different Armillaria Species in Trentino Region (Northern Italy)

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In 2005 carpophores and rhizomorphs were collected in 40 forest sites in Trentino region, they were isolated and identified by *mating tests* method. The results have demonstrated the presence of 5 different species of *Armillaria* (*A. cepistipes*, *A. ostoyae*, *A. gallica*, *A. mellea* and *A. borealis*) in the monitored area. One year later, Prodorutti et al. have identified in highbush blueberry (*Vaccinium corymbosum*) orchards only two species of this pathogen (*A. gallica* and *A. mellea*). Those works in forest and in field have confirmed that in Trentino region exist 5 species of *Armillaria*. The aim of these trials is to establish the potential aggressiveness of the five pathogens toward highbush blueberry plants (*A. cepistipes*, *A. ostoyae*, and *A. borealis* never observed on highbush blueberry). Two experiments were carried out, the first in vitro and the second in greenhouse. In laboratory the 5 species of *Armillaria* were plated in the centre of Petri dishes (90 mm of diameter) containing malt extract agar (MEA). Five repetitions for every different species of pathogen were made. The plates were incubated at 25°C and the growth of *Armillaria* was evaluated at 5, 10, 15 and 20 days. For the greenhouse trial, the 5 species of *Armillaria* were grown in Petri dishes containing MEA and sterilized apple tree shoots (7 mm diameter, 5 mm length). The plates were incubated at 25°C. After 21 days, 2-year-old highbush blueberry potted plants, variety Elliot, were infected by the apple tree shoots put into the grass, near the roots. Ten replications for every different species of pathogen were made. The pots were stored in the greenhouse and regularly irrigated. The manifestation of symptoms on plants was weekly observed during the entire season. The results obtained in vitro after 20 days of growth observation have evidenced a high aggressiveness of *A. mellea*, *A. borealis* and *A. cepistipes*. The development of the three pathogens was about 90 mm, but among all the theses we cannot observe significant differences ($P < 0.05$). In the treatments with *A. ostoyae* and *A. gallica* the growth of pathogen was low, about 50 mm, without significant differences ($P < 0.05$). In greenhouse the major number of symptomatic plants was monitored in the treatments inoculated with *A. gallica* (60%) and *A. mellea* (50%). The disease incidence of *A. borealis* was 20% and no plants inoculated with *A. cepistipes* and *A. ostoyae* were infected. This work demonstrates that among the 5 different species of *Armillaria* identified in Trentino, only *A. gallica* and *A. mellea* are potential pathogens in highbush blueberry orchards. *A. ostoyae*, *A. cepistipes* and *A. borealis* are three typical species of the forest and even if they are noticeable in the entire Trentino region, they do not attack highbush blueberry, though *A. borealis* has some potentiality.