Isolation and Characterization of Edible Mushrooms with Potential Nutraceutical and Nutriceutical Properties in Mexico

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The CP's culture collection, established in 1989, has been associated with basic and applied research for germplasm preservation, genetic improvement using classical and molecular techniques, and biodiversity prospecting. A total of 130 strains of edible mushrooms have been isolated and maintained, including the genera *Agaricus* (65), *Pleurotus* (35), *Lentinula* (9), *Lentinus* (5), *Calvatia* (5), *Ganoderma* (3), *Auricularia* (2), *Stropharia* (2), *Volvariella* (1), *Laetiporus* (1), *Armillariella* (1), and *Gymnopilus* (1). Wild *Agaricus* species isolated from diverse regions were recently characterized (mycelial growth on different culture media and pH, fruiting tests on compost, macroscopic morphology, and mushroom yield). Ten species were tentatively identified on the basis of fruiting body morphology: *A. abruptibulbus* Peck, *A. albolutescens* Zeller, *A. augustus* Fr., *A. bisporus* var. *bisporus* (J. Lge) Imbach, *A. bitorquis* (Quél.) Sacc., *A. campestris* L.: Fr., *A. hortensis* (Cooke) Pil., *A. osecanus* Pil., *A. robustissimus* Panizzi, and *A. subrufescens* Peck; there was also a group of five strains classified as *Agaricus* sp. These studies have also been conducted for species of *Pleurotus* and *Ganoderma*, and are also being carried out for *Calvatia, Auricularia, Stropharia, Volvariella, Laetiporus, Armillariella,* and *Gymnopilus*. We describe our present research project for studying the nutraceutical and nutriceutical properties of these mushrooms using a system of solid-state fermentation.

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