A field evaluation of thiacloprid effects on pistachio twig borer

Hossein Farazmand[1], Hadi Zohdi[2] and Ali Jafari-Nodooshan[3]

1. Agricultural Entomology Research Dept., Iranian Research Institute of Plant Protection, AREEO, Tehran, Iran, h.farazmand@areeo.ac.ir
3. Plant Protection Dept., Kerman Agricultural and Natural Resources Research Center, AREEO, Kerman, Iran, hadi_zohdi@yahoo.com
3. Plant Protection Dept., Yazd Agricultural and Natural Resources Research Center, AREEO, Yazd, Iran, ajafarinodooshan@yahoo.com

Pistachio twig borer, *Hylesinus vestitus* Rey (Order: Family), is one of the secondary pests of pistachio. The imago insects attack the buds of the following year, which are located at the junction of the petiole, creating holes and short corridors in the middle of the buds. The larvae of the beetle live under the skin of dried branches of pistachio trees and create their own corridors while feeding. One of the control methods of this pest is the chemical method. In the view of studying new chemical insecticides, thiacloprid (Biscaya® OD 24 % 500 and 750 ppm) with volk oil (2000 ppm), fenitrothion Sumithion® EC 50 %, 1500 ppm) with oil (12000 ppm), insecticide soap (1500 ppm) and control (water spray) treatments were tested in selected pistachio orchards of Kerman and Yazd regions, during 2016. The research was conducted in a randomized complete block design with 5 treatments and 4 replications. Samplings were carried out1 day before and 7 and 21 days after spraying. At each sampling time, the number of healthy and damaged buds was counted. Based on the field studies, percentage of damaged buds in Biscaya treatments (500 ppm and 750 ppm) mixed with oil, mixture of "fenitrothion, oil and soap", and control were 8.34, 6.50, 10.49 and 27.91 %, respectively, one week after spraying. Three weeks after spraying damaged bud percentages were 15.65, 8.47, 18.77 and 48.55 %, respectively. Therefore, Biscaya insecticide with a concentration of 750 ppm mixed with oil (2000 ppm) is more effective compared with other treatments and can be used in an integrated pest management program, as an alternative pesticide to control of pistachio twig borer.

Key words: Pistachio, Pistachio twig borer, Thiacloprid, Biscaya, Pest Control.