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Influence of Fertilizer Sources on Pesticides Fate in Tomato Fruits and Soil with Special References to Efficiency of Some Herbicides

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Abstract : The objective of this investigation aimed to study the efficiency of some herbicides on weed infestation of tomato plants; chlorpyriphos – methyl and acetamiprid residues in tomato fruits were determined also. In addition, the role of fertilizer types on tested pesticides dissipation in soil was estimated. Results illustrated that all weeded control treatments decreased the number and dry weight of weeds comparing to the unweeded one. Pendimethalin and metribuzin were more efficient than other treatments on decreasing the number and dry weight of total weeds. Fluazifop- P-butyl was the best option to attain acceptable grassy weeds. Results showed also, the amount of residues varies for each insecticide to another, the initial deposits depending on the rate of use, so it's ranged from 30.9 to 38.0 ppm in tomato treated with chlorpyriphos – methyl while it's ranged from 9.8 to 11.7 ppm in the case of acetamiprid. The first five days were, however, the most critical period at which most of the residues (> 65.0 %) were dissipated in tomato fruits. The soil organic matter or soil rich in humus content are more chemically reactive with pesticides than nonhumified soil. Afterwords, tested pesticides was faster disappearance in organic and compost fertilized soils (total amount of detected residues were 0.81 and 1.07 ppm, respectively) than other treatments.

Keywords: Pesticides, Fertilizers, Degradation, Tomato.

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