

Baking Science & Technology 3(2-1)

Theory

Bread types and Formulations. Wheat flour: components and functions. Shortenings: Types, functions, sources and mechanisms. Yeast: Types, functions, factors influencing fermentation and other minor ingredients. Bread making processes: Mixing and dough processing: Baking process: Stages, baking reactions, Bread packaging and storage. Bread spoilage and staling, factors and control measures. Biscuits, cookies, and crackers: Ingredients and their functions, wheat flour, chlorine treatment of flour, granulation, shortening, sweeteners. Types of leavening agents. Preparation of biscuit doughs. Biscuit baking, heat transfer mechanism, changes during baking. Cooling, packaging and storage. Cakes: Varieties, ingredients and functions. Wafers: Ingredients and functions: Miscellaneous products: Flat bread technology. Frozen dough products, pizza. Pastry, doughnut and Muffins.

Practical

Bread baking: effects of water absorption and dough mixing time, Variations in fermentation and proofing time. Effects of shortenings, emulsifier, amylases and sweeteners on bread. Comparison of various dough making procedures. Preparation and evaluation of flat breads i.e. chapattis and naans etc. Visit of processing plant. Biscuits and cakes: Preparation and sensory evaluation of variety breads, cakes, cookies and wafers, pastry and cake icing. Preparation of wafers, pizza and doughnuts. Baking powder preparation by using different ingredients.

Books Recommended

1. Almond, N. 1988. Biscuits, cookies and crackers. Vol-I & II. Elsevier Applied Science, New York, NY, USA.
2. Cauvain, S. and Young, L. 2006. baked products; technology and practice. Blackwell Pub., USA.
3. Cauvain, S.P. 2003. Bread making - improving quality. Woodhead Pub. Ltd., Cambridge, UK.
4. Edwards, W.P. 2007. The science of bakery products. Royal Soc. Chem., Cambridge, UK
5. Edwards, W.P. 2007. The science of bakery products. Royal Society of Chemistry, Cambridge, UK
6. Pylar, E.J. 1988. Baking science and technology. Vol-I & II. Sosland Pub. Co., Kansas, USA
7. Wade, P. 1988. Biscuits, cookies and crackers. Vol. I. Elsevier Applied Science, New York, NY, USA.

Website: www.foodscienceuniverse.com