Thermal Inactivation of Pectinesterase in Sleeve Nectar (*Mangifera Indica* L. Var. Ubá)

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Pectinesterase is associated to the fruit matureness and tenderness process. However, they cause undesirable effects during citric juice processing, leading to the turbidity loss and gels formation. This leads to a two phase's system with a non-attractive aspect and reducing its commercial value. Juice pasteurization can destroy the enzyme. However, there are some evidences that heat resistant forms of pectin esterase are more resistant to the thermal treatment than vegetative microorganisms. In this study it was determined residual activity of the enzyme pectinesterase during the thermal treatment in mango nectar. Ten mL of cool nectar (pH 4.0 and 20°Brix) had been submitted to the thermal treatment at 80°C during 0, 4, 6, 8 and 10 minutes. After the thermal treatment, the residual enzyme activity was determined. The enzymatic reaction with citric pectin was carried through at 30°C, under constant shaking, pH 7.5 (addition of known volumes of NaOH, 0.01 M) during 10 minutes. A unit of enzyme activity was defined as mEq of ester hydrolyzed/minute/g of nectar, pH 7.5 at 30°C. The cool nectar initial activity without any thermal treatment was 2.127×10^{-4} mEq/min/g. The cool nectar thermal treatment at 80°C reduced the activity by 62.60%. Thus, one form of pectinesterase had been inactivated during this period and the thermal inactivation followed a nonlinear form. This behavior can be explained by the presence of several pectinesterase forms with different thermal resistances.

Key-words: mango nectar; pectin esterase, thermal treatment.
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