Food, quality, adulteration: Identification and detection of common adulterants in food

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**Statement of the Problem:** Food is essential for every living being on earth which can be unprocessed, partially processed or processed. Decrease in the quality of the food by the addition of anything or removing or reducing and by substituting a fair part or ingredient of food item or false representation of a completely different item to be a food of a specific kind is known as adulteration. Adulteration is done mainly to increase the bulk and reduce the cost, to increase the quantity and make more profit, to increase the shelf life of food items, to attract the consumers and to increase the profit margin on the expense of the health of consumers, etc. The purpose of this study is to identify the food prone to adulteration and adulterants in these food products and to introduce the range of physical and chemical experiments available to qualitatively detect them.

**Methodology & Theoretical Orientation:** A literature review is carried out to identify the food prone to adulteration and to find the adulterants used in these food products. Laboratory experiments were carried out on suspected samples to detect these adulterants.

**Findings:** Edible oil, flour, ghee, pulses and ground spices are the most likely food ingredients to be targets for intentional or economically motivated adulteration of food. Inedible oil, boric acid, chalk powder, lead acetate, metanil yellow, vanaspathi, different kind of starches, synthetic coloring matters and Kesari dhal are the most commonly used adulterants in adulteration of above foods. The range of chemical and physical experiments is introduced to qualitatively identify these adulterants in the laboratory.

**Conclusion & Significance:** The selection of wholesome and non-adulterated food is essential for daily life to make sure that such foods do not cause any health hazard. Insects, visual fungus, foreign matters, etc. can be identified through visual examination of the food before purchasing. The toxic chemical and other false representatives as food items can identify only through laboratory experiments.

**Recommendations:** An Efficient food safety/control system requires policy and operational coordination at the highest national level. Consumers should buy certified food which has a proper label declaration on packet and from reputed shops.

## Biography

MAKKP Perera has her expertise in the field of Water and Food Safety and Quality. Her investigation on Food Adulteration is based on her knowledge on Food Chemistry, Analytical Chemistry, Food Quality Management and 17 years of experience in Food Quality Control. She has introduced a range of screening tests for detecting adulterants in common food items. All findings of this study are based on her 17 years of experience in the field of Food Safety and Quality.

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