

## Collection and Evaluation of *Ganoderma lucidum* (Curt.: Fr) P. Karst. Strains

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*Ganoderma lucidum* (Curt.: Fr.) P. Karst. (Linzhi) is a traditional Chinese medicinal mushroom. Recently it was reported that triterpene and polysaccharide are the most important medical compounds in *Ganoderma lucidum*. Nineteen *G. lucidum* strains from different sources were collected in this study, and mycelial growth and antagonist reaction were tested. From the results, 10 strains with fine performance were selected to determine the contents of polysaccharide and triterpene with spectrophotography in mycelium. The result showed that a difference of polysaccharide and triterpene content existed in different strains. One strain was selected for further experiments based on the results of mycelial growth rate, mycelia morphology, antagonist reaction, triterpene and polysaccharide content, and

cultivation tests. Triterpene content was recorded in different fruiting stages and compared in mycelium and fruiting body. Also, a cultivation test has been done to record agronomic characteristics such as primordium formation time, shape, size, color, and yield. It was found that triterpene content was 2.446% during mycelial growth, 1.44% during primordium formation, 1.57% in young fruiting body, and 1.17% in the mature fruiting body (without spore spread). Among 19 *Ganoderma lucidum* strains, 3 strains showed the highest triterpene content, both in the mycelial growth stage and the fruiting body formation stage. Polysaccharide content changed in the mycelia growth stage and the fruiting body formation stage, but these changes did not indicate correlation with the change of triterpene content.