

ABSTRACT

Food industry in Sri Lanka is growing up rapidly by the production of variety of food commodities to meet increasing demand by the consumers. The manufacturers are producing foods that are poor in quality and injurious to consumers to make fraudulent profit. The main problems faced by the consumers in the food market are the food adulterations, contaminations and labeling with misleading declaration or without labeling. Therefore, it is the need to ensure an adequate supply of safe and nutritious better quality foods. Food and Drug Act No. 26 in 1980 has been established to protect consumers. This study detects commonly used food adulterants, contaminants and their effects on the quality parameters of food commodities. Suspicious samples of different food items collected Island wide and sent by the Public Health Inspectors to the Government Analyst's Department were analyzed using physical, chemical and microscopic examinations.

Presence of adulterants was mainly detected using titrable acidity, milk fat and solubility for dried milk powder; milk solids, milk fat and solid non-fat for ice cream; milk solids and milk fat for curd; milk solids, milk fat, reducing and non-reducing sugars for yogurt; free fatty acids and volatile acids (Reichert, Polenske and Kirschner Values) for ghee; water extract, crude fibre, alkalinity and microscopy for tea; water extract, caffeine and microscopy for coffee; free fatty acids, Iodine Value, Saponification Value for oils and fats; reducing and non-reducing sugars for jaggery; presence of HMF, Fructose/Dextrose ratio and microscopy for bee honey; total acidity, permanganate oxidation value, alkaline oxidation value for vinegar; total ash, acid insoluble ash and microscopy for spices and condiments powder; moisture and Iodine value for common edible salt; and moisture and protein for soy meat. Presence of contaminants was mainly detected using free ammonia, albuminoid ammonia, iron, nitrites, nitrates, alkalinity and hardness in portable water.

Quality parameters were compared with specification given by food regulation and Sri Lanka Standards to evaluate the genuineness of food commodities. This study reported that almost all samples of buffalo curd and yogurt were poor in quality due to the deficiency of fat. Few samples of ghee were detected to be poor in quality due to adulterations with fat other than ghee. Significantly high number of adulterated samples of coconut oil and few samples of gingelly oil had been reported due to the higher free fatty acids mainly. Considerably higher samples of jaggery and bee honey were found to be adulterated mainly with sugar. More samples of chilie powder, turmeric powder and condiment powder were poor in quality with respect to added foreign starches, contaminating with insects, and higher moisture content. A higher number of contaminated portable water samples were detected due to the higher animal matters and iron content.

This study gives the general idea on the rate of food adulterations and contaminations island wide. Therefore consumer should be protected from foods, which are contaminated, adulterated, and injurious or labeled on a misleading manner by ensuring a supply of safe and nutritious food. The present Food Regulations should be updated to cover as much as new food products in the country. Analytical service should be increased to maintain a good quality control system by establishing regional laboratories.