

ABSTRACT

Bioaromas obtained from chemical and natural sources are quite expensive and have hazardous effects on the health of consumers. The present research work was conducted to produce an aromatic compound using eco-friendly and cost-effective biotechnological approach employing yeast strains. Aromatic compound producing yeast was isolated from soil collected from sugar industries of Pattoki and Chiniot. Next, their growth in NEO medium specialized for 2-PE production was observed provided with L-phenyl alanine and the percentage of 2-PE produced after 48 hours of incubation at 37°C was evaluated. Several optimization parameters were applied to enhance the productivity of 2-PE. These optimization parameters include media type (YPD, NEO, YPG, YPGal), incubation time (24-72 h), temperature (25-45°C), pH (4-7), glucose concentration (5-25 g/L), yeast extract concentration (10-50 g/L), L-Phenylalanine concentration (4-20 g/L) and inoculum size (1-3 mL). Maximum concentration of 2-PE obtained after optimization was 3 g/L. Identification of 2-Phenylethanol was carried out through High Performance Liquid Chromatography (HPLC) using C18 column as stationary phase and Water: Acetonitrile as mobile phase at 70:30 ratio. The aromatic compound produced by biotechnological method in this research was used to produce organic perfumes and scented candles by adding several base oils.