

STIMULATION OF CITRIC ACID PRODUCTION BY METHANOL IN *ASPERGILLUS* SP.

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A mutant strain of *Aspergillus* sp UV 1 developed in this laboratory was cultivated in a medium containing [gl⁻¹] glucose, 50; NH₄ NO₃ 0.5; KH₂PO₄, 0.5; MgSO₄, 0.1; peptone, 7.0; ZnSO₄, 0.1 × 10⁻³ ferrous ammonium sulphate 0.1 × 10⁻³; CuSO₄ .5H₂O, 0.06 × 10⁻³ for citric acid production in liquid surface culture at room temperature. To evaluate the effect of methanol on citric acid production different concentrations of methanol (20, 30, and 30 ml⁻¹) were added to the test medium while to the controls glucose, equivalent to methanol, was added to equalise the carbon content. Maximum citric acid (11.54 gl⁻¹) was produced in the medium containing 30 ml⁻¹ methanol at 88h. The stimulatory effect of methanol on citric acid production from glucose as carbon source was investigated by keeping the amount of total carbon (30.9 gl⁻¹) constant. The control experiment having glucose (77.3 gl⁻¹) with no methanol produced 10.6 gl⁻¹ citric acid in 188h. However when one-third (10.3 gl⁻¹) of the carbon source from glucose was substituted with methanol (30 ml⁻¹) citric acid production not only increased from 10.6 gl⁻¹ to 12.4 gl⁻¹ but the time required for maximum citric acid production also decreased from 188h to 88h.

Another mutant *Aspergillus* sp UV 2 was used to test the effect of polyunsaturated fat (gingelly oil) on citric acid production. When different concentrations of gingelly oil (0 to 8 ml⁻¹) were added to media containing glucose (50 gl⁻¹) and methanol (30 ml⁻¹), no marked difference in citric acid production was observed.