

Concentration of D-Pinitol from Carob Kibble Using Submerged Fermentation by *Saccharomyces cerevisiae*

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Abstract : D-pinitol (3-O-methyl ether of D-chiro-inositol) has been known to have health benefits for diabetic patients. Carob kibble has received attention due to the presence of high value D-pinitol and polyphenol antioxidants. D-pinitol was concentrated from carob kibble using submerged fermentation with *Saccharomyces cerevisiae*. Total carbohydrates and D-pinitol were determined by the phenol-sulphuric acid method and HPLC, respectively. The content of D-pinitol increased from approximately 43 to 70 mg/g dry weight after fermentation. The yeast consumed over 70% of total carbohydrates in carob kibble without any negative effect on D-pinitol content. A range of substrate medium pH's from 5.0 - 7.0 had no significant effect on the removal of carbohydrates and D-pinitol. This method may provide a practical solution for production of D-pinitol from carob in a cost effective manner.

Keywords : carob kibble, d-pinitol, *saccharomyces cerevisiae*, submerged fermentation, total carbohydrates

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