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Damage evaluation of the citrus leaf miner, *Phyllocnistis citrella* on different citrus cultivars in the north of Iran

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Citrus leaf miner, *Phyllocnistis citrella* Stainton (Lep.: Gracillariidae) is one of the most important citrus pests in tree nurseries and young orchards in the world. Identification of resistant cultivars to citrus leaf miner is essential, accordingly citrus leaf miner moth damage on important varieties of citrus in Mazandaran province (northern Iran) were evaluated during 2016. The study was carried out in a randomized complete blocks design with 14 treatments and 10 replications in citrus nursery orchards of Ghaemshahr city. Treatments were commercial varieties of citrus including Thomson Novel, Valencia, Beirut and blood oranges, Unshu, Clementine, Japanese and Chino mandarins, lemon, lime, Sour orange, grapefruit, citron and kumquat. For evaluation of damage, the number of infested leaves compared to the total number of leaves per tree were counted. The counts were carried out monthly during July to October (late June to late September) and after each sampling, infected leaves were removed from the tree. No chemical control was applied during the study period against leaf miner moth. Analysis of variance of damage in different directions showed that there was no significant difference at the 5% level between different geographical directions. Results of mean comparison of the damage showed that there was a significant difference between the sampling date and the highest damage was occurred in August and the least damage in September. Also, the results showed that the percentage of infestation in different varieties had significant difference at the 5% level. The results of the percent of infestation and grouping were: Mandarin (100 ± 0.0 A), Chino (95.69 ± 3.48 B), lemon (92.58 ± 5.31 C), kumquat (87.21 ± 3.12 D), Sour orange (85.92 ± 4.62 D), Thomson Novel orange (81.33 ± 6.12 E), grapefruit (78.45 ± 4.60 F), citron (71.68 ± 3.18 G), blood orange (68.55 ± 4.72 H), Japanese mandarin (60.42 ± 4.80 I), Unshu mandarin (40.83 ± 2.96 J), Valencia orange (34.40 ± 3.57 K), Clementine mandarin (34.16 ± 3.78 K) and Beirut Portugal (32.02 ± 2.29 K). Due to the high contamination rate of different varieties, it is not recommended to use them in breeding programs of controlling citrus leaf miner moth.

Keywords: Citrus, cultivars, crop loss assessment, damage evaluation, leaf miner moth