

Food Analysis 3(1-2)

Theory

Food analysis: significance. Sampling: techniques, preparation, preservation. Physical properties and analysis of foods and food products: appearance, texture, specific gravity, refractive index, rheology. Chemical analysis: significance. Proximate analysis: moisture, ash, proteins, lipids, carbohydrates, fiber, NFE, acidity, pH, sugars, mineral elements, vitamins – significance, methods. Chromatography: paper, thin layer. Spectroscopy: atomic emission, atomic absorption. Sensory evaluation of foods: attributes, difference and preference tests, consumer acceptance. Analytical data: evaluation, interpretation, statistical applications.

Practical

Lab safety requirements. Preparation and standardization of laboratory solutions. Sampling. Determination of specific gravity, refractive index, moisture, ash, crude protein, crude fat, crude fiber, NFE, pH and acidity. Estimation of vitamin C. Determination of mineral elements through flame photometer and atomic absorption spectrophotometer. Paper and thin layer chromatography. Identification of toxins by TLC. Sensory evaluation of foods.

Books Recommended

1. AOAC. 2007. Official methods of analysis of AOAC. Association of Official Analytical Chemists, Arlington, USA.
2. Winton, A. and Winton, K.B. 2006. Techniques of food analysis. Agrobios Publishing Co., Jodhpur, India.
3. Awan, J.A. and Rehman, S.U. 2003. Food analysis manual. Unitech Communications, Faisalabad, Pakistan.
4. Pomeranz, Y. and Meloan, C.E. 2000. Food analysis: theory and practice. CBS Publishers, New Delhi.
5. Lawless, H.T. and Haymann, H. 1998. Sensory evaluation of food: principles and practices. Chapman and Hall, New York, USA.
6. Nielsen, S.S. 1994. Introduction to the chemical analysis of foods. Jones & Bartlett Publishers, London, UK.

Website: www.foodscienceuniverse.com