

ABSTRACT

The *Cordyceps militaris* is edible mushroom that considered as interesting medical properties and nutritional value in Asian countries. The main bioactive properties in *C. militaris* was cordycepin and adenosine. Aim of this project was studied the properly substrate formula for effective cultivation of *C. militaris* by utilizing different cereal grains to cultivate *C. militaris*. The experiment design included two main processes such as Liquid Media Portion (LMP) and Solid Media Portion (SMP). There were three formulas was used in Liquid Media Portion (LMP) such as silkworm pupa (control), soy bean and baby corn as main protein or nitrogen sources. The *C. militaris* mycelium growth and color development were analyzed. According to LMP, the result showed that baby corn supported the higher percentage of mycelium growth at day-14 with 98.00 % and the color development at day-5 baby, corn slightly increased by 97.00% compare to soy bean and silkworm pupa (control) as 94.00% and 90.60%, respectively. SMP was used five types of cereal grains including rice brown (Sang-yod), barley, sorghum (white and red sorghum), and mung bean powder and control by using formulas rice brown as a main substrate. The result was shown that 25g. rice with 25g. of mung bean powder provided the high percentage in mycelium growth at day-14 was 97.00%. The color development of SMP, the rice brown with mung bean powder resulted lower percentage 90.00% compared to other four formulas. The suitable formula for Liquid Media Portion (LMP) was baby corn because the percentage was highly increased. For Solid Media Portion (SMP), rice brown with mung bean powder was suitable formula for mycelium growth in solid media because the percentage was same as rice brown (control) was 95.50%.