

Mode Of Fungal Growth (*R. Oligosporus*) During Protein Enrichment Of Sago Starch By Solid-State Cultivation

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Abstract:

Protein enrichment of sago starch using Sartorius and standing column packed bed solid-state cultivation (SSC) systems have been carried out to investigate the growth mode of *Rhizopus oligosporus* on sago-beads using packed beds with forced aeration. Observations of the mycelial development by *R. oligosporus* UQM 145F on the different diameters of sago-beads were monitored for 54 – 72 hours of cultivation using different packed-bed bioreactors. Mycelial development could only be seen clearly after 24 h of the cultivation, even though starting at about 18 h of the cultivation, fine mycelium had already appeared, especially in the bottom of the bioreactor. The highest protein contents produced in the Sartorius and the multiple mini packed bed bioreactors were 80 – 120 mg protein/g dry sample.