

【論文】

シイタケ腐敗病菌 *Ewingella americana* の菌床シイタケを用いた簡易病原性検定方法の開発

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Simplified method to identify pathogenicity of *Ewingella americana*, the pathogen of brown rot disease on *Lentinula edodes*, using fruit bodies on sawdust medium

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(Received 24 September 2015 / Accepted 15 December 2015)

[Abstract]

Brown rot disease of shiitake mushrooms, *Lentinula edodes*, cultivated on bed logs was found in two identified locations of natural fruiting yards in Oita Prefecture during 2013-2014. Bed logs containing fruiting shiitake mushrooms with brown rot symptoms were transferred to and managed at a research center. We could reproduce the same symptoms on newly fruiting shiitake mushrooms in the following year. Brown rot symptoms were also observed on mating strains of shiitake mushrooms grown at an artificial fruiting yard in the research center. A-D3 selective medium was used to isolate the causative bacterium; yellow colonies with white margins grew on the medium. The causative bacterium was isolated from the surface of bed logs as well as brown rotting fruit bodies of *L.edodes*. 16S rRNA gene analysis of the isolates was conducted and the bacterium was identified as *Ewingella americana*. Further, young fruit bodies of shiitake mushrooms on sawdust medium were injected with the isolated bacterium from brown rotting fruit bodies of *L.edodes* and the surface of bed logs. Consequently, the mushrooms showed rotting symptoms after 5 days, so we are able to establish a method to identify the pathogenicity of isolated bacterium effectively.

Key words: Brown rot, Disease, *Ewingella americana*, *Lentinula edodes*

[摘要]

2013年から2014年、大分県内の2箇所のほだ場でシイタケ子実体が褐変から黒変して腐敗する症状を認めた。現地から持ち帰ったほだ木を試験場内の人工ほだ場で管理したところ、翌年に同様な症状の発生を確認した。また、試験場内の人工ほだ場で栽培中の交配株に同様の症状を認めた。褐変から黒変した腐敗子実体をA-D3培地を用いて分離したところ、中心部が黄色で周囲が乳白色になる集落が検出された。また、同じ集落性状を示す細菌は、ほだ木の外樹皮表面からも検出された。分離菌の16S rRNA遺伝子解析の結果、*Ewingella americana* et al. 1984と同定された。子実体およびほだ木樹皮表面から分離した*E. americana*を菌床シイタケに注入接種すると、接種5日後に原病徴を再現したことから、分離菌の病原性を効率的に確認する方法を確立することができた。