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Extraction of Essential Oil from Sour Orange (*Citrus aurantium*) Peels and Evaluation of its Physico Chemical Characteristics

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Abstract

The present work was carried out to obtain essential oil from the sour orange peel (*Citrus aurantium*) which is rich in essential oil through steam distillation. Extraction using distilled water was the control treatment and other treatments were carried out by using 3%, 5%, and 7% NaHCO₃. This study determined the yield% of essential oil in four different treatments in freshly extracted essential oil. The Physico-chemical properties of essential oil were determined in freshly extracted essential oil. In performance, T3 (5% NaHCO₃) was the best yield% (w/w) with a value of 3.15%. According to this study, using NaHCO₃ for essential oil extraction from sour orange peel resulted in a higher essential oil yield than distilled water. The extracted essential oil in sour orange peel has distinct pale yellowish color with a fresh and tangy smell. T3 exhibited that distinct color and odor. Based on the yield% and Physico-chemical analysis, the essential oil extraction using 5% NaHCO₃ was the best treatments followed by treatment 4 (7% NaHCO₃), treatment 2 (3% NaHCO₃) and treatment 1.

Key Words: Sour orange peel, Extraction, NaHCO₃, Essential oil

