Aspergillus Niger A Local Isolate From Rice Husk as Potential Source of Single Cell Protein Production

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Abstract:

Aim: In protein supplementation *Aspergillus niger* was used to produce single cell protein from rice husk through fermentative production.

Methodology: Under optimal conditions using different parameters like carbon sources, nitrogen sources, concentration of solid substrate, level of inoculum, temperatures, pH and incubation period have been optimized for obtaining more yield of single cell protein under submerged fermentation. In the current research various substrates such as brans of wheat,rice,rice husk ,whey, molasses, orangepeel,soyameal.

Result: The maximum yield of *Aspergillus niger* 5.428% or 13.57gms was analyzed with following optimized parameters substrate(rice husk) 0.75gms , carbon source(glucose) 1.45gms, nitrogen source(ammonium sulphate) 1.16gms, pH(5.5) 0.35gms, temperature(20°) 1.1gms, incubation period 5days , inoculum concentration 1ml/100ml for 5days fungal culture. These analysis indicate that Rice husk was used for the maximum yield of *Aspergillus niger*. By using Lowry protein assay the amount of protein concentration in solution is 1.021mgl/ml.

Key words: *Aspergillus niger* rice husk, C/N ratio, submerged fermentation

IEECP'21, July 29-30, 2021, Silicon Valley, San Francisco, CA – USA

DAI : ***https://sci-index.com/DAI/2021.99101/IEECP/14999190***