The Use of Bagasse and Rice Straw as Alternative Growth Media for White Oyster Mushroom

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Abstract
White oyster mushroom (Pleurotus ostreatus) is one of fungi widely cultivated in Indonesia. Generally, white oyster mushroom is cultivated in sawdust media that has limited abundance in Indonesia. The purpose of this research is to search for alternative media other than sawdust to grow white oyster mushroom in Indonesia. White oyster mushroom has been grown in rice straw media and bagasse as well as on media combination of sawdust, straw, and bagasse. The parameters studied were fresh weight, cup diameter, and fruiting body morphology. The results showed that highest fresh weight white oyster mushroom obtained from media combination of sawdust, straw, and bagasse while the lower fresh weight yielded from the 100%-straw media. There was no significant difference observed in the mushroom cap diameter as well as in the fruiting body diameter among variation composition of the media. The study concluded that the mix of sawdust, straw, and bagasse might serve as an alternative media for white oyster mushroom growth.

Keywords: Pleurotus ostreatus, oyster mushroom, rice straw, bagasse

Introduction
Edible mushrooms are widely consumed in Indonesia where the climate is suitable for the natural growth as well as the cultivation of certain mushrooms. White oyster mushroom (Pleurotus ostreatus) is one of the most commonly cultivated edible mushrooms in Indonesia (Suriawiria, 2002). The cultivation process of white oyster mushroom usually makes use of a sawdust baglog as a substrate for the mushroom growth. Nowadays, the availability of sawdust tends to be limited, hampering the oyster mushroom cultivation in general. Therefore, search efforts for alternative substrates providing sufficient nutrition for the mushroom growth have gained a big interest.

According to Cahyana et al. (2006), the necessary nutrient composition for oyster mushroom growth more or less includes 27% lignin, 70% karbohidrat (selulosa dan glukosa), protein, nitrogen, fiber, and vitamins.