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**Determination of Polymorphism at Ribosomal DNA
in Hybrid Crosses between *Pleurotus citrinopileatus* and
Schizophyllum commune by Mating Technique**

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Mushroom production is dependent on the quality of the spawn used to inoculate the fruiting substrates. New strains with the desired traits can be produced by mating technique involving fusion of two genes from two different mushroom type that controls the formation of dikaryon. Mating incompatibility in mushroom fungi is controlled by the mating-type loci. In tetrapolar species, two unlinked mating-type loci exists (A and B), whereas in bipolar species there is only one locus. The A and B mating-type loci encodes homeodomain transcription factors and pheromones and pheromone receptors, respectively. Like most mushroom species, both *P. citrinopileatus* and *S. commune* have a tetrapolar mating system, but numerous transitions to bipolar mating systems had occurred. In many species, such as *Pleurotus* species (Vigalys, & Sun, 1994), and *S. commune* (James & Vigalis, 2001), the resident mycelia is almost invariably dikaryotized. *Schizophyllum commune*, a common wood-rotting mushroom, is a tetra-polar, self-incompatible fungus belonging to the family Schizophyllaceae of the Basidiomycetes. Its incompatibility system is genetically controlled by the *A* and *B* incompatibility factors (Papazian, 1950; Raper, 1966). In this study, ten single spore isolates (SSIs, monokaryons) of *P. citrinopileatus* and *S. commune* were mated in all combination on MEA plates and incubated at 25°C for two weeks. Mycelia plugs were taken from the junction zone of encounter between two colonies were examined for the presence of clamp connections. Based on the result of 100 combinations, mating between *P. citrinopileatus*. and *S. commune* is said to be 4% hybridized showing the presence of clamp connections. The new strain produced by mating was confirmed using a suitable molecular method which uses the ribosomal DNA polymorphism.