

Preservation of rhizopus in bentonite clay as bio-starter

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Abstrak

Effective and efficient preservation process is necessary in terms of increasing the fungal usage for industrial scale as biostarter. The objective of this study was to identify bentonite characteristic to be carrier to preserve of *Rhizopus* spore and to determine its viability after preservation process. The clay of bentonite characteristics were identified by BET (Brunauer Emmett Teller) and SEM-EDS (Scanning Electron Microscopy-Energy Dispersive Spectroscopy) for determining surface properties and elements within the minerals, XRD (X-Ray Diffraction) for identifying the mineral, and AAS (Atomic Absorption Spectroscopy) for determining chemical composition. The growth of microbial preserved in bentonite tablet after stored for 20, 40, and 60 days was identified by TPC (Total Plate Count). Bentonite has a main component as silica-SiO₂ dan montmorillonit with some elements existence of magnesium (Mg), iron (Fe), aluminum (Al), and silica (Si), and Sodium (Na). The spores after preserved need two days longer to grow back into the mycelium. Viability the spore after storage for 60 days could be revived 3.0¹⁰10 CFU/g. The results suggest that bentonite could be used as carrier for the spore of *Rhizopus*.