

EUROPEAN CHERRY FRUIT FLY FLIGHT ACTIVITY AND CAUSED DAMAGES TO SWEET CHERRIES IN LATVIA

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European cherry fruit fly *Rhagoletis cerasi* is one of the economically important pests in the sweet cherry orchards in Europe. The larvae may damage even 100% of the sweet cherry yield. Monitoring of the pest flight activity and caused damages to the yield is one of the first activities in the Integrated Plant Management (IPM) system. Local conditions may influence the flight activity and caused damage level to the yield. That is the reason why phenological data of cherry fruit fly differs in time between countries. There is no data of cherry fruit fly flight activity and caused damage to the sweet cherry yield in Latvia. This information is necessary for decision of the necessity of plant protection methods. The aim of this work was to determine the differences of European cherry fruit fly flight activity and caused damages to sweet cherry yield in the early, medium late and late ripening cherry trees.

The research was done in the orchard of Latvia State Institute of Fruit-Growing in 2010 and 2011. There were many early, medium late and late ripening sweet cherry cultivars in the orchard. Fruit fly flight activity was evaluated by using yellow sticky traps (flies on trap). Traps were placed out in approximately 1.5-2 m height in the crowns of trees (one trap per tree). For detection of larvae invasion level fruits from the middle level of a tree crown were collected at harvest time. Data were transformed by using arc sine square root transformation or square root transformation if it was necessary. One-way analysis of variance (ANOVA) (at $\alpha = 0.05$) in the program R 2.14.1 was performed to test the significance of differences.

First European cherry fruit flies on the yellow sticky traps were stated at the beginning of June in 2010 and 2011. Flight activity of cherry fruit flies sharply increased when cherry fruits were developed, but not started to color. Flight activity maximum was at the time of cherry fruit coloring. Statistically significantly more cherry fruit fly larvae were in the fruits of medium late and late ripening cultivars.

It was concluded that the flight dynamic of European cherry fruit fly and number of larvae inhabited cherries was higher in medium late and late ripening sweet cherry varieties by counting the flies on the yellow sticky traps and in the fruits in 2010 and 2011.