ABSTRACT

IMPACT OF THE USE OF PESTICIDES BY VEGETABLE FARMERS IN DISTRICT GISTING AGAINST BIODIVERSITY OF SOIL ARTHROPOD AND PESTICIDE RESIDUE

By
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Vegetable cultivation of chili, mustard greens, and tomatoes in District Gisting is inseparable from the use of synthetic pesticides that can have an impact on the environment. This study aims to determine the type and frequency of the use of pesticides on vegetable chili, mustard greens, and tomatoes by farmers in District Gisting, to know the effect of pesticides in vegetable chili, mustard greens, and tomatoes on the level of soil arthropod diversity, and to determine the effect of pesticides in vegetable chili, mustard greens, and tomato on pesticide residue content of vegetables and soil arthropods. This research method is a survey by interviewing 60 farmers vegetable chili, mustard greens, and tomatoes against the kind and frequency of the use of pesticides as well as the analysis of pesticide residues in vegetables and soil arthropods. The kind of pesticide that most used by the vegetable farmers of chili, mustard greens, and tomato was the group of organophospate and carbamat. Frequency of the use of pesticide in the vegetables of chili, mustard greens, and tomato are the application of 3 days once (intensive) and 7-10 days once (non-intensive). The diversity of soil arthropod is significantly different between intensive and non-intensive red chili, while the diversity of soil arthropod in mustard greens and tomatoes were not significantly different. The pesticide residue level of organophosphate and organochlorine was still under Maximum residue limits (MRL), even for tomatoes pesticide residues was not detected. The intensive and non-intensive pesticide use of organophosphate and carbamate group have no effect against the pesticide residues in the red chili, mustard greens, and tomatoes as well as the diversity of soil arthropods.

Keywords: mustard greens, pesticide residue, chili, soil arthropod, tomato.