

A Study to create the Awareness of soaked Green Peas Food Adulteration among students in Sri Akilandeswari Women's College, Wandiwash Town

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Abstract: Now a day's world is the fastest growing in each and every field. However, we do not have time to eat. Though such a situation we don't have time to think about to know the food adulteration. Because we are thinking green vegetables are given better energy for our good health. At the same time, the market flooded with green vegetables. But consumers tend to buy those vegetables without knowing what type of adulterants are added. These artificial colors are can be hazards to health. The use of artificial green color (Malachite Green) in Green pea is not only for freshness of pea but is also used for green appearance. Thus the present study aims to create the awareness of our Dharmapuri district people's buying and cooking practices of a soaked green pea.

Keywords: Dye, Malachite Green Food Aulteration, Awareness.

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I. INTRODUCTION

India has the most popular marketing country all over the world. So consumers are the very midpoint of our economy. Foods are very important to live. The influx of humans is disrupting the production of vegetables and other food goods. The middle brokers thought that gain more money with less investment. So they used adulterants in the vegetables and other food items. Usually, adulterants may be toxic and can affect health. Adulteration of food might reduce its quality in order to increase its quantity [1-3, 7].

Types of Adulteration.

There are three types of adulteration founds in the world.

1. Intentional adulterants:

The adulterant could be physical or biological properties like sand, stone, chalk powder, water, oil, and coal tars.

2. Metallic contamination:

Arsenic from pesticides, lead from water, mercury from chemical industry plant effluent, and other contaminants are among the adulterants.

3. Incidental adulterants

Pesticide residues and larvae are found in foods.

4. Microbial organism

This type of contamination by microorganisms due to the food processing techniques like packing, processing, handling and preparation [4-5].

The drug can raise the weight of the standards, according to the Food and Drug Administration [6],

1. An adulterant can be injurious to health
2. Cheaper quality items added to the food
3. Lowering the quality of the food
4. The chemical has the potential to make the standards heavier.
5. To make a valuable food to see eye.

Usually, adulterants can affect immediately like diarrhea, dysentery, and vomiting [7-8]. Long-term complications include cancer, liver failure, renal failure, and an increased risk of heart disease. Yet we have better education and better knowledge that easily will affect the above disease [9]. The present study aims to create the minimum awareness among our Dharmapuri district people to buy and cook soaked green pea in day-to-day life. Then I went to the Dharmapuri market and bought soaking green peas, which I washed ten times. The washed water (malachite green dye adulterated) examined UV and Fluorescence spectroscopy. Finally, I looked at the concentrations of dry green pea and green pea soaked in malachite green dye.

II. EXPERIMENTAL PROCEDURE

2.1 The research article study is to create awareness among consumers about food adulteration.

People should be aware of the quality of their food as well as the various cooking methods for veggies.

2.2 Washed water sample.

Samples of soaked green pea 100g washed with various 100 ml of distilled water then it named as wash 1, wash 2, wash 3, wash 4, wash 5, wash 6, wash 7, wash 8, wash 9, wash 10. Soaked green pea was collected from Wandiwash Local market.

2.3 Sampling:

Sampling unit:

In order to study soaked green pea dye adulteration, we considered Wandiwash local market as a sample unit.

2.4 sample quantity:

Most of the consumers buying daily usage of green pea were 100 g per day. As a result, we were given 100g of green pea sample for our research.

2.5 Instrument data collection:

Electronic spectra:

The UV-Visible absorption spectra of the soaked green pea-washed water solution were recorded using Hitachi-U-3400 UV-VIS near -IR spectrophotometer in the range of 200 to 1500 nm.

Fluorescence spectra:

FL 6500 Fluorescence spectrophotometer (Perkin Elmer) was used to record Emission spectrum soaked green pea washed dye water in the range of 200 to near IR.

III. RESULTS AND DISCUSSIONS

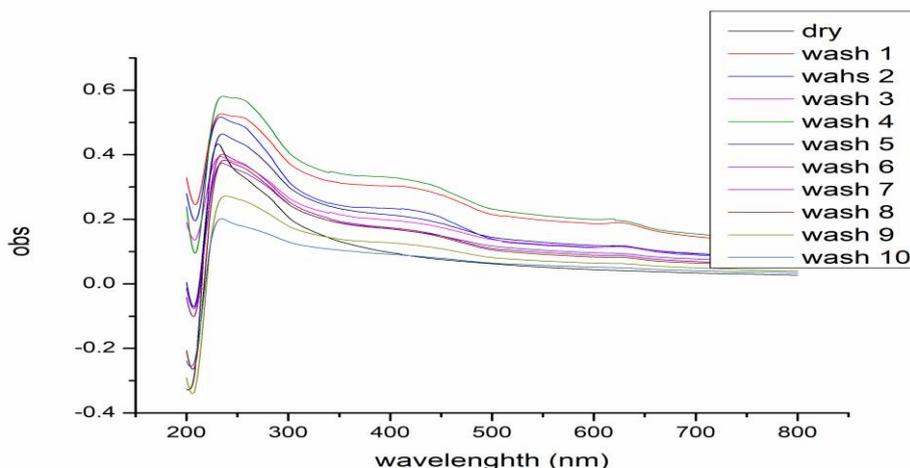
Collection of washed water:

For every 100 ml of distilled water, a soaked green pea was washed ten times. While washing green pea with distilled water we observed green color water but this color concentration was decreased when washing continuously the same quantity of water. The collected water samples were studied UV and Fluorescence spectroscopy method was used to check their concentration of malachite green dye diluted solution.

UV spectroscopy:

Detection Wavelength Selection for Fluorescence Intensity

The washed water sample of green pea was recorded using a Hitachi-U-3400 UV-VIS near -IR spectrophotometer in the range of 200 to 1500 nm. We observed one prominent absorption peak was observed at 625 nm in the spectrum. As malachite green is a greenish color that falls in the wavelength range of 600-640 nm. Various concentrations of washed water samples were recorded at the wavelength of 625nm. These results were compared with a standard malachite green sample graph found on google [10]. At the same time, dry green pea-washed water samples were also recorded in the UV spectrum. So it was observed wavelength 625nm for determination of Malachite Green adulterated in green pea for coloring purposes.

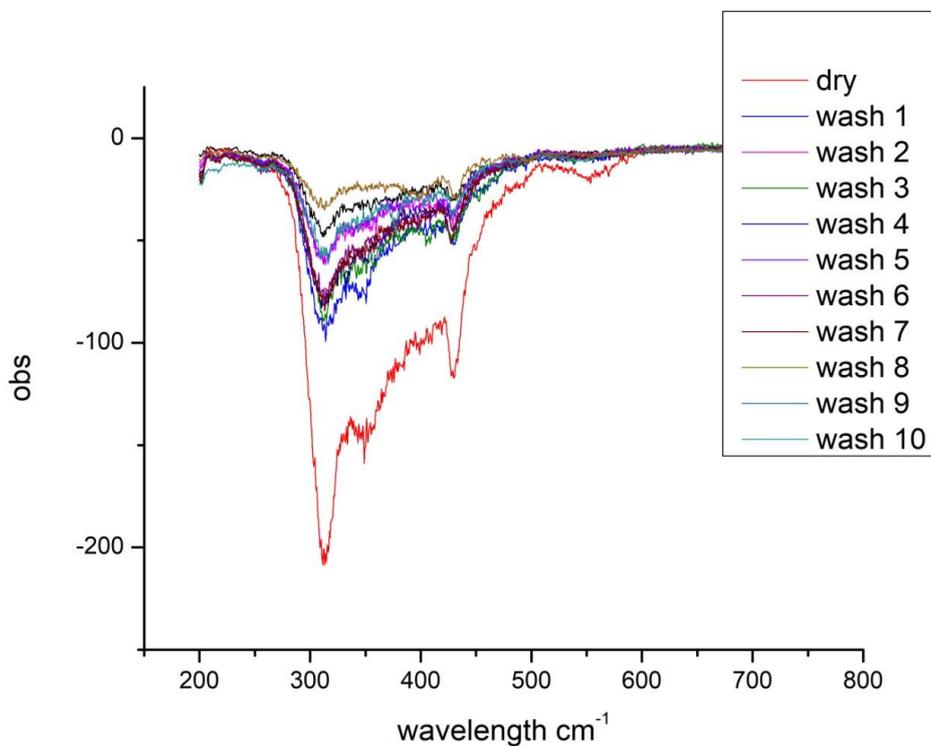


Fluorescence spectrum:

Selection of the Detection Wavelength for fluorescence intensity

The washed water sample of green pea was recorded using an FL 6500 Fluorescence spectrophotometer (Perkin Elmer) was used to record the Emission spectrum for soaked green pea washed dye water in the range of 200 to near IR.

As a result, we were given 100g of green pea sample for our research. In the spectra, one conspicuous absorption peak was found at 310 nm. Malachite green is a greenish colour with wavelengths ranging from 300 to 340 nm. Various concentrations of washed water samples was recorded in the wavelength of 310nm. These results were compared with a standard malachite green sample graph found on google. At the same time, dry green pea-washed water samples were also recorded in the UV spectrum. So, for determining Malachite Green adulterated in green pea for colouring reasons, a wavelength of 310 nm was used.



IV. CONCLUSION

To go through the process of detection of Malachite Green colour polluted in the sense of malachite Green colour adulterated washed water, we researched two types of spectral processes. These two experiments were performed for the purpose of detecting and confirming malachite green adulterants presented in soaked green peas. As a result, food adulteration can have very serious consequences on the human body when consumed on a daily basis without our understanding. Some washing methods can be employed to prevent it. Regarding government bodies will inspect both local and branded food items. The purpose of this post is to raise awareness among our people.

Conflict of interest

There are no potential conflicts of interest for the authors to disclose. There are no financial interests to record, and all co-authors have seen and agreed with the contents of the work. We certify that the submission is unique and that it is not currently under consideration by another publisher.

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