

**IDENTIFY DRYING KINETIC PARAMETER USING THE NEWTON MODEL,
MODIFIED PAGE MODEL AND TWO TERM MODEL FOR
BANANA AND GUAVA**

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ABSTACT

IDENTIFY DRYING KINETIC PARAMETER USING THE NEWTON MODEL, MODIFIED PAGE MODEL AND TWO TERM MODEL FOR BANANA AND GUAVA

The characteristic drying of banana and guava was determined. This characteristic of drying was measured using the mathematical model drying Newton Model, Modified Page Model and Two Term Model. The parameter from the three models determined using the Sum Square Error (SSE) and Minimum Sum Square Error (MSSE). Drying of banana and guava was investigated from the experiment and the parameter each model was determined depend the drying parameter example temperature, velocity and relatively humidity during drying process. For experiment banana, the temperature used at 40 ° C, 50 ° C and 60 ° C, constant velocity and humidity at 1.8 m/s and 40 % for each temperature. For guava experiment, used the 50 ° C, 60 ° C and 70 ° C and constant velocity and humidity at 2m/s and 40%.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Drying is the process of removing liquid from solids by evaporation. For drying of fruits and vegetables demands special attention, as these are considered important sources of vitamins and mineral essential for mankind. Dried fruits and vegetables have gained commercial scale has become an important and their growth on a commercial scale has become an important sector of the agricultural industry. Losses of fruits and vegetables in developing countries are estimated to be about 30-40 % of production (Jayaraman & Gupta, 1995). The need to reduce post harvest losses is of vital important for these countries.

Drying is a complicated process involving simultaneous heat and mass transfer. Fruits and vegetables have certain morphological features quite distant from other natural materials that greatly influence their behavior during drying and preservation. Fruits are generally characterized by high initial moisture content, high temperature sensitivity example colour, flavour, texture and nutritional value subject to thermal deterioration and shrinkage of materials during drying. The required amount of thermal energy to dry a particular product depends on many