

Effect of Four Liquid Organic Wastes on The Growth of Four Trichoderma harzianum Isolates and Their Effect on Cucumber Growth and Yield

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Abstract	<p>The aim of this research was to determine the effect of four liquid organic substrates on the growth of four Trichoderma harzianum isolates and their effect on cucumber growth and yield. Randomized block design was used with 20 treatments and 3 replicates. The treatments consisted of control, tofu liquid waste, rice washing water, coconut water, and tapioca waste substrates each combined with four T. harzianum isolates. Variables observed were conidia density during decomposition, conidia late density, crop height, root length, root fresh and dry weight, crop fresh and dry weight, the first flowering, number of fruits per plant, and fruit weight. Result of the research showed that in the tapioca waste substrate, only T16 isolates was able to grow well with a maximum density of $6,70 \times 10^7$ conidia/mL. In the rice washing water substrate, conidia growth of the isolate was better than coconut water substrate with a maximum density of $6,25 \times 10^7$ conidia/mL. The best liquid organic substrate for growing media of T. harzianum was tofu liquid waste. On the 4th day with the tofu waste substrate, T16 isolate could achieve conidia density of $1,12 \times 10^8$ conidia/mL. The liquid organic substrate resulted from T. harzianum decomposition was not different on cucumber yield.</p>
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