

Abstract

Project Title: Testing Nickel in Foods and Drinks

Project ID: 557

Abstract Some people have a syndrome called the Systemic Nickel Allergy Syndrome or SNAS. This means that the people with the syndrome have an allergic reaction to the nickel in the foods or drinks that they consume.

Introduction: Many common nickel allergy patients have vesicular hand dermatitis or generalized eczematous reactions. Contact dermatitis is a contact reaction to a substance or an allergy to the substance. Pruritic dermatoses is an irritating sensation that causes the urge to itch. It can be a symptom of multiple skin diseases and an unusual sign of systemic diseases. It can be an acute or chronic condition. Pruritic dermatoses is an oral reaction caused by the consumption of certain foods. Vesicular hand dermatitis is a form of a contact reaction, as well as generalized eczematous reaction.

Problem Statement and Engineering Goal / Hypothesis: The problem being solved is which food would be the highest in nickel? The hypothesis was that beans would have the highest nickel content.

Procedures: Fill the container with the mixture to the 10 mL line in the Hannah Instrument cuvette.

- 1) Turn on the Hannah Instrument and insert the sample once the Instrument reads Add C1
- 2) The project can be continued once the Instrument says Add C2, add a reagent.
- 3) Repeat the steps 1-10 and clean out the cuvettes after each use.

Results:

Beans had 354 micrograms of nickel and shrimp had 299 micrograms of nickel. Water had 0 micrograms of nickel along with honey and milk.

Conclusion:

The hypothesis was supported in that beans had the highest nickel content. Shrimp then had 299 micrograms of nickel. The lowest nickel content that was measured at 0 micrograms which was liquids like water, honey, and milk.