

پایگاه اطلاع رسانی حشره شناسی ایران

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چکیده:

Vegetable crops are exposed to repeated spraying against the pests and diseases during the growing season. Crops such as cucumber are usually harvested repeatedly some times a few days after spraying. So it may contain a level of pesticides residue more than tolerance level, thus research on this problem is very important. On the other hand, the government has decreased subsidies on pesticides during the recent years and farmers prefer to use pesticides which have residual effect in order to protect the crops for a longer time. A survey was carried out on the residue determination two systemic insecticides on cucumber in agriculture college experimental field during 1993- 1995.

The insecticides' formulations and concentration were as fallows:

1. heptenophos (EC. 50%) in two concentrations: 1000 & 1000 ppm
2. thiometon (EC. 25%) in two concentrations: 1000 & 2000 ppm. (This insecticide is not recommended for spraying on vegetable crops, but farmers still use it!).

Plots of 25 m² with replications were treated as experimental units. For heptenophos the spraying was repeated 10 days after first spraying Samples were collected six hours and 1,2,3,5 and 6 days after spraying with heptenophos and 3, 6, 10, 15, 19 and 24 days after spraying with thiometon.

Gorbach and Wisson methods with modifications were employed for extraction of residues. A gas chromatograph equipped with AFID detector (Varian2700) was used for quantitative and qualitative analysis of residues.

These investigation revealed that, the residue of heptenophos in cucumber was 0.1 ppm, 5

days after spraying which was less than the Maximum Residue Limit (MRL 0.5 ppm).The residue of thiometon was 1.8 ppm, 24 days after spraying, which was more than the MRL.(0.5ppm).

These experiments have shown that low concentration of systemic insecticides, leaves higher residues level than the high concentration and the systemic insecticides residues in peeled cucumber is more than it's peel. It is possible to reduce the residue by keeping the cucumber at room temperature for a few hours. Finally, experiments have shown that peeling the fruit did not reduced these insecticides residue in cucumber.

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