عنوان مقاله:

Dissipation of Imidacloprid in Greenhouse Cucumbers at Single and Double Dosages Spraying

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خلاصه مقاله:

In this study, residues of imidacloprid (Confidor) were measured in greenhouse cucumbers in Mazandaran Province, Iran. Confidor ۲۰۰ SL was applied at the recommended rate (۳۰.۰ g ai ha-۱) and its double (۶۰.۰ g ai ha-۱). Samples were collected at ۱ h to ۲۱ days after application and analyzed to determine the content and dissipation rate of Imidacloprid. . Analysis was carried out by the QuEChERS method using HPLC-UV. The average initial deposits of imidacloprid on the cucumber fruits were found to be ۱.۹۳ and ۳.۶۵ mg kg-۱ at the single and double dosages, respectively. Results showed that Imidacloprid was rapidly dissipated in cucumbers following a first order reaction kinetics at both application rates. The amount of dissipation in ۲۱ days was ۹۴.۴۸% and ۹۹.۱۸% for, respectively, the single and double dosages. Residues of imidacloprid dissipated below the maximum residue limit (MRL) of ۱ mg kg_۱ in ۳ days. Half-life (T۱/۲) for degradation of imidacloprid in cucumber was observed to be ۳.۴۰ and ۲.۷۰ days at the single and double dosages, respectively. A waiting period of ۳ days is suggested for safe consumption of cucumber. Also, results showed that the dissipation was dependent on the initial application dose and followed a first order rate .kinetics

کلمات کلیدی:

Cucumber, Imidacloprid residue, Pre-harvest interval (PHI), QuECHERS method