

Effects of botanical insecticides Sirinol, Tondexir and repellency of Palizin on two spotted spider mite (*Tetranychus urticae* Koch) in the laboratory conditions

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Abstract

Two-spotted spider mite, *Tetranychus urticae* Koch, is one of the most important polyphagous pests because of severe damage, high population growth rates and ability of making resistance to pesticides. In this research, contact toxicity of concentrations of Sirinol, Tondexir and their combination, and also repellency effect of Palizin were studied in order to find a proper substitute for synthetic acaricide and to omit their pollutant effects on the environment. The experiments were performed at 25 ± 2 C, $60\pm 5\%$ relative humidity and 16:8 (L:D) on adult females by adopting a leaf dipping method. Sirinol at 5700 ppm and Tondexir at 5300 ppm concentrations created the highest mortality. LC_{50} and LC_{90} values of Sirinol and Tondexir were, 1775.908, 16772.6 and 2130.914, 11975.205 ppm in 24 hours and 463.228, 5985.136 and 907.931, 6052.447 ppm in 48 hours, respectively. Combined application of Sirinol and Tondexir (LC_{25}) caused 66.66% mortality at 24 hours which was higher than mortality caused by their separate application. Palizin was ineffective at 250 ppm concentration, but at 500, 1000, 2000 and 4000 ppm showed repellency activity. According to these results, the combinations of tondexir and sirinol and repellency effect of palizin were high and can be suggested in the integrated pest management programs of this mite.

Keywords: Palizin, Tondexir, Sirinol, *Tetranychus urticae*