

Characterization of enzyme-liquefied soursop (*Annona muricata* L.) puree

ABSTRACT

Soursop (*Annona muricata* L.) is a tropical fruit that undergoes rapid postharvest deterioration. Conversion into puree is a way to value add the fruit. Pectinex® Ultra SP-L, Celluclast® 1.5 L, and Fungamyl® 800 L (0–5% v/w) were used to treat fruit pulp and pectinase at 1.5% (v/w) concentration was chosen as the primary enzyme in combined enzymes study because it produced the best result in liquefaction. A liquefied puree with reduced viscosity of up to 50% (15.20 ± 0.17 mPas) was obtained when pectinase was used in combination with cellulase compared to puree treated with pectinase only. Physicochemical results showed the addition of cellulase did not lead to significant changes ($P > 0.05$) in pH, titratable acidity, and ascorbic acid but caused significant increases ($P \leq 0.05$) in total soluble solid and total sugar content. Aroma profile analyzed using a zNose™ showed at least 15 volatile compounds were detected in fresh soursop fruit with methyl hexanoate (MH) ($0.023 \pm 0.004\%$) and methyl trans-2-hexenoate (MTH) ($0.014 \pm 0.002\%$) as the major volatile compounds. Principal Component Analysis (PCA) indicated six important variables were selected as the principle component which generated total cumulative variance of 92.9%.

Keyword: Soursop; Puree; Enzymatic-liquefaction; Aromaz; Nose