Determination of the residue level and withdrawal period of phenamiphos (Nemacur® 10G) nematicide on cucumber under greenhouse conditions

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Abstract

In an experiment, the effective dose and time of application of phenamiphos (Nemacur 10G®) for population control of root-knot nematode, *Meloidogyne javanica,* infecting cucumber, was found out to be 22.5 g/m² of commercial product and the best time of its application was one week prior to sowing of seeds. However, results revealed that in concomitant and sequential (one week before) treatment, the highest yield was obtained. Fruits of the treatments were harvested for six times at three Nemacur applications for determination of Nemacur residue of the most effective dose (22.5 gr/m²). After transferring the samples to the laboratory and preparing for extraction and purification, residues of the Nemacur was measured by GC-NPD. Results were compared to the Codex Alimentarius Maximum residue level (MRL) for Nemacur on a vegetable, which is 0.5 mg/L, and the best timing for pesticide application, which was estimated to be one week before sowing of seeds, was chosen. It is therefore suggested that the cucumbers produced up to 4th stage of harvesting could be be used because the fruits harvested up to this stage possess residues which are close to the MRL. While, after the 4th harvest, the pesticide residue in the fruits is higher than the standard level and fruit harvesting is not recommended.

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