

CHAPTER I

INTRODUCTION

Bread is a bakery product valued for its taste, aroma and texture. It is a major food prepared by baking dough; flour and water mixed together (Osuji, 2006). Yeast, salt and fat are other ingredients added. Bread can also be referred to as a fermented confectionary product produced mainly from wheat flour, water, yeast and salt by a sequence of process that involves mixing, kneading, proofing, shaping and baking (Dewettinck, 2008). Bread remains one of the most essential foods consumed all over the world (Mirsaeedghazi, 2008). Recently, the consumption of wheat bread has become popular in many developing countries as a result of growing population, urbanization and changing food habits (Onabolu, 1998; Oloye, 2006).

Bread products are well recognized globally because of the low cost, ease of preparation, versatility, sensory attributes and nutritional features (Fang, 2008). The physical properties of bread are significant of its quality which is frequently affected as a result of changes in process parameters, and also depends on the methods of bread production. The main methods used in the production of wheat bread are the straight-dough and two-phase methods. The straight-dough method is short, one-time mixing, fermentation in bulk, division into dough pieces, proofing and baking (Kariluoto et al., 2004).

Bread and other baked products such as biscuits, doughnuts, and cakes made from wheat flour are generally consumed because wheat is a good source of calories and other nutrients. However, its protein is lower in nutritional quantity when compared to

other proteinous foods (Jideani and Onwubali, 2009; Dewettinck, 2008; Bakke and Vickers, 2007; Young, 2001). Dough formed from wheat flours has unique biomechanical properties, which contribute to the retention of carbon dioxide during fermentation, causing expansion of the dough to give leavened bread. These properties are dependent on the structures and interactions of the wheat grain proteins (Shewry et al., 2009).

The awareness of consumers has been focused on the need to eat high quality and healthy foods, otherwise called “functional foods”. These are foods that contain ingredients that offer additional health benefits apart from the main nutritional requirements (Ndife and Abbo, 2009). This makes it imperative to carry out studies on the wheat flours that have high gluten contents and recommended such for consumers.

Wheat (*Triticum spp* L.) is one of the most important food crops worldwide. Its status as a staple is secondly only to rice. The main explanation for its popularity is that, unlike other cereals, wheat contains a high content of gluten, the protein that provides the elasticity that is necessary for excellent bread making.

The two main types of wheat are bread wheat and durum wheat (Saari and Prescott, 1985). The functional properties of wheat are dictated by the composition of gluten proteins and interactions with each other when water is added and mixing to form dough (Sliwinski et al., 2004; Shewry et al., 2009; Wall, 1979). It has long been recognized that both quantity and quality of protein affect the end use quality of wheat, and bread making performance predominantly (Gupta *et al.*, 1992; Booth, and Melvin; 1979, Tipples and Kilborn, 1974; Finney and Barmore, 1948).

The baking capacity of wheat flours is affected by many factors, most notably is protein content (Huebner, 1999; Weegels et al., 1996; Graybosch et al., 1993; MacRitchie, 1987). The baking industry needs flours to have well-defined quality features that include protein content, wet and dry gluten and good rheological properties. Different types of wheat flour are different in contents of the above-mentioned properties and all these will have influence on the quality of final product.

Researchers have studied the impact of using different types of flour on the final product such as “Chemical composition, rheological properties and bread making potentials of composite flours from breadfruit, breadnut and wheat (Malomo et al., 2011) and “Evaluation of the nutritional and sensory quality of functional breads produced from whole wheat and soya bean flour blends” (Ndife et al., 2011). In Malaysia, the study on application of wheat flour from same type but different in commercial brand is limited which has made this study imperative.

The objectives of this study are:

- To determine the gluten content in flour samples.
- To study the physicochemical properties of bread produced.
- To determine the sensory evaluation of bread samples.
- To find out the most acceptable among bread samples.