RESEARCH ARTICLE

Textural studies of soy-jambul seed powder fortified biscuits

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ABSTRACT

The texture of food is one of the most challenging areas of food characteristics and main quality parameter affecting food preference. Therefore, the developed biscuits of compositions 60% maida+ 34% soy flour+ 6% jambul seed powder *i.e.* A1, 60% maida+ 32% soy flour+ 8% jambul seed powder for A_2 and 60% maida+ 30% soy flour+ 10% jambul seed powder for A3 were allowed to texture profile analysis and their textural properties were compared with the control biscuit having 60% maida and 40% soy flour obtained from the local market. Biscuit sample A_2 was found firm and crunchiness or crispier than other combinations.

Key words : Textural properties, Fortified biscuits, Soy-jambul, Seed powder

INTRODUCTION

The texture refers to the structure and arrangement of particles in a substance. It can be regarded as a manifestation of the rheological properties of a food. It encompasses all properties of foods which are perceived by kinesthetic and tactile senses of mouth. It is of topmost importance for palatability of food and an important attribute in that it affects processing and handling, influences food habits, and affects shelf-life and consumer acceptance of foods. Firmness, hardness or softness are textural properties that are generally on the same property spectrum. A soft product is one that displays a slight resistance to deformation, a firm product describes one that is moderately resistant to deformation and hardness describes a product which displays substantial resistance to deformation. However, it was also found that depending upon the product industry, one of these words may be more favourable or pertinent to a particular product. Firmness is the most commonly evaluated characteristics while determining biscuit texture. Depending upon the type of test conducted, firmness of biscuits can be obtained by measuring hardness, fracturability and work of shear (stable micro systems).

Hardness is defined as the maximum peak force during the first compression cycle (first bite) and has often been substituted by the term firmness (Brown *et al.,* 1998). Units are kg, g or N. Depending on different tests, it can also be measured as area under the curve (kg m) or first peak force (kg). Fracturability is a parameter that was initially called brittleness. The factor that helps determine fracturability is the suddenness (*i.e.* the distance at fracture) with which the food breaks. Sometimes it can also be given by linear distance. The Linear distance function calculates the length of an imaginary line joining all points in the selected region. The greater the linear distance value, the easier the sample is fractured. It is calculated using kg and m (regardless of the units on display) but the answer has no allocated units.

Texture profile analysis (TPA):

The texture analyzer (TA) is a microprocessor controlled texture analysis system, which could be interfaced to a wide range of peripherals, including PC-type computers. The texture analyzer measures force, distance, and time in a most basic test, thus providing three dimensional product analyses. Forces could be measured against set distances and distances may be measured to achieve set forces. The probe carrier contained a very sensitive load cell. The TA.HD plus load cell had electronic overload protection. The TA-XT plus load cell had