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Seasonal fluctuations of citrus aphids in the East of Mazandaran and *Citrus tristeza virus* transmissibility by the major species

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ABSTRACT

Seasonal activity of citrus aphids was monitored by direct sampling and yellow water–pan traps during 2003 and 2004, in citrus groves in Sari area of Mazandaran. *Citrus tristeza virus* transmission ability of the predominant aphid species was also studied. The proportions of the different aphid species from direct sampling were: *Aphis gossypii* (78%), *Toxoptera aurantii* (8%), *Macrosiphum euphorbiae* (8%) and *Aulacarthum solani* (6%) in 2003, and *A. gossypii* (51%), *Aphis spiraecola* (21%), *T. aurantii* (12%), *Aphis fabae* (9%), *Aphis craccivora* (3.5%), *Aphis nasturtii* (2%), *Myzus persicae* (0.5%), *M. euphorbiae* (0.5%) and *Aphis rumicis* (0.5%) in 2004. The results provided additional evidence for *A.gossypii* as the most common aphid species in citrus groves in this area. Transmission tests were conducted using Mexican lime seedlings as donor and receptor plants for the virus, 20 and 10 aphids of the four aphid species (*A. gossypii*, *T. aurantii*, *A. spiraecola* and *A. fabae*) were used per to infest receptor plant. Rates of the infected plants by the 20 and 10 individuals of *A. gossypii* were equal to 3.33 and 1.66 percents respectively and probability of the individual aphid transmission was calculated 0.17% in the two cases.

The other aphid species were not able to transmit the CTV in the East of Mazandaran. The yellow water-pan trap method had not adequate efficiency in comparison to the direct sampling of aphids. *A. rumicis*, *A. nasturtii* and *A. solani* were the first record of aphids fauna on citrus in the North of Iran.

Key words: Citrus aphids, *Aphis gossypii*, *Citrus tristeza virus*

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