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Mycelium growth, yielding, and fruiting body production of Yanangi mushroom (*Agrocybe cylindracea*) on different substrate packing under with evaporation-cooling system

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Yanangi mushroom (*Agrocybe cylindracea*) is one type of widely edible mushroom that present high value in Thailand. High yield cultivation and quality improvement of Yanangi mushroom were rarely studies. Therefore, the aim of this study was to investigate the suitable substrate packing for mycelium growth, yielding, and fruiting body production under greenhouse with the evaporative-cooling system. This study used two different substrate packings, compacted substrate and loose substrate for 1 kg packing bag. Mycelium growth presented significantly highest with 1 kg of loose substrate for 3 weeks. In turn, their yield was significantly lower than the compacted substrate for the first, second, and third harvesting cycle. Results of yielding shown 18.05, 19.90, and 26.58 g for the 1st 2nd and 3rd harvesting cycle of the compacted substrate, respectively and 24.95, 18.39, and 17.53 g for 1st 2nd and 3rd harvesting cycle of the loose substrate, respectively. Both results of the number of fruiting bodies shown significantly decrease. Lengths of fruiting body stalk were not significantly difference between the compact and loose substrate. From the results of mycelium growth, yielding, and fruiting body production, the compacted substrate was selected for used to large scale cultivation under greenhouse with evaporation cooling system. It has shown significantly the highest percentage of yielding in the second harvesting cycle. Percentage of flowering and the number of the fruiting body significantly decreased in the second and third harvesting cycle after that it regrows and presented dramatically yielding increase in fourth and fifth cycle.

Biography

Thidaporn Theunpao was graduated BSc in biotechnology and MSc in plant science from Mahidol University, Thailand. She has been studied about development of in-vitro screening method for selection of stress tolerant plants in the Northeast of Thailand. Currently, she is a research assistance of King Mongkut's University of Technology Thonburi (KMUTT), Ratchaburi, Thailand. Now a day, she is studying a new strategy for improvement of Thai farmer life quality through the topic of economic mushroom production in Thailand.

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