Ina Zulaehah et al., J Environ Anal Toxicol 2018, Volume 8
DOI: 10.4172/2161-0525-C4-021

The ability of consortia microbes to reduce chlorpyrifos contaminant on hot peppers plant

Ina Zulaehah, Sri Wahyuni, E Harsanti and A N Ardiwinata
Indonesian Agricultural Environment Research Institute, Indonesia

The control of pests mostly has been done by pesticides. The negative impacts that can be generated from the use of pesticides are some of the residue is still left in the soil, water, plants and the surrounding environment. Overcoming the contamination can be done with bioremediation using microbes. The number and types of microbes in the soil are numerous and varied. Each of these microbes has its own role in the soil. Isolation and characterization of microbes derived from soils that have the ability to degrade chlorpyrifos residue contamination have been done at ICABIOGRAD laboratory. From the isolates found, tested its effectiveness with its ability to degrade chlorpyrifos residue contamination in hot peppers plantation. The study was conducted at screen house of Balingtan from April up to July 2017. The design was a factorial experiment with two treatments and three replications. Observations were made on plant height and number of leaves, bacterial population and the decrease of chlorpyrifos residues. The addition of consortia bacteria (*Deltia acidovorans, Enterobacter sp. and Cryseobacterium sp*.) on hot peppers showed the highest plant growth. The population of bacteria tends to increase after 45 days after application. The consortia bacteria able to reduce the concentration of residue on chlorpyrifos contaminated soil to 55%.

Biography

Ina Zulaehah has completed her Master's degree from University of the Philippines Los Banos. She is the Researcher of Indonesian Agricultural Environment Research Institute.

izul_tbn@yahoo.com

Notes: