Foreign materials in processed food essay sample

Food & Diet

Foreign Materials in Food Products

Abstract

This practical was carried out to learn the uniform evaluation of foreign materials in processed fruit and vegetable commodities. The main focus is on light filth analysis and the method used is Wildman method. It is also called Light filth flotation method since the food will remain in the aqueous layer and settle at the bottom while light filths are collected in the oil layer at the top. So after separation light filths are collected on filter paper and observed under microscope. Rodent hairs and insects legs were found indicating the presence of light filths. Introduction

Analysis for extraneous matter is an important element both in the selection of raw materials for food manufacturing and for monitoring the quality of processed foods. The presence of extraneous material in a food product is unappealing and can pose a serious health hazard to the consumer. It also represents lack of good manufacturing practices and sanitary conditions in production, storage, or distribution. The presence of extraneous materials in the product ingredients may render the final product adulterated and not suitable for human food. Extraneous material guidelines includes foreign matter associated with objectionable conditions or practices in manufacturing, processing, storing, transporting and handling of food. Since fresh as well as processed broccoli is consumed widely in Canada, processes should be carried out to confirm that field insect fragments and unidentified field insect fragments is not more than particular limit. So the main objective of the practical is to examine the light filth analysis of frozen broccoli using Wildman method for aphids and thrips. Materials

Wildman method was used for light filth analysis of aphids and thrips 1. Boil 100g (97. 3g taken) of broccoli + 25g lead acetate + 10ml Acetic acid for 10 minutes with 500 ml of water in 2000ml Erlenmeyer flask with a plunger held up by a clothespin. Add a small amount of anti-foam agent to control foaming during heating of the sample. 2. Add 35 ml heptane. Tilt the flask at a 45 degree angle and move the plunger disc below the surface of the liquid. Mix with a plunger for two or three minutes, using short up and down strokes to drive the oil or kerosene down into the sample. Avoid beating in any air or churning the mixture. If this occurs, the emulsified oil and entrapped air can prevent a good oil/water separation and cause vegetable material to rise to the oil level with the potential to be trapped off in the fraction for filtering. 3. Add sufficient de aerated water to bring the solution level up to the neck of the flask. Water can be siphoned from a source into the flask through a tube introduced below the level of liquid in the flask, which will not introduce air bubbles into the flask. 4. Allow to stand for about 10 minutes

5. Rotate the plunger to clear any vegetative debris that may be floating at the interface of heptane and water 6. Filter the trapped off heptane-water solution using a Buchner funnel lined with ruled filter paper.

Insect fragments and hairs are lipophilic and likely to be in oil phase thus they float to the surface with the oils while plant tissues are hydrophilic and tend to stay in water phase. The oil phase is trapped off with a Wildman trap flask, filtered, collected on filter paper and examined microscopically

Results and Discussion

Rodent hair was found when procedure for Aphids and Thrips analysis was followed. The groups that followed the procedure for Insect analysis found numerous insect legs.

Flotation methods are designed to isolate microscopic filth by floating the filth upwards typically in a oil-water phased system

References

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