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Commonly used food adulterants in Sri Lanka

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The primary purpose of food laws is to ensure that consumers receive food which is of satisfactory composition, free from harmful additives and contaminants, and correctly and informatively labeled and advertised. Food legislation not only protects the consumers but also the honest manufacturer from unfair competition. Watering of milk and alcoholic drinks has been known from the earliest days and occur still. Adulteration includes not only addition of foreign matter but also includes abstraction of essential constituents of food i.e., abstracting milk fat from milk and adds another type of fat. Use of exhausted tea leaves or other foreign leaves in adulteration process of tea. Adulterants are intentionally added substances that affect the character, value, composition, merit, or safety of food. Physical, chemical and microscopic examination can detect the food adulteration. The spices are adulterated with flour, paddy husk, poonac, sawdust, salt and added colors. Honey is adulterated with sugar syrup. Butter oil (ghee) is adulterated with vegetable fat and sometimes to get the characteristic color addition of non-permitted colors like metanil yellow. Metanil yellow is a casino genic synthetic dye. Coconut oil is adulterated with cheaper oil like palm oil. Coconut vinegar is adulterated with acetic acid. Adulteration of spices can be measured by the deviation of the total ash value and also microscopic examination. Spices have characteristic microscopic features. The adulteration of honey can be determined by the dextrose: fructose ratio and the presence of non-reducing sugars. Adulteration of coconut oil can be determined by the deviation of iodine value and saponification value. Adulteration of butter oil (ghee) can be measured by the deviation in Reichert Meissl, Polensky and Kershner values. Adulteration of coconut vinegar can determine by the deviation of alkaline oxidation value and permanganate oxidation value. Addition of artificial colors to rice, spices can be determine by paper chromatography.

Biography

Deepika Senevirathne is having twenty five years of experience in food chemical analysis specially adulterants and contaminants. She is holding a degree in Chemistry and Master's degree in Food Science and Technology. She has been working in the Government Analysts' Department of Sri Lanka from 1993. Presently she is holding a position of Deputy Government Analyst and she is a member of Food Advisory Committee of Ministry of Health of Sri Lanka. Ministry of Health is the main governing body of Food Safety. Government Analyst is the Approved Analyst under Food Act of Sri Lanka for food chemical analysis.

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