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Preservation System for Edible/Medicinal Mushroom Strains in NIHHS

Jae-Gu Han*, Min-Woo Hyun, Jae-Han Cho, and Kang-Hyo Lee

Mushroom Research Division, National Institute of Horticultural and Herbal Science,
Rural Development Administration, Eumseong 27709, Republic of Korea

Recent enactments of the Nagoya Protocol and UPOV convention precipitated international competition to secure biological resources. To address these challenges in the case of mushroom industry, collecting and preserving the genetic resources are urgently needed. Mushroom Research Division, National Institute of Horticultural and Herbal Science (NIHHS), Rural Development Administration, has operated mushroom resource management facilities which consist of eight separate rooms with automatic temperature and humidity controllers for the safe preservation of mycelial cultures and voucher herbarium specimens. During the past three years the liquid-nitrogen (LN) cryogenic system for the permanent/semi-permanent preservation of the strains commercially or scientifically important are successfully installed, and the computerized resource management system using QR code are adopted. Up to now, 1,586 strains of 261 species in 79 genera of edible and medicinal mushrooms were preserved.

Keywords : mushrooms, preservation, liquid-nitrogen, NIHHS

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Fungal Survey from Indoor Air and Flies in Cultivation Houses Used for Shiitake

Hongseok Ahn¹, Junyoung Kim¹, Hyukwoo Kwon², and Seonghwan Kim^{3,*}

¹Department of Microbiology, Dankook University, ²Forest Mushroom Research Center, National Forestry Cooperatives Federation, ³Department of Microbiology and Institute of Biodiversity, Dankook University

Currently, domestic production of Shiitake increasingly come from sawdust based cultivation. Thus, breeding of new cultivars requires Shiitake strains adaptable to the cultivation method. Once a Shiitake strain is bred, it is subject to field tests for stable production. Field tests are usually performed in cultivation houses in mushroom farms by very skillful farmers. Fungal contamination in sawdust media hinder the proper assessment of the bred strain in the field tests. Thus, continuous monitoring of floating fungal spores in the Shiitake cultivation houses is required for the prevention of fungal contamination. As a preparative work, in this study, we sampled indoor air in two different greenhouses located in Cheongyang-gun, and Jangheung-gun in Korea and two kinds of flies (*Lycoriella ingenua*, *Drosophila* sp.) in a cultivation house located in Cheongyang-gun. By the fungal sampling in April of 2015, 103 isolates were obtained and classified into 16 genera and 24 species. *Mortierella parvispora*, *Penicillium* spp. and *Trichoderma* spp. were dominant species among the isolates. *Bjerkandera adusta*, *Irpex lacteus*, *M. parvispora*, *Penicillium brevicompactum* and *Trichoderma* sp. were isolated from both indoor air and flies. Since these fungi are known to form a lot of spores that float into the air, it is suggested to manage indoor air and flies during field tests.

Keywords : indoor air and flies, cultivation greenhouses, Shiitake, fungi