Abstract

Maize (*Zea mays*) is an important cereal grain in the world, providing nutrients for humans and animals. Because maize can be considered as a good source of carbohydrates and provides significant amount of protein as well. Therefore, it has a great value with regard to human nutrition and economical to use as a functional food in the food industry. However, a large quantity of maize is wasted due to inappropriate post harvest handling and less usage in industrial applications. Therefore, the economic value of maize needs to be improved using the knowledge of modern food technology. So far no proper method has been introduced to enhance industrial usage of maize in Sri Lanka through product development. Therefore there is a major challenge facing at present is how to reduce the wastage of the harvest.

The major objective of this project was to develop a value added product from maize in order to increase its industrial usage. In this study, corn pudding was formulated using green corn cobs and for the value addition and improvement of palatability, natural fruit juices and herb extracts were mixed. That product did not contain artificial colorings, flavours or preservatives and therefore, it can be considered as a natural product.

Sensory evaluation was carried out to determine the best maturity stage of maize and to determine the best fortification. After developing the corn pudding which has best palatability characteristics, proximate analysis was carried out to determine the composition of the product. Shelf life evaluation of corn pudding was based on the microbial analysis (Total Plate Count and Yeast and Mould Test) and chemical changes (P^H, Total Soluble Solids and Titrable Acidity) of the product during storage at $(4\text{-}5)^0C$ for two weeks.

Sensory evaluation of the product showed that the organoleptic characteristics were preferable when corn pudding was prepared using immature corn cobs with the fortification of pineapple juice. According to the results of proximate analysis, the best sample contains 70.42% moisture, 1.325% total fat, 0.115% free fat and 3.85% protein. Total Plate Count and Yeast and Mould Count showed that the product was almost free from micro organisms. In addition, no considerable variation in P^H, Total Soluble Solids and Titrable Acidity during the storage time. Therefore, the results of shelf life evaluation revealed that the product is acceptable for two weeks.