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Abstract
Agaricus blazei Murill is edible and medicinal fungi to be provided with antitumor and elevate immunity function, especially distinguish for rich-polysaccharide. But recently found A.blazei have high ability to concentrate heavy metals,especially concentrate Cadmium (Cd). Therefore, heavy metals hung over human health, this problem is over than A.blazei's medicinal value. This study besides to explore effect of Cd on growing of A.blazei , farther explore concentration of Cd in polysaccharides.
The study have found Cd effect growth of A.blazei, in dish culture we can find that when add Cd 0.1~0.4ppm to dish, growth of mycelium would be acceleration,and add high concentration of Cd (0.6~1.2ppm)would brake growth of mycelium. In shaking culture,we must observe degree of concentrating , when Cd,degree of concentrating Cd less than 26 ppm can accelerate growth of mycelium, and concentrating Cd greater than 200 ppm growth of mycelium whould be brake. We can find that the more degree of concentrating Cd, the A.blazei fruitbody would be bigger. Moreover, explore the ability of concentrating Cd would be well from detect the content of Cd material which is need to cultivate fruitbody of A.blazei , like manure and red soil else.
Be due to we can not avoid Cd of concentration, even maybe need
microconcentration of Cd would be accelerate growth of A.blazei. So the study explore the polysaccharides of A.blazei. We can find that hot water extract polysaccharides would acquire complete polysaccharides and contain lower concentration of Cd. The polysaccharides which content quantity of Cd is less than A.blazei fruitbody, about 12% of A.blazei fruitbody. In single factor experiment, the comminution of A.blazei fruitbody、temperature 85℃、Time 2.5 hours、the ratio of water and A.blazei 1：25 would obtain the most polysaccharides.Finally, explore the relationship of Cd and polysaccharides by analyze quality and molecular weight of polysaccharides.
Advisory Committee KUO YANG LEE - advisor

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