ABSTRACT

White oyster mushroom (*Pleurotus ostreatus*) contain antioxidants and nutrient sources with proteins that serve as alternative foods. Inoculation technique is one of the factors that can affect the growth of mushroom mycelium and the application of the *eco-enzyme* as an additional nutrient is an effort to increase the production of white oyster mushroom. This research aims to provide information about the effect of inoculation technique and application of *eco-enzyme* and interaction of growing and result of white oyster mushroom. This research was conducted at Komplek TNI-AD Rudal 001, Pulo Rungkom village, Dewantara District, North Aceh regency from May to August 2023, using Completely Randomized Design (CRD) Factorial with 2 factors and 3 replicates. First factor was that the inoculation technique consists of I_0 = without depth, I_1 = inoculation depth 5 cm, I_2 = inoculation depth 8 cm. The second factor is the application of *eco-enzyme* E_0 = 0 ml/l, E_1 = 15 ml/l, E_2 = 20 ml/l. The result indicated that depth inoculation techniques significantly improved the speed of mycelium growth, time for the first appearance of *pinhead*, number of *pinhead* harvest 3, and organoleptic test. Application of *eco-enzyme* significantly improves the time for the first appearance of *pinhead*, number of *pinhead* harvest 3 and harvest 4, fruiting body diameter harvest 2, number of fruit body harvest 3 and harvest 4 and organoleptic test (taste, tekstur, and aroma). There was a significant interaction number of *pinhead* harvest 2 and harvest 3 and organoleptic test.

Keywords : Sawdust, Nutrition, Pinhead