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Abstract

Assessment of Sensitivity to Boscalid, Fluopyram and Tebuconazole in *Monilinia fructicola* Isolates Obtained from Peach Orchards in Greece

Stefanos Testempasis, Vasiliki Tsintila and George. S Karaoglanidis[1]

Laboratory of Plant Pathology, Faculty of Agriculture, Forestry and Natural Environment Aristotle University of Thessaloniki

Brown rot is one of the most important diseases of stone fruit worldwide. In most European countries, the main agents of Brown rot were considered to be *Monilinia laxa* and *M. fructigena*. However, during the last decade *M. fructicola* has been found in high frequencies in most countries around the Mediterranean basin, including Greece. Taking into account that *M. fructicola* is considered to be of higher risk for fungicide resistance development compared to *M. laxa* or *M. fructigena*, this study was initiated aiming to determine the fungicide sensitivity profile of isolates originating from peach orchards in Greece. In total, 230 *M. fructicola* isolates were collected and assessed for their sensitivity to the SDHI fungicides boscalid and fluopyram and the DMI fungicide tebuconazole. Sensitivity assays were based on the inhibition of germ tube or the mycelial growth for SDHIs and DMIs, respectively. The assays revealed that 53.9% of the isolates (n = 124) were sensitive to all the three fungicides tested, while 46.1% (n = 106) were characterized as resistant. In detail, 7.8% (n = 18) and 8.7% (n = 20) of the SDHI-resistant subpopulation had a resistance factor (RF) higher than 2 to fluopyram and boscalid, respectively. In addition, a high percentage (29.6%) of the isolates (n = 68) were resistant to tebuconazole with a RF values ranging from 2 to 13. To the best of our knowledge, this is the first report of resistant strains of *M. fructicola* to SDHIs and DMIs in Greece. Ongoing studies will elucidate the molecular mechanisms of resistance in these isolates.

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