

**EFFECT OF NITROGEN SUPPLEMENTATION ON ACID PROTEASE
PRODUCTION BY *ASPERGILLUS NIGER*****Vasanthe Senthuran, Vasanthy Arasaratnam and K. Balasubramaniam****(Department of Biochemistry, Faculty of Medicine, University of Jaffna.)**

The effect of supplementing basic medium with different nitrogen sources on acid protease production by *Aspergillus niger* CISIR N4 was studied. Basic medium consisted of (gkg^{-1}) rice bran, 900; soya flour, 20; yeast extract, 3.0; peptone, 62.5; FeSO_4 , 0.01; MgSO_4 , 0.5; $(\text{NH}_4)_2\text{SO}_4$, 5.0; KH_2PO_4 , 5.0 (a total of 11.46 gkg^{-1} elemental nitrogen) and 50% of moisture content. When basic medium was supplemented with different inorganic nitrogen sources such as $(\text{NH}_4)_2\text{SO}_4$, urea, $(\text{NH}_4)_2\text{HPO}_4$ and NH_4NO_3 (at 11.46 gkg^{-1} elemental nitrogen level), at 47h, NH_4NO_3 supplemented medium showed the highest clotting activity (114.6 Ug^{-1} DMB). Therefore NH_4NO_3 was selected as the best inorganic nitrogen source and $(\text{NH}_4)_2\text{SO}_4$ in the basic medium was replaced with NH_4NO_3 . To study the effect of different organic nitrogen sources yeast extract, peptone, soya flour, meat and intestine were supplemented to the basic medium (11.46 gkg^{-1} elemental nitrogen). Among the nitrogen sources, soya flour supplemented medium gave the highest clotting activities (582.21 Ug^{-1} DMB) at 47h. Therefore the effect of soya flour concentrations was studied by supplementing 10, 20, 30, 40 and 50% of soya flour to the medium. At 47h, maximum proteolytic (28.17 Ug^{-1} DMB) and clotting activities (600 Ug^{-1} DMB) were obtained in the medium containing 20% soya flour. These results show that rennet can be produced by Solid State Fermentation (SSF) in a medium containing soya flour 200 gkg^{-1} and rice bran 800 gkg^{-1} with 50% moisture content.
