THE EFFECT OF SALT CONCENTRATION ON THE COLOR, TEXTURE AND SENSORY ANALYSIS OF BEEFBALLS

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ABSTRACT

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Four formulations of beef balls were studied by varying the salt concentration from 1.5% to 3%. The following evaluations were performed on the beef ball. Texture Profile Analysis, color and sensory analysis. Texture parameters analyzed were cutting strength, firmness and springiness. Beef ball with 2.5% salt concentration is the most firm, most springy and has the highest cutting strength compared to other formulations. The values for firmness, springiness, cutting strength are 390.3, 57.6 and 799.2 respectively. Colour measurements were measured by using CIE color lab. For the color , "a" are significantly different, but "L" and "b" values, there are no significantly different among the formulations. The "a" value for all formulations (varying the salt concentration from 1.5% to 3%) ranged from –2.1 to –0.7. Preference test by using 9 hedonic scales was used in sensory evaluation. . The mean for taste of all formulations range from 5.5 to 6.4. All the data were analyzed and evaluated by using the Statistical Analysis System (SAS). However, the varying of salt concentration does not significantly affect the sensory properties except taste. Furthermore, the beef ball with 2.5% salt concentration had the highest acceptability values than other three formulations. It is most preferred for colour, taste and overall acceptability.

CHAPTER 1

INTRODUCTION

Meat is defined as the flesh of animals used as food. In practice this definition is restricted to a few dozen of the 3000 mammalian species; as well as the musculature organs such as liver and kidney, brains and other edible tissues (Lawrie, 1985). Examples of types of meats are beef, veal, lamb, mutton and pork (Bennion and Scheule, 1998).

Quality grading of carcasses are classified in terms of some projected palatability. The attributes considered in the USDA quality-grading system include the degree of marbling, maturity, color, texture and firmness (Li *et. al*, 2001).

Most consumer rate tenderness as the most important factor determining the quality of meat. Generally the quality of meat is perceived after the product has been cooked and is being consumed. Mechanical means are commonly used to provide a measure of tenderness (Bennion and Scheule, 1998).

Processed meats are products in which the properties of fresh meat have been modified by the use of procedures such as mincing, grinding or chopping, salting and curing, addition of seasoning and food materials and in many instances heat treatment. Most of these processes extend the shelf life of meat (British Nutrition