

Evaluation of the effect of different varieties of citrus on the egg laying of citrus leaf roller, *Archips rosanus* L. in the citrus orchards of northern Iran

Amir Hossein Toorani¹, Anis Aboutalebian², Habib Abbasipour³ and Behnam Amiri⁴

1. Plant Protection Department, Faculty of Agricultural Sciences, Shahed University, Tehran, Iran, amirhoseyn.toorani@gmail.com

2. Department of Agricultural Entomology, University of Mohaghegh Ardabili, Ardabil, Iran, abotalebian@yahoo.com

3. Plant Protection Department, Faculty of Agricultural Sciences, Shahed University, Tehran, Iran, abasipour@shahed.ac.ir

4. Plant Protection Department, Sari University of Agricultural Sciences and Natural Resources, Sari, Iran, behnamamiri39@yahoo.com

Citrus leaf roller, *Archips rosanus* L. (Lep.: Tortricidae) is one of the most important pests threatening leaf buds and blossoms, which has led to significant damage to citrus trees in some orchards in different cities of Mazandaran province in the past few years. The identification of resistant cultivars and sensitive cultivars to citrus leaf roller is obligatory. Accordingly, the number of egg batches and the number of eggs per mass of the pest were studied on citrus cultivars in northern Iran in Mazandaran province during 2017- 2018. This research was carried out in a randomized complete blocks design with nine treatments and 10 replications in citrus orchards in Simorgh County, Mazandaran. The treatments consisted of commercial citrus varieties (25 years old) including Thomson Novel orange, Beirut orange, Blood orange, Valencia orange, Lemon, Unshu tangerine, Clemantine mandarin, Japanese mandarin and Sour orange. In order to evaluate the sensitivity and resistance, the number of egg masses laid by moth and the number of eggs per mass was counted on different cultivars. The ANOVA analysis was carried out using SPSS version 22 software and means were compared with Tukey's multi-domain test. The results of the analysis of variance showed that the number of egg masses in different cultivars had a significant difference at 5% level but the number of eggs per each mass was not significant. Oviposition results in different cultivars and groups were: Thomson Novel orange (140.73 ± 10.16 eggs / tree A), Beirut orange (70.78 ± 6.24 eggs / tree B), Blood orange (70.62 ± 6.93 eggs / tree B), Clemantine mandarin (67.22 ± 7.93 eggs / tree B), Valencia orange (40.32 ± 4.75 eggs / tree C), Unshu tangerine (40.16 ± 4.06 eggs / tree C), Lemon (38.29 ± 5.30 eggs / tree C), Japanese mandarin (10.75 ± 2.72 eggs / tree D) and Sour orange (10.19 ± 1.60 eggs / tree F). The number of eggs per mass was varied between 39 and 139 eggs / tree. The results showed that citrus leaf roller moth had the highest amount of oviposition on the Thomson Novel orange and Beirut orange trees. Findings may help to develop IPM plans for pest control based on citrus variety management.

Keywords: Citrus cultivars, *Archips rosanus*, Mazandaran, Resistance varieties.