|  |
| --- |
| **CHARACTERIZATION OF BEST NARINGINASE PRODUCING FUNGUS ISOLATED FROM THE CITRUS FRUITS** |
| **Keerthini Srikantha 1, Ranganathan Kapilan 2\*, Vasantharuba Seevaratnam 1** |
| *1 Department of Agricultural Chemistry, Faculty of Agriculture, University of Jaffna, Sri Lanka*  *2 Department of Botany, Faculty of Science, University of Jaffna, Sri Lanka* |

**ABSTRACT**

Naringinase enzyme has potential application in food and pharmaceutical industry. Naringin and limonin are principle bitter components in the citrus fruit. The microorganisms that associate with citrus fruit may have the ability to degrade the naringin by extracellular nar-inginase enzymes that are produced by microorganisms. The objective of the study is to isolate naringinase producing fungus from the citrus fruit to debitter the citrus juice and to characeterize the fungus. Citrus fruits were allowed to spoil under the air and soil and the lesion was used to streak on fresh PDA plates. Out of the eight strains isolated from citrus fruits, five were positive for naringinase en-zyme. When all the naringinase producing fungi were subjected to liquid fermentation medium for eight days at room temperature at 200 rpm and the crude enzyme was tested for naringinase enzyme at pH 5 and 50 ºC for 10 minutes, one strain showed the best naringenase activity (1.92 μmol/ml/min). This strain was identified as Aspergillus flavus based on the macroscopic, microscopic and biochemical tests. The culture conditions were optimized to increase the naringinase production via solid state fermentation system using paddy husk as the support. Though naringinase activity of Aspergillus flavus has started on the 2nd day, the highest activity (449.58Ug-1Dry Matter) was obtained on the 8th day. Thereafter the naringinase activity has started to decline. Solid state fermentation using paddy husk as sup-port could be used for large scale naringinase enzyme production.

***Keywords***: *Aspergillus flavus; Citrus Fruit; Naringinase; Paddy Husk; Solid State Fermentation.*

Keerthini, S, Kapilan ,R, and Vasantharuba,S. (2016) *.*Characterization of best naringinase producing fungus isolated from the citrus fruits. *International Journal of Biological Research, 4 (2) 83-87*

|  |
| --- |
| doi: 10.14419/ijbr.v4i2.6281 |