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Effect of thermal treatment on phenolic and antioxidant content of fresh bael juice

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■ **ABSTRACT :** Bael (*Aegla marmelos*) is one of the important fruit in India and bael juice is most important source of antioxidants. The loss of phenolic compound and antioxidant content over the temperature range of 55-85^0 C was studied. Degradation kinetics was best fitted by first order reaction kinetic model for both phenolic compound and antioxidants. Arhenius and Erying – polany models had been used to determine the temperature dependent degradation. Following the Arhenius model, the activation energy for the phenolic compound and antioxidants were 18.52 and 45.08 KJ mol^{-1}, respectively. The retention of phenolic compound and antioxidants of bael juice treated at 55^0 C for 90 min was more than 61 and 68 per cent, respectively as that of fresh bael juice.

■ **KEY WORDS :** Phenolic compound, Antioxidant, Degradation kinetic, Arhenius, Erying-Polany, Activation energy

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