

**EFFECT OF DIFFERENT NITROGEN SOURCES ON  
CITRIC ACID PRODUCTION  
BY *ASPERGILLUS* SP CM<sub>1</sub>**

**P.Navaratnam, Vasanthy Arasaratnam  
and**

**K.Balasubramaniam  
(Department of Biochemistry, Faculty of Medicine  
University of Jaffna.)**

*Aspergillus* SP CM<sub>1</sub> was grown in production medium which contained (gl<sup>-1</sup>) NH<sub>4</sub>NO<sub>3</sub>, 0.5; peptone, 7.0; glucose, 140; KH<sub>2</sub>PO<sub>4</sub>, 0.5; MgSO<sub>4</sub>.7H<sub>2</sub>O, 0.1; ZnSO<sub>4</sub>, 0.1 x 10<sup>-3</sup>, ferrous ammonium sulphate, 0.1 x 10<sup>-3</sup> and CuSO<sub>4</sub>.5H<sub>2</sub>O, 0.06 x 10<sup>-3</sup> and (ml<sup>-1</sup>) methanol, 30 and gingilly oil, 2. Maximum citric acid (47.1gl<sup>-1</sup>) was produced on the 15th day at room temperature (30°C). When the production medium was supplemented with either soya bean flour (20gl<sup>-1</sup>) or soya meat powder (20gl<sup>-1</sup>), citric acid production was decreased to 16.1gl<sup>-1</sup> and 20.8gl<sup>-1</sup> at 15 and 9 days respectively while promoting the growth of the fungus by 1.6 and 1.5 folds respectively. To study the effect of peptone on citric acid production the fungus was grown in production medium and peptone free production medium and maximum citric acid produced was 47.1gl<sup>-1</sup>(15 days) and 19.5gl<sup>-1</sup> (16 days) respectively. To avoid the use of peptone and to improve citric acid production the peptone free production medium was supplemented with either soya bean flour (20gl<sup>-1</sup>) or soya meat powder(20gl<sup>-1</sup>) and citric acid production has decreased to 10.85gl<sup>-1</sup> (at 11 day) and 16.0gl<sup>-1</sup>(at 12 day) respectively with 3.0 fold increase in growth. Therefore supplementation of peptone free production medium with either soya bean flour or soya meat powder did not improve citric acid production. As the above said organic nitrogen sources didn't improve the citric acid production, the concentration of NH<sub>4</sub>NO<sub>3</sub>(inorganic nitrogen source) was increased from 0.5 to 0.75gl<sup>-1</sup>in the production medium and citric acid has raised from 47.1gl<sup>-1</sup>to 52.0gl<sup>-1</sup>(at 12 day) while the growth of the fungus remaining constant. Further when the concentration of peptone was doubled to 14.0gl<sup>-1</sup>, citric acid production has increased to 58.0gl<sup>-1</sup>(at 8 days).

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