INTISARI

Jamur embun tepung (*Podosphaera xanthii*) yang menyerang tanaman famili *Cucurbitaceae* menjadi perhatian secara luas saat ini. Salah satu alternatif pengendalian adalah penggunaan '*slightly acidic electrolyzed water*'. Tujuan penelitian ini adalah untuk mengetahui efektivitas '*slightly acidic electrolyzed water*' dengan metode semprot kabut dalam menurunkan keparahan penyakit, efek yang ditimbulkan pada tanaman, dan konsentrasi HOCl di dalam *greenhouse*. Perlakuan dibagi menjadi 4 blok yaitu kabut kering EW, kabut basah EW, kabut kering air, dan kabut basah air. Tanaman famili *Cucurbitaceae* seperti melon, timun, dan labu digunakan sebagai tanaman sampel. Sampel tanaman kemudian diperlakukan menggunakan EW pada saat malam hari. Kemudian data yang diperoleh dianalisis. Hasil penelitian menunjukan bahwa penggunaan '*slightly acidic electrolyzed water*' sangat efektif untuk menurunkan tingkat keparahan penyakit jamur embun tepung khususnya pada perlakuan metode kabut basah. Konsentrasi HOCl dalam *greenhouse* berkisar antara 5.8 μg/m^2/menit (*sprayer* berjalan) and 1.4-1.8 μg/m^2/menit (setelah *sprayer* berjalan). Selain itu, penelitian ini menunjukkan bahwa penggunaan '*slightly acidic electrolyzed water*' tidak mempengaruhi kandungan klorofil tanaman model namun menyebabkan terjadinya spot putih pada permukaan daun. Penelitian ini mengindikasikan adanya peluang besar penggunaan '*slightly acidic electrolyzed water*' sebagai metode alternatif selain pestisida.

Kata kunci: *Cucurbitaceae*, metode semprot kabut, jamur embun tepung, *slightly acidic electrolyzed water*

ABSTRACT

Cucurbits powdery mildew (*Podosphaera xanthii*) has received much attention nowadays as a fungal disease limiting on cucurbit crops worldwide. One of the alternative tools to control cucurbits powdery mildew is the use of slightly acidic electrolyzed water. The aim of this study was to investigate the effectiveness of slightly acidic electrolyzed water using mist method to reduce the disease severity as well as its effect on the plant condition under greenhouse cultivation and HOCl concentration remains inside the greenhouse. The treatments were divided into 4 blocks which consist of EW dry mist, EW wet mist, tap water dry mist, and tap water wet mist. Cucurbits plants such as melon, cucumber, and squash were used as a sample to measure the disease severity progress. The samples were treated by spraying slightly acidic electrolyzed water using mist method during night time. Then the data were analyzed. The results showed that the use of slightly acidic electrolyzed water using wet mist method is the most effective to reduce the disease severity compared to dry mist and control treatment. The HOCl concentration inside greenhouse was about 5.8 μg/m^2/min (while running the sprayer) and 1.4-1.8 μg/m^2/min (after running the sprayer). Moreover, this study revealed that slightly acidic electrolyzed water has no impact on chlorophyll content on model plant but caused the occurrence of white spots on the leaf surface. This study indicates a possibility of controlling powdery mildew on cucurbit using slightly acidic electrolyzed water mist method as an alternative to pesticides use.

Keywords: cucurbits, mist method, cucurbits powdery mildew, slightly acidic electrolyzed water