

**Production Of Gallic Acid From *Chebulic Myrobalan (Terminalia Chebula)* Fruits By *Aspergillus Niger* And *Penicillium Sp* And Evaluation Of Its Antibacterial Activity**

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**ABSTRACT**

Gallic acid is a phenolic compound, a potent anticarcinogenic, anti-oxidant and antimutagenic compound. The main objective of the present work was to produce gallic acid from chebulicmyrobalan fruits by submerged fermentation using *A.nigar* and *Penicilliums sp.* in a co-culture method. Soil samples were collected and processed as per standard method for the isolation of *A.niger* and *Penicillium sp.* submerged fermentation was performed for the production of gallic acid. Sample was collected daily from the fermentation broth and physico-chemical analysis like changes in the total tannin content and tannase enzyme assay were performed as per standard method. Tannase enzyme activity increased till 72hrs from (12-62 units/ml to 20-35 units/ml) beyond which there was a decrease in the enzyme activity. Initial tannin content was found to be 8.5 mg/ml of substrate which reduced till 72hrs of fermentation reaching 6.8gm/ml. after 72hrs there was no reduction in the tannin content.The breakdown of tannins to gallic acid was confirmed by assay of gallic acid and percentage yield was calculated.The concentration of gallic acid was estimated after 48hrs of fermentation. At 72hrs the concentration of gallic acid was found to be 5.73mg/ml and at 96hrs of fermentation the yield was 4.2mg/ml. Microbial production of gallic acid through submerged fermentation has been receiving more attention since the product finds wide application in pharmaceutical industry due to its varied biological activities (anti-oxidant, anti-apoptotic, antibacterial, antiviral, etc) and also being precursor of trimethoprim, propyl gallates and dyes.. Hence, an adequate dosage of gallic acid as a part of regular diet may be beneficial to human health and quality of life.