

Monitoring of *Rhagoletis cerasi* flight activity in two cherry growing areas of Bosnia and Herzegovina

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Rhagoletis cerasi, European cherry fruit fly, is a major pest of cherries in Europe. Knowledge of first adult appearance is important for proper timing of control measures. The aim of our experiment was to monitor flight dynamics of European cherry fruit fly in two cherry growing regions — Potkozarje at the north and Mostar at the south of Bosnia and Herzegovina and determine flight period based on soil and air temperature, due to restricted availability of soil temperatures for majority of farmers. Yellow sticky traps were placed in tree canopy, and number of adults was assessed weekly during 2015. Adult emergence in Potkozarje started on 10th of May when accumulated degree days (DD) above 7 °C for soil at 5 cm reached 347 °C, and for air 326 °C DD, while first adults in Mostar were captured at 470 °C DD for soil at 5 cm, and 503 °C DD for air. Maximum flight period in Potkozarje was reached in week of 6th of June while in Mostar in week of 24th of May. Flight period finished in Potkozarje in week of 4th of July when DD for soil reached 1175 °C and 1007 °C for air, while in Mostar in week of 16th of June, when DD for soil reached 1096 °C and 1030 °C for air. In Potkozarje four main cultivars ‘Burlat’, ‘Silvija’, ‘Regina’ and ‘Cordia’ started ripening on 14th of May, 18th of May, 2nd of June and 6th of June respectively. Adding time to pre ovipositional development and larval embryonic development reveals that cultivars ‘Burlat’ and ‘Silvia’ are not affected by fruit fly larvae and insecticides application for European cherry fruit fly are not necessary. In Mostar ratio of captured adults in conventional, reduced insecticide application and non-treated orchard was 1:4.5:17. These orchards were in close vicinity suggesting flight activity mainly within each orchard. Our experiment suggested different model of adult emergence based on DD for north and south of the country. Early ripening cultivars should be chosen based on flight dynamics model.

Keywords: cherry, European cherry fruit fly, flight dynamics, yellow sticky traps