Pengaruh penambahan aspergillus flavus (link 1809) pada proses pengomposan limbah kapas terhadap produktivitas jamur merang (volvariella volvacea (BULL.) singer 1951) = Effect of addition aspergillus flavus (link 1809) on cotton wastes composting process productivity paddy straw mushroom (volvariella volvacea (BULL.) singer 1951) / Maulia Irawati

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Abstrak

ABSTRAK
Volvariella volvacea (jamur merang) merupakan cendawan pangan yang dibudidaya di negara tropis karena memiliki nilai gizi tinggi dan teknik budidaya yang mudah. Penelitian bertujuan untuk meneliti pengaruh penambahan Aspergillus flavus terhadap kualitas kompos pada substrat limbah kapas (Gossypium sp.) dan produktivitas tubuh buah V. volvacea. Hasil penelitian menunjukkan bahwa selama pengomposan, terjadi peningkatan suhu sebesar 27--58°C dan pH 7--8 selama tujuh hari pengamatan. Peningkatan kadar glukosa dan xilosa pada kontrol dan perlakuan terjadi selama lima hari pengomposan, yaitu 0,073--0,143 mg/mL dan 0,045--0,157 mg/mL serta menurun nilainya pada hari ketujuh 0,122--0,123 mg/mL. Kadar selulosa, hemiselulosa dan lignin substrat kapas pada awal pengomposan, 15%, 8% dan 6--7% mengalami penurunan selama penelitian. Produktivitas V. volvacea pada perlakuan dan kontrol selama pemanenan tujuh belas hari menunjukkan nilai 1766 dan 1715 tubuh buah dan berat basah 8700 g dan 8395 g. Hasil uji ANOVA menunjukkan produktivitas jamur merang pada perlakuan dan kontrol tidak memiliki perbedaan signifikan (P >0,05).
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ABSTRACT
Volvariella volvacea (straw mushroom) is an edible mushroom cultivated in tropical countries due to its high nutritious and simple cultivation techniques. The research aims to investigate the effect of A. flavus addition toward the quality of cotton waste compost (Gossypium sp.) and productivity of V. volvacea. The result showed that during composting, there was an increase in compost temperature about 27--58°C and pH compost 7--8 for seven days observation. The rise of glucose and xylose concentration both in the control and treatment group occurred in five days of composting 0,073--0,143 mg/mL and 0,045--0,157 mg/mL respectively, then decreased on the seventh days about 0,122--0,123 mg/mL. The concentration of cellulose, hemicelluloses and lignin within the substrate of cotton waste in early composting, 15%, 8% dan 6--7% respectively, has been reduced during observation. The productivity of V. volvacea among treatment and control groups during seventeen days cropping yielded 1766 and 1715 fruit body of mushroom and 8700 g, 8395 g fresh weight of mushroom. The outcomes of ANOVA test affirmed that productivity of straw mushroom among treatment and control did not have significant differences (P >0.05).