

ABSTRACT

THE EFFECTS OF SEQUENCE APPLICATION OF PESTICIDES ON DEGRADATION KINETICS FOR TOMATOES AND PEPPER FRUITS

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One of the negative aspects of chemical struggle which has an important place in agricultural production is the residual problem because of pesticides. Consecutive agricultural spraying is under consideration about the most important problem, and the data about this subject is less.

In this thesis, we aimed both to determine the effect of waiting period after the consecutive agricultural spraying on tomatoes and peppers and estimate the behavior of similar kinds of pesticides with modeling the results. Pesticides are sprayed two times with 10 days interval and Acetamiprid, Chlorantraniliprole, Deltamethrin, Lambda-Cyhalothrin are used for tomatoes, Acetamiprid, Indoxacarb, Deltamethrin, Lambda-Cyhalothrin, Spinosad are used for pepper at recommended dosage. Samples are picked up at specified days after spraying and residual analyses are carried out with GC-MS (Gas Chromatography Mass Spectroscopy) and LC/MS/MS (Liquid Chromatography/Mass/Mass Spectroscopy) after pesticide extraction processes. Dynamic Plant Uptake Model is used to explain results..

The pepper and tomatoes results show that degradation period of pesticides except for Lambda Cyhalothrin, which were applied as two consecutive times at recommended levels, is extended.

Analyses model is assorted with pepper up to 90% rate. However, the studies point out that analyses model is less compatible for tomatoes results.

Key Words: Residual, Tomatoes, Pepper, Consecutive Application, Acetamiprid, Indoxacarb, Deltamethrin, Lambda Cyhalothrin, Spinosad, Chlorantraniliprole