

ABSTRACT

CHARACTERISATION OF THE POPULATIONS OF *Cryphonectria parasitica* IN İZMİR, MANİSA, MUĞLA AND DENİZLİ PROVINCES IN TERMS OF VEGETATIVE COMPATIBILITY GROUPS AND MATING TYPES

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The purpose of this study, characterization of the population of *Cryphonectria parasitica* in the provinces of Izmir, Muğla, Denizli and Manisa in terms of vegetative compatibility (vc) groups and mating types. In this study, firstly bark tissue samples taken from blighted trees from 19 important chestnut producer villages of these provinces in order to obtain *C. parasitica* isolates. In total, 268 isolates were paired with European tester isolates to determine their vegetative compatibility group. Selected as representative of each sampling locations, 55 isolates were subjected to mating types determination by multiplex-PCR using specific primers. According to results, three vc groups, EU-1 (% 31,6), EU-12 (% 50,4) and EU-2 (% 18), were found in İzmir Province. In Manisa and Denizli Provinces, EU-1 and EU-12 are two vc groups were detected. Both mating types, MAT-1 and MAT-2, were found in all three provinces. The results of this study indicated that the vc diversity of *C. parasitica* is low in the region. This may provide ideal conditions for hypovirulent related biological control of chestnut blight. However presence of both mating types in the region creates high possibility for occurrence of sexual reproduction. In this case, there would be high risk for increase in vc diversity emergence of the new vc groups as a results of sexual recombination of different vc alleles.

Key words: Chestnut blight, *Cryphonectria parasitica*, vegetative compatibility groups, mating type