

ABSTRACT

RESISTANCE STATUS of EUROPEAN GRAPEVINE MOTH [*Lobesia botrana* Denis & Schiffmüller (Lep.: Tortricidae)] AGAINST TO SOME INSECTICIDES

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European Grapevine Moth is one of the most important pest in vineyards. It causes very high production losses and must be applied with insecticide for control of European grapevine moth in province Manisa where 35 % table grape of product in Turkey. One of the important problems of insecticide use is occurrence of resistance. For this reason we selected Manisa region where extensive viticulture area in Turkey and we aimed to the determine the resistance status in European grapevine moth and which insecticide become resistance and which enzyme system is responsible for this resistance. In this study we collected larvae from Sarıgöl and Alaşehir district of Manisa province and larvae were reared in laboratory. Emamectin benzoate, Spinosad, Lambda-cyhalothrin, Indoxacarb, Chlorpyrifos-ethyl were applied to neonate larvae stage to determine the LD₅₀ values with bioassay and biochemical methods. Bioassay methods showed that Lambda-cyhalothrin and Indoxacarb LD₅₀ values were higher in AP than SP. Also the other insecticides LD₅₀ values were higher in SP than AP. Therefore the results of enzymatic assay showed that EST activities of AP and SP were found 9.48 and 6.36 nmol β-naphthol mg protein⁻¹ min⁻¹ respectively. GST activities showed that SP activities was found higher than AP but there is no significantly different between two populations. As a result, the further studies are needed to determine the amount of resistance of European grapevine moth to insecticides.

Key words: European Grapevine Moth, Resistance, Vineyards, Insecticide, *Lobesia botrana*