

Produksi Biomassa dan Peletisasi *Mucor irregularis* JR 1.1 dengan Penambahan Talc sebagai Mikropartikel

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INTISARI

Kapang *oleaginous* mampu mengakumulasi lipid 20% hingga 60% dari berat keringnya. Kemampuan produksilipid tersebut menjadi menjadi solusi alternatif dalam kemajuan bidang biodiesel. Isolat JR 1.1 teridentifikasi sebagai *Mucor irregularis*. Penambahan mikropartikel *talc* dapat mengontrol pertumbuhan dan meningkatkan produksi biomassa pada beberapa strain kapang. Penelitian ini dilakukan untuk mengetahui efek penambahan *talc* terhadap produksi biomassa dan pembentukan pelet isolat kapang JR 1.1. Uji pendahuluan menunjukkan isolat JR 1.1 mampu membentuk pelet pada medium yang diberi tambahan *talc* dengan variasi 0 (g/L), 1 (g/L), 2 (g/L), 3 (g/L). Perlakuan *talc* 2 (g/L) menunjukkan hasil paling optimal. Pengamatan mikroskopis menunjukkan pelet terlihat lebih kompak seiring meningkatnya konsentrasi *talc* pada medium. Produksi biomassa dan pengukuran diameter pelet dilakukan dengan variasi inkubasi 0 jam, 24 jam, 48 jam dan 72 jam, dengan konsentrasi *talc* pada medium sebesar 2 (g/L). Produksi biomassa mencapai angka tertinggi pada waktu inkubasi 72 jam yaitu sebesar 3.09 ± 0.43 (g/L). Diameter pelet tertinggi diperoleh pada waktu inkubasi 48 jam yaitu sebesar 1.27 mm.

Kata kunci : *Oleaginous*, *Mucor irregularis*, mikropartikel, pelet, biomassa

**Biomass Production and Peletization of *Mucor irregularis* JR 1.1
Supplemented with *Talc* as Microparticle**

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ABSTRACT

Oleaginous molds are able to accumulate lipids 20% to 60% of their dry weight. This lipid production capability is an alternative solution in the advancement of the biodiesel field. Isolate JR 1.1 was identified as *Mucor irregularis*. The addition of *talc* microparticles can control growth and increase biomass production in some mold strains. This study was conducted to determine the effect of *talc* addition on biomass production and pellet formation of JR 1.1 mold isolate. Preliminary test show that isolate JR 1.1 is able to form pellets on medium added with *talc* with variations of 0 (g/L), 1 (g/L), 2 (g/L), 3 (g/L). The addition 2 (g/L) of *talc* showed the most optimum results. Microscopic observations showed that the pellets looked more compact as the *talc* concentration in the medium increased. Biomass production and pellet diameter measurements were carried out with incubation variations of 0 hours, 24 hours, 48 hours and 72 hours, supplemented with 2 (g/L) of *talc* concentration in the medium. Biomass production reached the highest number at 72 hours incubation time of 3.09 ± 0.43 (g/L). The highest pellet diameter was obtained at 48 hours incubation time which amounted to 1.27 mm.

Keyword : *Oleaginous*, *Mucor irregularis*, microparticles, pellet, biomass