

【論文】

竹材オガコによるヒラタケ菌床栽培

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Utilization of bamboo sawdust for sawdust based cultivation of *Pleurotus ostreatus*

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[Abstract]

The potential applicability of bamboo in the sawdust based cultivation substrate of *Pleurotus ostreatus* was evaluated using bamboo sawdust with/without aging treatment. Regarding with cultivation period, the complementary relationship in untreated bamboo sawdust and aged bamboo sawdust was observed between required days for spread medium by mycelium and the days for fruit-body after spread over medium. And accordingly almost same period was required for both cultivations in untreated bamboo sawdust and aged bamboo sawdust. The fruit-body yield in the culture substituting with 50% untreated bamboo sawdust for hardwood was significantly higher than that in control cultivation, and almost identical yields with control cultivation were observed in the cultures substituting with 25, 75, and 100% untreated bamboo sawdust. These clearly indicate that untreated bamboo sawdust is applicable as a substrate for sawdust based cultivation of *P. ostreatus*. To examine the effect of the aging periods on the fruit-body yield, bamboo sawdust was aging-treated for different periods (from 1 to 6 months). In the case of substitution ratio of 100% bamboo sawdust aged for 4 months, the fruit-body yield reached the maximum value which was 1.3 folds higher than that in the control cultivation. Content of alcohol-benzene extracts in bamboo sawdust was decreased a little and soluble carbohydrate was decreased considerably in the course of aging treatment. Therefore it was suggested that the increase of fruit-body yield by aging treatment was caused by other factors than these components.

Key words: Aging treatment, Bamboo sawdust, *Pleurotus ostreatus*, Sawdust based cultivation

[摘要]

ヒラタケ菌床栽培における新鮮な（無処理）竹材オガコの利用性ならびに竹材オガコの堆積処理の効果を検討した。栽培日数に対して、無処理および堆積処理竹材オガコは、共に菌糸体蔓延日数と子実体形成に要する日数が相補性を示し、対照区（広葉樹オガ粉培地）と同程度あるいは1-2日間程度の差異となり、著しく影響を及ぼすことはなかった。子実体収量に関して、無処理竹材オガコは50%代替区で対照区より約7%収量が有意に多くなり、25、75、100%代替区では対照区と同程度となった。これらのことから、無処理竹材オガコはヒラタケ菌床栽培に利用可能と考えられる。竹材オガコを1カ月間以上堆積処理すると子実体収量は増加した。1-6カ月間堆積処理では4カ月間堆積処理で最も収量が多くなり、100%代替区で対照区の1.3倍となった。堆積処理により竹材オガコ中のアルコール・ベンゼン抽出物量がやや減少し、可溶性糖量は著しく減少したことから、ヒラタケ菌床栽培への竹材オガコの堆積処理効果は、これらの成分以外の要因が関与していると推察される。