

Citrus Residues Isolates Improve Astaxanthin Production by *Xanthophyllomyces dendrorhous*

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The wild strain and two astaxanthin-overproducing mutant strains, W618 and GNG274, of *Xanthophyllomyces dendrorhous* were analyzed in order to assess their ability to grow and synthesize astaxanthin in a minimal medium containing (per liter): 2 g KH_2PO_4 , 0.5 g MgSO_4 , 2 g KNO_3 , and 1 g yeast extract, and supplemented with citrus residues isolates as a carbon source (citrus medium). The selected strain W618 was evaluated under various contents of citrus juice. At the content of 20% (v/v), the highest astaxanthin production reached 22.63 mg L^{-1} , which was two-fold more than that observed in yeast malt medium. Addition of 8% (v/v) *n*-hexadecane to the citrus medium was found to be optimal, increasing the astaxanthin yield by 21.7%.

Key words: Astaxanthin, *Xanthophyllomyces dendrorhous*, Citrus Residue