CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY

Name(s)
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Project Number
J2102

Project Title
Sodium Labeling: Is What You See What You Get?

Abstract

Objectives/Goals
The objective of this investigation is to verify the accuracy of sodium labeling on several brands of taquitos. The researher is seeking to verify whether the levels were within plus or minus 20% of the label statement as required by government guidelines.

Methods/Materials
Materials used for this experiment were one box of frozen chicken taquitos made by the following brands: Jose Ole, Delimex, El Monterey, and, Nuevo Grille; A Nelson Jameson M-926 salt meter; a gallon of distilled water; 20% salt-water solution; a microwave; a freezer; a stove; a blender; minimum of 20 coffee filters; 2 quart pan; 2 - 2 cup bowls; a thermometer that measures in degrees Fahrenheit; a food scale that measures in grams; and paper and pencil. A Nelson Jameson M-926 salt meter was used to measure the amount of salt in a 100gram water taquito mixture. Took the number from the machine and used formula to find the sodium in the mixture. Compared this number to the amount of sodium stated on the label.

Results
The variation in sodium levels within each test group (from test to test)ranged from 3% on Delimex to 4% on El Monterey to 9% on Jose Ole to 42% on Nuevo Grille. On average the variation between label and test results were 10% for Jose Ole, 31% for El Monterey, 17% for Delimex, and 14% for Nuevo Grille. In a seperate independent lab test the variation was 15% for Jose Ole, 10% for El Monterey, 10% for Delimex, and 17% for Nuevo Grille.

Conclusions/Discussion
From the test results the researcher would conclude that three of the four tested brands of taquitos were within the 20% allowable variance thereby proving the hypothesis incorrect. The one brand with greater variance was actually under the label stated sodium level. However the variance in test results would demonstrate there are instances where the sodium levels do vary more than 20%. It is also likely that different testing circumstances can show different results as was seen between the researchers results and the external lab results.

Summary Statement
Testing different brands of taquitos, to find the company who#s labels are more accurate in sodium labeling.

Help Received
The Circle Foods Quality Assurance Staff helped me with the project set up, salt meter education, and setting up the testing. My father helped me with the whole project, and my mother helped me with the writing parts of the project and organization.