

***Tarapada Dey Educational
Institution
Physical Science
PROJECT***



INTRODUCTION

Food is one of the basic necessities for sustenance of life. Pure fresh and healthy diet is most essential for health of the people. it is no wonder to say that community health is national wealth. Adulteration of food stuffs was so Rampant, widespread and persistent that nothing short of someone drastic remedy in the form of comprehensive legislation became the need of the hour

To check this kind of anti social evil a concerted and determined onslaught was launched by the government by introduction of prevention of food adulteration Bill in the Parliament to herald and era of much needed hope and relief for consumers at large

In 1860 the first food law frame in the interest of the purchaser was passed .That law, lacking sufficient means of enforcement, remained largely ineffective until 1872, when administrative officials were appointed and penalties for violation provided

In the United States the federal Food and Drug act of 1906 was the result for a long and stormy campaign led by Dr. Harvey Washington Wiley. This law defined food adulteration and the misbranding of products, it provided regulation covering interstate movement of food and penalties for violation. In 1906 act was superseded in 1938 by the more rigorous food, drug, and Cosmetic Act administration since 1940 by Food and Drug administration.

In 1938 Act broadened the definition of adulteration misbranding and lack of informative labeling it, provided for factory inspections, and it increased the penalties for violations. It was amended in 1958 and 1962 to define and regulate food additives and food colouring the federal law controls traffic from one state to another and is supplemented by local regulations that require food handlers to be licensed and thereby discouraging the spread of disease; it provides the inspection by health officers and other foods of restaurants and of storage methods

The federal law controls traffic from one state to my another and is supplemented by local regulations that require food handlers to be licensed, thereby discouraging the spread of disease it provides the for the inspection by health officers of meat and other food of restaurants, and of diaries and cold storage methods. Imported goods that violate the provision of the act may be denied admittance to the United States, and if not removed within a given time, may be destroyed.

STATEMENT OF OBJECT AND REASON

Laws existed in a number of states in India for the preservation of adulteration of food stuffs, but they left uniformity having been passed at different times without mutual consultation between states. The need of Central legislation for the whole country. In this matter has been felt since 1937, when a committee appointed by the Central Advisory Board of Health recommended this step.

'Adulteration of food- stuffs and other goods' is now included in the Concurrent list (III) in the Constitution of India. It has, therefore, become possible for the Central Government to enact all India legislation of this subject. The bill replaces all local food adulteration laws where they exist and also applies to those States where there are no local laws on the subject. Among others, it provides for -

- i. A Central Food Laboratory to which food samples can be referred to for final opinion in disputed cases.
- ii. A Central Committee for Food Standards consisting of representatives of Central and State Governments to advise on matters arising from the administration of the Act

ACT 37 OF 1954:

The Prevention of Food Adulteration Bill was passed by both the house of the Parliament and received the assent of the President on 29th , September 1954. It came into force on 1st June 1955 as the FOOD ADULTERATION Act 1954 (37 of, 1954). In recent years Government of India has enacted another Act known as ‘The Food Safety and Standards act 2006’, abbreviated as FSS act 2006. Regulation under this act have come into force from August, 2017.

LIST OF ADAPTATION ORDER AND AMENDING ACTS

- 1. The Adaptation of Laws Order, 1956**
- 2. The Prevention of Food Adulteration (amendment) Act 1971(41 of 1971**
- 3. The Prevention of Food Adulteration (amendment) Act 1976(34 of 1976)**
- 4. 4. The Prevention of Food Adulteration (amendment) Act 1986 (70 of 1986)**

GOVERNMENT MEASURES

To check the suppliers of food from doing, so the government has passed a stringent act, which is known as preservation of food Adulteration Act. They have been imprinted with the objective of providing safety to human beings in the supply of food. It covers safety from risk involved due to contamination of poisonous element. The specification laid down of various foods under the provision of PFA act covers minimum basic characteristics of the product, below which it is deemed to be altered and also covers the maximum limit of contaminant not considering being safe for human beings beyond a certain level.

PRECAUTIONS

By taking a few precautions comma we can escape from the consuming adulterated products

1. Take pack item of well-known companies.
2. Buy items from reliable retail shops and recognized outlets.
3. Check the ISI mark on Agmark.
4. Buy products of any air tight popular brands.
5. Avoid craziness for artificially colored sweets and buy only from reputed shops.
6. Don't buy sweets and snacks kept in open.

THEORY

The increasing number of food producers and the outstanding amount of Import foodstuffs enables the producer to mislead and cheat consumers. To differentiate those who take advantage of legal rules from the ones who commit food adulteration is very difficult. The consciousness of consumers would be crucial. Ignorance and unfair market behavior may endangered consumer health and misleading can lead to poisoning. So we need simple screening test for their detection. In the past few decades, adulteration of food has become one of the serious problems. Consumption of adulated food can causes serious diseases like ~~Majority of fats and oils and butter~~ are paraffin wax, castor oil and hydrocarbons. Red Chili powder is mixed with a brick powder and pepper is mixed with dried papaya seeds. These adulterants can be easily identified by simple chemical tests. Several agencies have been set up by the Government of India to remove adulteration from foodstuffs

AGMARK: Acronym for agricultural marketing. These organizations certifies food products of their quality. It objective is to promote the grading and standardization of agricultural land allied commode.

EXPERIMENT - 1

AIM: To detect the presence of adulterants in fat , oil and butters

APPARATUS REQUIRED: Test-tube, conc.H₂SO₄, acetic acid, conc. HNO₃

PROCEDURE: Common adulterants present in ghee and oil are dyes and argemone oil. These are detected as follows

(i)Adulteration of dyes in fat: Heat 1 ml of fat with mixture of:

1ml of conc. Sulphuric Acid and 4 ml of Acetic Acid. Appearance of Pink and red colour indicates presence of dye in fat.

(ii)Adulteration of argemone oil in edible oils:

To small amount of oil in a test tube, add few drops of concentrated in a test tube and shake it well. Appearance of red color in the acid layer indicates presence of argemone oil

EXPERIMENT -2

AIM: To detect the presence of adulteration in sugar.

APPARATUS REQUIRED : Test tube, dil. HCL.

PROCEDURE : Sugar is usually contaminated with washing soda and other insoluble substances which are detected as follow

(i)Adulteration of various insoluble substances in sugar

Text small amount of sugar in a test tube and shake it with a little water. Pure sugar dissolves in water but insoluble impurities do not dissolve

(ii)Adulteration of chalk powder ,washing soda and sugar

To small amount of sugar in a test tube, add few drops of HCl, brisk. A effervescence of CO_2 shows the presence of chalk final or washing soda in given sample of sugar

EXPERIMENT -3

AIM: To detect the presence of adulterance in samples of chili powder
Turmeric powder and pepper

APPARATUS REQUIRED : Test tubes conc. HCl, dil. HNO₃ KI
solution

PROCEDURE: Common adulterance present in Chile powder, termite powder and pepper are red. Colored lead salt yellow lead salts and dried papaya seeds respectively. They are detected as follows

Adulteration of red lead salt in chili powder:

To a sample of chili powder, add diluted HNO₃, filter dil solution and add 2 drops of Potassium Iodide solution to the filtrate. Yellow ppt indicates the presence of lead salt in chili powder

Adulteration of yellow lead salts to turmeric powder:

To a sample of turmeric powder at conc HCl , appearance of magenta colour shows the presence of yellow oxides of lead in turmeric powder

Adulteration of brick powder in red chili powder:

Add small amount of given red chilli powder in Beaker containing water. Brick powder settles at the bottom while pure red chilli powder floats on water

Adulteration of dried papaya seeds in pepper:

Add small amount of sample of people to bigger containing water and Stir with glass rod. Dried papaya seeds being lighter floats over water while pure pepper settles at the bottom

OBSERVATION

•EXP NO.	•EXPERIMENT	•PROCEDURE	•OBSERVATION
•1.	•Adulteration of dyes in fat	•Heat 1ml of fat with a mixture of 1 ml of conc. H ₂ SO ₄ and 4 ml of acetic acid	•Apperance of pink colour
•2.	•Adulteration of argemone oil in edible oils	•To small amount of oil in test tube, add few drops of conc.HNO ₃ &shake	•No red colour observed
•3.	•Adulteration of various insoluble substances in sugar	•Adulteration of various insoluble substances in sugar	•Pure sugar dissolves in water but insoluble impurities do not dissolve
•4.	•Adulteration of calk powder, washing soda in sugar	•To small amount of sugar in a test tube, add a few drops of dil. HCl	•No brick effervescence observed
•5.	•Adulteration of red salts in chilli powder	•To sample of turmeric powder, add conc , HCl	•Apperance of magenta colour
•6.	•Adulteration of red lead salts in chilli powder	•To a sample of chilli powder, add dil. HNO ₃ . Filter the solution and add 2 drops of KI solution to the filtrate	•No yellow precipitate
•7.	•Adulteration of brick powder in chilli powder	•Add powder settles at the bottom while pure chilli powder floats over water.	•Brick powder settles at the bottom whereas chilli powder floats

Result

The required analysis for adulteration in food stuff has been made.

CONCLUSION

Selection of wholesome and non adulterated food is essential for daily life to make sure that such do not cause any health hazard. It is not possible to ensure whole some food only on visual examination when the toxic contamination present in PPM level.

However visual examination of food before purchasing make sure of ensure absence of insect, visual fungus, foreign matters, etc. threfore due care taken by the consumer at the time of purchase of food after thoroughly examining can be great help.

Secondly label declaration on packed food is very important for knowing the ingredients and nutritional value. It also have seen checking the freshness of food and the period of best before use. The consumer should avoid taking food from an unhygienic place and food being prepared and hygienic condition. Such types of food may cause varias diseases consumption of cut fruits being sold in unhygienic conditions should be avoid it. It is always better to buy certified food from reputed

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