

OPTIMIZATION FOR L- ARABINOSE ISOMERASE PRODUCTION FROM LOCAL ISOLATE OF *Bacillus stearothermophilus* HB4.

Hameed Abood Jabur
Dept. of Food Sci. & Biotech- Coll. Of Agri.- Univ. of Baghdad.
E. mail : dr_hameedm59@yahoo.com

ABSTRACT

In this study twelve of purred local isolate from *Bacillus stearothermophilus* were obtained among 40 isolates from different sources of Iraqi soil. They were subjected to primary and secondary screening to select the isolate which produce the highest level of L- arabinose isomerase . It was found that the isolate B4 was the highest producer of the enzyme , with enzyme activity of 35 unit /ml. According to morphological and biochemical tests this isolate was identified as *Bacillus stearothermophilus* and designated as HB4 . The optimum conditions for production of L- arabinose isomerase from *Bacillus stearothermophilus* HB4 by submerged culture were achieved on broth medium containing 1.5% glycerol as carbon source and 0.15 % of L- arabinose as inducer and 1 % of mixture of casien, beef extract and yeast extract with equal quantity of each them as nitrogen source with 0.15 % of magnesium sulfate and 0.02 % of manganese sulfate at pH of 7.5 after 72 hours of incubation at 55 C⁰. Under these conditions The enzyme activity was 55 U/ml with increasing about 150 % comparing with same isolate before optimization.

Key words :- L- arabinose isomerase ; *Bacillus stearothermophilus* HB4