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Characteristics of mycelial growth and fruit body of *Sparassis latifolia* strains and selection of suitable incubation conditions in liquid spawn

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Sparassis latifolia is called “Cauliflower Mushroom” and is known as an edible mushroom that has high content of ß-glucan. Recently, artificial cultivation of *S. latifolia* has been done by bottle, plastic bag and wood cultivation in Korea. However it is not widely used because there are low incubation ratio and yield. For the high efficiency of production, we aim to find the superior strains and media for better mycelial and fruit body growth.

First, we analyzed the genetic relationship among 31 strains and divided five groups with three kinds of URP primers. And then ten strains were selected from five groups based on the experiment of mycelial growth. The suitability of media for mycelial growth was different according to media type. The suitable solid and liquid media for mycelial growth of *S. latifolia* isolates were PDA and M2, respectively. In addition, with regard to C/N ratio, the mycelial growth increased even until C/N 160.

Second, we investigated the production of fruitbody of the strains by plastic bag cultivation. The substrate was mixed with larch sawdust, corn flour, and wheat flour (8:1:1, v/v). Moisture content of substrate was controlled by about 60% with 10% molasses solution. Out of 31 strains, 19 strains formed primordia. The eight strains produced more than 140g/1kg in fresh weight.

Third, molasses culture media was selected for the mycelial growth. And molasses suitable sugar content and input aeration were around 8Brix% and 0.3~0.6vvm, respectively. The longer the incubation period is, the more dried weight of mycelia increased,but medium volume decreased. Therefore, the best incubation period was 9 to 11 days depending on strains.

In the future, research project entitled development of culture system and new variety for stable production of *S. latifolia* will be considered as a new item.