

## **Databases for Frozen Foods**

**An industry's experience implementing nutrition labeling for frozen fruits and vegetables utilizing the provision of the Nutrition Labeling and Education Act of 1990 allowing nutrient databases.**

Robert Garfield, American Frozen Food Association

The importance of regular consumption of fruits and vegetables is well known. Under the requirements of the Nutrition Labeling and Education Act of 1990 (NLEA) a number of frozen fruit and vegetable processor members of the American Frozen Food Institute (AFFI) felt it imperative to extend to the consumer a consistent message about the superior nutritional quality of frozen fruits and vegetables. Hence, the concept for a frozen fruit and vegetable database was conceived in 1990. Since then, AFFI has submitted 26 database proposals to the Food and Drug Administration (FDA). The first, a database for frozen broccoli, was submitted to the Agency in December of 1992 and is the only database to date which has received two-year interim approval from FDA. AFFI is currently working with the Office of Food Labeling, FDA, to extend interim approval to the remaining database proposals. Simultaneously, AFFI is moving forward with the next phase of the project which includes a ten-year program to sample, analyze and evaluate the nutritional quality of each of the 26 frozen fruit and vegetable commodities.

Errata Page

Page 56:

Speaker Affiliation :

Mr. Garfield is with the American Frozen Food Institute.

Last Paragraph, Line 5:

"froze.,i" should be "frozen"

Page 57:

Paragraph 1, Line 3:

"abouteach" should be "about each"

Paragraph 2, Line 10:

"ajay" should be "may"

Paragraph 3, Line 11:

"aay" should be "may"

Note: The errors in the text of Mr. Garfield's paper were introduced when it was scanned for the proceedings. I regret that I failed to notice these errors before we went to press. Loretta W. Hoover, Co-editor

## The Concept of a Database

We are enthusiastic about the database for frozen fruits and vegetables because the ability of consumers, national and regional brands and private label marketers to have access to consistent nutrition information about each commodity is so important. Members of the database also believe the value of the data is worth the cost of preparing the database and is advantageous to their company as well as the frozen fruit and vegetable industry as a whole. Finally, many processors believe the "safe harbor" being accorded by FDA to food processors who are involved in an approved database is worth pursuing.

### Objective.

AFFI's objective is to prepare databases which accurately reflect the nutrient content of frozen fruits and vegetables as processed by the participating members. While we understand that consistency and accuracy are the cornerstones of a database study, AFFI accepts that fruit and vegetable attributes may vary depending on farm practices and nature. The AFFI challenge was to establish database proposals which matched the mathematical science of statistics, the complexities of nature, farm practices and time. The conservative nutrient numbers submitted to FDA in our database proposals are a start and reflect reputable historical nutritional data available for many frozen fruits and vegetables, although statistical treatment of the data could not be quantified. Interim values, therefore, were based on an arithmetic mean of the nutrient values established from available datapoints, establishing a "baseline" for the new database study. The purpose of our ten year study is to rectify any inconsistencies which ajay apply to the current nutrient profile.

### Sampling Strategy.

AFFI's sampling strategy reflects the result of discussions with FDA and industry scientists and professionals assembled from the companies participating in the database. First, the study has been weighted so that a significant portion of the samples will be taken during the first two years of the study. Once those samples have been analyzed and reported (within the third year), the values for the nutrition panel will be adjusted as necessary to reflect current nutrient information. By weighting a significant portion of the samples during the first two years AFFI hopes to minimize label changes and concentrate our efforts. The strategy requires frozen fruits and vegetables grown in different regions of the country and harvested during several seasons as well as various cuts and types to be statistically analyzed. The strategy uses an experimental design with serial analysis of stored samples: four replicates will be collected of each sample, with nutrient analysis at 0, 4, 8, and 12 months. The goal of this part of the strategy is to better characterize nutrient loss which aay occur over time for a variety of frozen fruits and vegetables. Production lots will be sampled during the beginning, middle and end of the run to reflect a broad cross section of each product. Finally, the length of the study proposed is 10 years, with reports to FDA and members of the database occurring approximately every two years. All facets of the strategy will be reevaluated at this time and adjustments will be made to reflect the current state of knowledge about the nutrient content of each frozen fruit and vegetable in the study.

### Sample Size.

AFFI's contractor conducted a nutrient literature search using AFFI's existing nutrient database converted to 85 - gram reference amounts. Those numbers were compared to the Produce Marketing Associations (PMA's) data. From the results of these activities, including more current nutrient analyses conducted by database members, an estimated sample size was calculated. A proposed sample size was then extrapolated for each nutrient based on appropriate criteria. Finally, a "baseline" label was established

utilizing the "FDA Nutrition Labeling Manual," accumulated datapoints for each of the 26 frozen fruits and vegetables, and the appropriate statistical analysis.

### **Current Status.**

In April, 1993, AFFI received a two year interim approval of its frozen broccoli database. Based on that approval, AFFI submitted 25 more databases to the Agency by the Fall of 1993. We have received a response from FDA on two of those databases, frozen carrots and green beans, requesting more information. AFFI has responded to the questions posed by the Agency and in that response has requested approval of all remaining databases. Simultaneously, we are moving forward with the sampling portion of the study. AFFI has employed the services of Technical Assessment Systems, Inc., (TAS) to maintain the database for the next 2 years and is actively recruiting a laboratory to perform the nutrient analysis. We intend to begin sampling frozen broccoli in the next few months to be closely followed by the remaining 25 frozen fruits and vegetables.