

12.0 DIETSYS FOODS DATABASE

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12.1 **Dietary Analysis Foods Database**

The portion size and nutrient composition segments of the DIETSYS foods database were developed as described in "A Data-based Approach to Diet Questionnaire Design and Testing", in Appendix A of Section 21. The NHANES II database was the basic resource, which in turn was based on USDA sources, as well as the Tulane University Dietant, University of Hawaii Circulars 52 and 146, the USDHEW Food Composition Table for Use in East Asia, and industry data on brand-name products (NCHS, 1982).

Using The Foods Database Editor you can change any value in the Foods Database. This gives you the ability to add foods, add nutrients, or change the nutrient or portion size data of any food.

All data related to the foods are stored in the Foods Database. In previous versions, much of the data were hard-coded into the program. For example, Version 2.3 of the program required that Food 005 be "Cantaloupe In Season". In that version of the program, a non-seasonal food could not have been used as Food 5 without error. Now, the program determines if a food is seasonal by the Seasonality Factor stored in the Foods Database. Other Food Information variables now stored in the Foods Database are the Solid Food Flag and the Reasonable Limit (See Section 12.4).

12.2 **The Foods in the Foods Database are Organized into Two Basic Types:**

1. **Standard Foods** are foods of which the frequencies and portion sizes are asked directly in the questionnaire. The Standard Foods include all foods in the Open Ended Food section of the questionnaire as well as the Main Food List.

Any food included in a frequency question on your questionnaire is a Standard Food. Data for each of these foods must be in the Standard food segment of the DIETSYS Foods Database. This database can accommodate up to 207 Standard Foods. Each Standard Food is identified by its database sequence number (1-207).

The only foods not considered Standard Foods are foods used in the analysis only when a specific analysis option is implemented. These foods are described below.

2. **Foods used for the Analysis Adjustment Options:**

There are a variety of "adjustment options" built into the DIETSYS nutrient analysis. In general, these options use the response(s) from diet related question(s) to determine how to appropriately adjust the nutrient values or frequency of a standard line item food.

Many of the adjustment options are implemented by substituting the nutrient values (and in some cases portion sizes) of one food for another. For example, the TunaQues Option requires the "Is tuna usually eaten in 1=Oil Pack, 2=Water Pack, 3=Either or mixed?" summary question. If the response is 2=Water Pack for an individual, the nutrient values for the line item food "regular tuna" will be replaced by the values for Tuna In Water.

There are three sets of foods which the program may substitute in place of a standard food. They are:

1. **The Brand-Name Cereals.** These are used in the analysis to implement the CodeCereal option. This option can be used to permit greater cereal specificity (see Section 16).
2. **Meats used in analysis adjustment options.** There are a variety of analysis adjustment options involving the various fat contents of meat, tuna, and poultry. The foods listed in the Foods Database section called "Meats used for adjust options" are meats with specific fat contents that are used to replace like meats with non-specific fat contents. Note that there is no portion size data for these meats, only nutrient values. The portion size amounts for the Standard Food being adjusted will be used. See Section 16 for information on the following adjust options:

TunaQues
DarkQues
EatSkin
LeanMeat
MeatFat

3. **Restaurant Foods.** The portion sizes and nutrient content of the Restaurant Foods are added into the analysis according to the RestAdjust algorithm in Section 16.

12.3 Referencing a Food in the Foods Database

Each food in the Foods Database can be identified by a code. The Standard Foods are identified by the database sequence numbers 1 to 207 (Food IDs). The Brand-Name Cereals are identified by the codes C01 through C70. These codes are printed in the listing of the Foods Database and also appear on the screen when using the DIETSYS Foods Database Editor.

Open Ended foods are foods which are volunteered by the respondent, or they may be presented in a list from which the respondent selects foods which s/he eats with some minimum frequency. The foods selected can be different for each respondent and the respondent will not give a frequency for every food in the Open Ended food list. Therefore, when coding the questionnaire, the identity of the food must be coded as well as the frequency. Open Ended food questions are the only food questions which require the identity of the food to be stored in the questionnaire file. The only foods which can be used as Open Ended foods are those with database sequence numbers from 100 through 198. To code the identity of the Open Ended foods, use the last 2 digits of the database sequence number. For example, Veal has database sequence number 101. If Veal is used as an Open Ended food, 01 is the correct Open Ended code.

12.4 The Foods Database File Format

The structure of the Foods Database has been modified. It now exists as two files:

1. Portion Size Data File (DIETPORT.V30 is the original portion size data file distributed with Version 3.0 of the DIETSYS software.)
2. Nutrient Composition Data File (DIETNUT.V30 is the original nutrient file distributed with Version 3.0 of the DIETSYS software.)

The content of these files is described in the following pages. These files are in a binary format and can only be viewed or edited using the Foods Database Editor provided with DIETSYS.

Data items stored in the Portion Size Data File:

- Food Names
- Portion Size Data (grams per serving size)
- Seasonality Factors
- Solid Food Flags
- Reasonable Limit (per week)
- Vitamin Supplement Data
- Cereal Type for Brand-Name Cereals
- Reference Table for Foods Adjusted by Analysis Options
- Reference Table for Fats Needed for the AddFats analysis option

Data items stored in the Nutrient Composition Data File are:

- Nutrient Names
- Text of Recommended Range for each Nutrient
- Units of Measure for each Nutrient
- Nutrient Content of the Standard Foods
- Nutrient Content of Foods used for Adjustment Options

Sections 12.6 through 12.18 contain descriptions of the data types listed above.

- 12.5 The nutrient values contained in DIETNUT.V30 are appropriate for the early 1990's. DIET80.NUT and DIET80.POR have been included with the DIETSYS software for investigators analyzing questionnaire data collected during the 1980's. The food supply has changed with respect to fat and other nutrients in beef and pork, and fortification levels in cereals and vitamin supplements. DIET80.NUT is a Nutrient Composition Data File with different nutrient values for meats and cereals than DIETNUT.V30. The portion sizes data in DIET80.POR are the same as DIETPORT.V30; however, the vitamin supplement data are those appropriate for the 1980's.

In addition to the carotenoid values provided with DIETNUT.V30, the recently developed USDA/NCI carotenoid values (Mangels et al., J Am Diet Assoc 1993; 93:284-296) are available on request.

- 12.6 **Food Name** - A description of each food in the DIETSYS Foods Database. If you have used a food on your questionnaire that is not included in the DIETSYS Foods Database, simply replace the name and values of **any** of the 207 Standard Foods. All foods with the description "Space for Other Foods" are actually empty slots available for additional foods. It is strongly recommended that you use all "Space for Other Food" positions before overwriting existing food data.
- 12.7 **Portion Size Data** - The portion size data contain the gram amounts of food for each portion size (small, medium, or large). Extra large portion sizes are not stored in the database, but are calculated in the analysis program as 1.5 times the gram amounts for the large serving.

The portion size section contains two different sets of portion sizes. The first set represents gram amounts which are a function of the size stated on the printed questionnaire. These are more or less "standard" portions, e.g., 1/2 cup of vegetables. A "small" is one-half that, and large is 1.5 times that. These "standard" portions will provide adequate estimates for middle-aged women; they will underestimate intake for men under 60, and probably for young women as well; and they will overestimate intake in older women.

The second set, "Age-Sex Specific Portions" contains small, medium and large portions for each of two sexes and three age groups. They are based on amounts actually reported by consumers of that food in NHANES II, within each age-sex category. In general, "medium" is the median value in that age-sex-food distribution. However, in many cases very small gram amounts (such as might represent a few peas in a mixed dish) were removed prior to calculating the median. Also in some cases the value was moved to an adjacent mode, or was arbitrarily modified to accommodate the tendency of respondents to favor "large" (or "small") for particular foods.

If age is coded as number of years (a 2 digit field). The age specific portion sizes are assigned for both sexes as follows:

<u>Portion Sizes</u>	<u>Age</u>
Younger Age Group	1-29
Middle Age Group	30-69
Older Age Group	70 and older

If age is coded in a 1 digit field, the portion size set to be used for each input code can be set in the CFG file (Section 10, Appendix A).

For both the 2 digit and 1 digit codes, the value of the AgeDefault analysis option determines which set of age-specific portion sizes is to be used when age is unstated or not asked. Likewise, the value of the SexDefault option will be computed when sex is unstated or not asked. See Section 16 for the implementation of the Portions, AgeDefault, and SexDefault options. See Section 15 for instructions to set these options.

Younger Age Group portion sizes may not be appropriate for children younger than 12. If your population includes young children, adjust the portion sizes appropriately. Portion sizes for children 1-4 are available from Dr. Block on request.

- 12.8 **Seasonality Factor** - Some foods are asked and specifically printed on the questionnaire as "In Season". For such foods, the program assumes that the frequency responses pertain just to consumption during the brief season, and adjusts the reported frequency downward to represent the year-long average. This is done by multiplying the frequency by a Seasonality Factor. If the words "In Season" are included in the prompt to the respondent, a seasonality factor substantially less than 1.0 should be used. If those words are not in the prompt, 1.0 should be used.

The Seasonality Factor must be a number from 0 to 1.0, where 1.0 means the reported frequency represents the year-round average. The following Seasonality Factors are recommended:

1.0	Foods for which the response represents the year-round average
0.15	Seasonal Foods, but only if "In Season" is part of the prompt to the respondent
0.85	Remainder of the Year Foods. Only for the second of paired food items (e.g., strawberries fresh in season, and strawberries canned or frozen).

Entering an incorrect Seasonality Factor will cause erroneous results. You must verify all modifications made to the Foods Database. See Section 16 for a complete explanation of the Nutrient Calculation Algorithm.

- 12.9 **Solid Food Flag** - Setting this flag to yes indicates the food is a solid food, that is, not a beverage. The solid food flag is used in the calculation of the Grams Solid Food value and in the foods per day count. Grams Solid Food is a value calculated in the analysis of the questionnaire data and stored in the Analysis Results File (Section 17). It is the average grams of solid food consumed daily, and should exclude beverages. The number of foods per day is used by DIETSYS to generate warnings/errors for too few or too many foods per day (Section 14).

If you add a food to the Foods Database, be sure to set the Solid Food Flag to "N" for beverages, and "Y" for all other foods. See Section 16 for more information on the Grams Solid Food value.

- 12.10 **Reasonable Limit (Per Week)** - The maximum number of servings of each food which could be reasonably eaten in one week. The edit checking feature of DIETSYS compares the weekly frequency of each food with that food's Reasonable Limit. If the weekly frequency is greater than the Reasonable Limit, a "Questionably High Frequency" warning is given.

Questionable responses should be investigated and corrected, if possible. Check the raw data to see if they are the result of a coding or keying error. If no such error is found, ideally one should actually query the respondent -- that is, call the respondent and verify the frequency reported. See Section 13 for more information concerning the flagging of questionable responses and the questionable responses of groups of related foods (e.g., breads).

12.11 **Vitamin Supplement Data**

Two types of data are stored in the DIETSYS Foods Database for calculating the nutrients obtained from supplements. These are:

1. **Single Vitamin Pill Size.** "How many milligrams or IUs per pill?" is an optional question associated with the single vitamin frequencies (See Section 10 for coding instructions). The response to this question is a 1 digit code. The amount corresponding to each code is stored in the DIETSYS Foods Database as "Single Vitamin Pill Size". See Section 16 for the algorithm of the PillQues analysis option to see how this data is incorporated into the DIETSYS nutrient analysis. There are 6 single vitamins (supplements) used in the DIETSYS analysis (Vitamin A, Vitamin C, Vitamin E, Calcium, Beta-carotene, and Zinc).
2. **Nutrient Content of Multiple Vitamins.** This is the composition of each multiple vitamin in terms of the amount of Vitamin E per pill, Vitamin A per pill, etc. There are 3 types of multiple vitamins used in the DIETSYS analysis (One-a-day type, Stress-tabs type, and Therapeutic, Theragran type).

The DIETSYS Nutrient Analysis reports the nutrient estimates from supplements separately from the nutrients obtained from food. Note that the Vitamin A referred to in both single and multiple vitamins is explicitly Vitamin A, not Beta-carotene. Beta-carotene is considered as a separate supplement.

- 12.12 **Cereal Type for Brand-Name Cereals.** The food questions concerning breakfast cereals on the HHHQ ask for the frequency of 3 general cereal types: 1) High fiber, bran or granola cereals, 2) Highly fortified cereals and 3) Other cold cereals. Some questionnaires also include a question asking the brand name of the cereal most frequently eaten. If this question is included on your questionnaire you may use the CodeCereal analysis option to use the nutrient values for the specified cereal brand.

When the CodeCereal analysis option is turned on, the Brand-Name Cereal portion size and nutrient values are substituted for one of the three cereal categories. In order to make this substitution, the program needs to know the cereal type of each brand-name cereal. Therefore, the cereal type is stored in the Foods Database. The cereal type is designated in the DIETSYS Foods Database Editor by the following letter code:

B = Bran or high fiber cereals
F = Fortified cereals
O = Other cold cereals

See Section 16 for the CodeCereal analysis option algorithm.

12.13 **Adjust Options Reference Table**

In order to implement the analysis adjustment options, DIETSYS must know the location of certain foods in the Foods Database. The "Adjust Options Reference Table" provides DIETSYS with this information. This table contains a set of food sequence numbers. Each food sequence number identifies the Standard Food to be affected by an analysis adjustment option. For example, DIETSYS requires that Hamburger be the 2nd food in the table. Hamburger will be adjusted by the LeanMeat, MeatFat, and/or the RestAdj options if any of these options is set to ON. If for some reason, you moved Hamburger to another line in the

database you would be required to update the "Adjust Options Reference Table". Otherwise, erroneous analysis results would be generated.

In general, it is not recommended to change the order of the foods in the Foods Database. If for some reason you feel it is absolutely necessary to do so, it is recommended that you consult the DIETSYS technical support staff.

12.14 AddFats Option Reference Table.

The DIETSYS Version 3.0 Foods Database allows all 207 Standard Food positions to be used interchangeably. For the most part, the same calculations are imposed on each food regardless of the identity of the food. However, the algorithm for the AddFats analysis option requires the identity of 7 of the fats which may be used for cooking fat and fat added at the table. For information regarding the AddFats analysis option, see Section 16. The database sequence numbers for the foods listed below are required for the AddFats option:

- Butter
- Half Margarine, Half Butter
- Soft Tub
- Stick Margarine
- Lard
- Crisco
- Low Calorie Margarine

These values are stored as the AddFats Option Reference Table.

If you have moved any of the foods listed above to a new location in the DIETSYS Foods Database, you must enter the new database sequence numbers (Section 12.34).

In general, it is not recommended to change the order of the foods in the Foods Database. If for some reason you feel it is absolutely necessary to do so, it is recommended that you consult the DIETSYS technical support staff.

12.15 Nutrient names

The names of the nutrients are printed in the DIETSYS Analysis Report. The names of the nutrients distributed with the DIETSYS software can not be changed. The names of nutrients you add may be changed as described in Section 12.31. The names, units, and recommended ranges for the nutrients distributed in DIETNUT.V30 are listed below.

<u>Nutrients</u>	<u>Unit</u>	<u>Recommended Range</u>
Total Calories	CALORIES	Depends on Age, Sex, Activity
Protein	GRAMS	.36 grams per Lb Body Wt
Total Fat	GRAMS	Under .034 x Non-Alcohol Cals
Carbohydrate	GRAMS	.125 - .150 x Non-Alcohol Cals
Calcium	MG	Age 11-24 or pregnant: 1200. 25+:800
Phosphorus	MG	Age 11-24 or pregnant: 1200. 25+:800
Iron	MG	Men: 10 mg Women: 15 mg

Sodium	MG	500-2400 mg
Potassium	MG	2000-3500 mg or more
Vitamin A (IU)	I.U.	Men: 5000 I.U.; Women: 4000 I.U.
Vitamin A (RE)	RE	Men: 1000; Women: 800
Thiamin (B1)	MG	Men: 1.5 mg; Women: 1.1 mg
Riboflavin (B2)	MG	Men: 1.7 mg; Women: 1.3 mg
Niacin	MG	Men: 19 mg; Women: 15 mg
Vitamin C	MG	60 mg, more for optimum. Smoker 100+
Saturated Fat	GRAMS	Approx. 1/3 of fat
Oleic Acid	GRAMS	Approx. 1/3 of fat
Linoleic Acid	GRAMS	Approx. 1/3 of fat
Cholesterol	MG	Less than 300 mg
Dietary Fiber	GRAMS	20-30 grams
Folate	MCG	Men: 200; Women 15-50 yr:400, 51+ 180
Vitamin E	a-TE	Men: 10; Women: 8 mg a-TE
Zinc	MG	Men: 15 mg; Women: 12 mg
Zinc From Animal	MG	Men: 15 mg; Women: 12 mg
Vitamin B6	MG	Men: 2 mg; Women: 1.6 mg
Magnesium	MG	Men: 350 mg; Women: 280 mg
Alpha-Carotene	MCG	A carotenoid, no range set
Beta-Carotene	MCG	A carotenoid, no range set
Cryptoxanthin	MCG	A carotenoid, no range set
Lutein	MCG	A carotenoid, no range set
Lycopene	MCG	A carotenoid, no range set
Retinol	MCG	Preformed Vit. A, approx. 500-800
Pro-A Carotenes	MCG	Vit A carotenoids, approx. 1500-2000

12.16 Recommended ranges of the nutrients

Recommended ranges of the nutrients are printed for each nutrient in the DIETSYS Analysis Report. The recommended ranges of nutrients may be changed as described in Section 12.31.

12.17 Unit of measure used for each nutrient

The unit of measure (grams, milligram, etc.) used for each nutrient is required for the DIETSYS Analysis Report. This text can not be modified for the nutrients distributed with the DIETSYS software. The units of nutrients you add may be changed as describe in Section 12.31.

12.18 Amount per 100 grams of nutrient in each food. For each food in the Foods Database, the nutrient composition was identified from the NHANES II data as the population use-weighted median value. Take protein in green beans, for example. The nutrient composition value used in the Food Database is that value for which half the green-bean eaters in NHANES II ate a variety of green beans with the same or less protein per 100 grams, and half ate a variety with the same or more protein per 100 grams. This approach minimizes the error inherent in using a single value. Missing values are not permitted in this database.

12.19 **Nutrient values of foods used for adjustment options.** This is the amount of nutrient per 100 grams of the following sets of foods:

- Brand-Name Cereals
- Meats used for Adjust Options
- Restaurant Foods

12.20 Using The Foods Database Editor

CAUTION: It is imperative that the investigator responsible for the study verifies the accuracy of any change made to the DIETSYS Foods Database. Inaccurate data in the foods database will cause erroneous analysis results.

12.21 **Editing the Foods Database.** Sections 12.22 through 12.37 contain detailed instructions for making changes to the Foods Database using the DIETSYS Foods Database Editor. To access the DIETSYS Foods Database Editor, follow the instructions in Section 12.22. The instructions for editing a database can be found in the sections listed below.

Accessing the Foods Database Editor	12.22
Adding A Food	12.23
Adding A Nutrient	12.29
Deleting A Nutrient	12.30
Editing the following data types:	
Food Name	12.24
Nutrient Name	12.31
Nutrient Values	12.25
Portion Size Amounts	12.26
Reasonable Limit	12.27
Seasonality Factors	12.27
Solid Food Flag	12.27
Type of Brand Name Cereal	12.28
Vitamin Supplement Data	12.33
Adjust Options Reference Table	12.32
AddFats Option Reference Table	12.34
Printing the Foods Database Values	12.35
Saving Changes	12.36
"Hot-Keys" Reference	12.37

12.22 Entering the Foods Database Editor

When you select "Edit the Foods Database" from the main DIETSYS menu, DIETSYS displays this screen:

Dietary Database File Names

```
Portion Size Data File:
  C:\HHHQ\DIETPORT.V30

Nutrient Composition Data File:
  C:\HHHQ\DIETNUT.V30
```

If the file names listed are not the Foods Database files you wish to edit:

1. Type the name of the file which contains the Portion Size Data. Press ENTER.
2. Type the name of the file which contains the Nutrient Composition Data. Press ENTER. You may use the UP & DOWN arrow keys to go from one file name to the other without affecting the file name.

Both files are described in Sections 12.1 through 12.4. DIETPORT.V30 and DIETNUT.V30 are the DIETSYS Foods Database files distributed with the Version 3.0 DIETSYS software.

Once you have successfully entered the names of your Foods Database files, DIETSYS will display the menu below.

```
Foods Database Editor

Portions File: C:\HHHQ\DIETPORT.V30
Nutrient File: C:\HHHQ\DIETNUT.V30

1>> Print Foods Database
2> Edit Standard Food List
3>> Edit Foods Used With Adjust Options
4> Edit Nutrient Labels
5>> Add/Delete Nutrient
6>> Edit Vitamin Supplements
7> Save Database Changes to Files
8> Exit to DIETSYS (main menu)
```

The features of this menu will allow you to perform the tasks described in the following pages. (NOTE: If an unsaved change has been made to data in either Foods Database files, an asterisk will be displayed next to the file name in the title box of the Foods Database Editor menu above.)

12.23 **Adding a Food**

If you have a food frequency question on your questionnaire for a food not listed in the DIETSYS Foods Database, you must add the food to the database. This is a simple matter of replacing an empty position (denoted by "Space For Other Food") or a food you do not need with the new food. It is strongly recommended that you use all "Space For Other Food" positions before overwriting existing food data.

The following guidelines must be followed when adding a food to the database:

1. If the food frequency question for the food is asked as part of an Open Ended food section of the questionnaire, the food must be inserted in positions 100 to 198 of the Standard Food list.
2. If the food is a Brand-Name Cereal only to be used as part of the CodeCereal analysis option, the food must be inserted in the "Brand-Name Cereal" section of the DIETSYS Foods Database.
3. If the food is not an Open Ended food or a Brand-Name Cereal, you may insert the food in positions 1 to 207 of the Standard Food list.

There were more restrictions on adding foods in previous versions of the software. However, those restrictions were removed with the addition of the Seasonality Factor, Solid Food Flag, carotenoid values, and adjustment reference tables to the DIETSYS Foods Database.

The steps involved in adding a food are given below. Next to each is the documentation section which gives detailed instructions for each step.

1. Select a position in the Foods Database for the new food. Follow the guidelines discussed above.
2. Change the food name (Section 12.24).
3. Change the food information of the new food, i.e., Seasonality Factor, Solid Food Flag, Reasonable Limit (Section 12.27).
4. Change the portion size values of the new food (Section 12.26).
5. Change the nutrient values of the new food (Section 12.25).

12.24 Changing the Name of a Food

To change the name of a food in the Standard Food list, select "Edit Standard Food List" from the Foods Database Editor menu. DIETSYS will display the following screen:

Food Information Screen:

Foods Database Editor
Standard Food List

FOOD 1: APPLES AND APPLESAUCE, PEARS
))

Seasonality..... 1.00

Solid Food Flag (Y/N)..... Y

Reasonable Limit (Per Week)..... 21 (Enter 0 for Unlimited)

1. Go to the food to be changed. To do this, you may press PGDN to step through each food. Or, press ALT-G for the "GOTO" command and enter the Food ID.
2. Press ALT-L (Label), DIETSYS will display the following screen:

Foods Database Editor
Standard Food List

FOOD 1: APPLES AND APPLESAUCE, PEARS

3. Type the new food name and press ENTER.
4. To change the names of other foods, you may go directly to the next food from the Food Label Screen. To do this, press PGDN to step through each food. Or, press ALT-G for the "GOTO" command and enter the food number.
5. Press ALT-X to EXIT the Food Label Screen and return to the Food Information Screen of the current food.

To change the name of a food in the Brand-Name Cereal section of the Foods Database, select "Edit Foods Used With Adjust Options" from the Foods Database Editor menu. From the sub-menu displayed select "Brand-Name Cereals". DIETSYS will display the following screen:

```

Foods Database Editor
Brand-Name Cereals

CEREAL 1: ALL BRAN, BRAN BUDS, FIBER ONE          CEREAL CODE: C01
))))))))))))))))))))))))))))))))))))))))))  ))))))))))))))))

Cereal Type (B=Bran F=Fortified 0=Other)... B
  
```

Press ALT-L to access the food label screen as in Step 2 above. Follow Steps 3 through 5 above to change the names of the Brand-Name Cereals. When using the "GOTO" screen, the 2 digit Cereal Code should be used to indicate the desired cereal.

12.25 Changing Nutrient Values

To change the nutrient values of a food in the Standard Food list, select "Edit Standard Food List" from the Foods Database Editor menu. DIETSYS will display the following screen:

Food Information Screen:

```

Foods Database Editor
Standard Food List

FOOD 1: APPLES AND APPLESAUCE, PEARS
))))))))))))))))))))))))))))))))))))))))))

Seasonality..... 1.00

Solid Food Flag (Y/N)..... Y

Reasonable Limit (Per Week)..... 21 (Enter 0 for Unlimited)
  
```

Press ALT-N for Nutrients. DIETSYS will display the following screen:

```

                                Foods Database Editor
                                Standard Food List
FOOD 1:  APPLES AND APPLESAUCE, PEARS
)))))))))
Nutrient..... 1
Name..... TOTAL CALORIES
Unit..... CALORIES
Nutrient / 100g.... 00060.000
```

1. Press TAB to progress sequentially through the nutrients until you reach the Nutrient to be changed. (SHIFT-TAB can be used to go to the previous nutrient.)
2. Go to the food whose nutrient value(s) are to be changed. To do this, you may press PGDN to step through each food. Or, press ALT-G for the "GOTO" command and enter the food number.
3. Type the new nutrient value for this food and nutrient. Press ENTER.
4. You may now use the "Hot-Keys" listed in the status line on the bottom of the screen to continue editing other database values or press ALT-X to exit.

To change the nutrient values of a food in the Brand-Name Cereal, Meats Used for Adjust Options, or Restaurant Food sections of the Foods Database, select "Edit Foods Used With Adjust Options" from the Foods Database Editor menu. From the sub-menu displayed select the appropriate food group.

If you have selected Brand-Name Cereals or Restaurant Foods, press ALT-N to access the nutrient information screen. Follow Steps 1 through 4 to change the nutrient values.

12.26 Changing Portion Size Amounts

To change the portion size amounts of a food in the Standard Food list, select "Edit Standard Food List" from the Foods Database Editor menu. DIETSYS will display the following screen:

```

                                Foods Database Editor
                                Standard Food List

FOOD 1:  APPLES AND APPLESAUCE, PEARS
)))))))))

Seasonality..... 1.00

Solid Food Flag (Y/N)..... Y

Reasonable Limit (Per Week)..... 21 (Enter 0 for Unlimited)

```

Press ALT-P for Portions. DIETSYS will display the following screen:

```

                                Foods Database Editor
                                Standard Food List

FOOD 1:  APPLES AND APPLESAUCE, PEARS
)))))))))

Small..... 069.00

Medium ..... 138.00
Large..... 207.00

                                Portion Sizes
                                As Printed On Questionnaire

```

1. Press TAB to progress sequentially through the various sets of portion sizes until you reach the set to be changed. (SHIFT-TAB can be used to go to the previous set of portion sizes.)
2. Go to the food whose portion sizes are to be changed. To do this, you may press PGDN to step through each food. Or, press ALT-G for the "GOTO" command and enter the food number.
3. Type the new value for the gram amount for a "small" portion. Press ENTER. In the same way, enter the new values for the "medium" and "large" values. If you want to keep the current small or medium values you may press ENTER or use the arrow keys to proceed to the next portion size.
4. You may now use the "Hot-Keys" listed in the status line on the bottom of the screen to continue editing other database values or press ALT-X to exit.

To change the nutrient values of a food in the Brand-Name Cereal or Restaurant Food sections of the Foods Database, select "Edit Foods Used With Adjust Options" from the Foods Database Editor menu. From the sub-menu displayed select the appropriate food group. Note that there is only 1 set of portion sizes for Restaurant Foods since men and women of all ages are served the same amounts in restaurants. Follow Steps 2 through 4 above to edit the portion sizes.

12.27 Changing the Seasonality Factor, Solid Food Flag, Reasonable Limit

To change any of the "Food Information" variables of a Standard Food, select "Edit Standard Food List" from the Foods Database Editor menu. DIETSYS will display the screen shown below. These variables are described in Sections 12.8 through 12.10.

Foods Database Editor
Standard Food List

FOOD 1: APPLES AND APPLESAUCE, PEARS
))

Seasonality..... 1.00

Solid Food Flag (Y/N)..... Y

Reasonable Limit (Per Week)..... 21 (Enter 0 for Unlimited)

1. Go to the food to be changed. To do this, you may press PGDN to step through each food. Or, press ALT-G for the "GOTO" command and enter the food number.
2. Press ENTER to accept the Seasonality Factor displayed, or type a new value and then press ENTER.
3. Press ENTER to accept the current value for the Solid Food Flag, or type a new value and press ENTER.
4. Press ENTER to accept the current value for the Reasonable Limit, or type a new value and press ENTER.
5. You may now use the "Hot-Keys" listed in the status line on the bottom of the screen to continue editing other database values or press ALT-X to exit.

12.28 Changing the Cereal Type of Brand Name Cereals

The Cereal Type of Brand Name Cereals is used to determine which cereal from the standard food list will be replaced with a particular Brand Name Cereal. See Section 12.12 for more information regarding this variable. To change the Cereal Type of a Brand Name Cereal, select "Edit Foods Used With Adjust Options" from the Foods Database Editor menu. From the sub-menu displayed select "Brand-Name Cereals". DIETSYS will display the following screen:

```

Foods Database Editor
Brand-Name Cereals

CEREAL 1: ALL BRAN, BRAN BUDS, FIBER ONE      CEREAL CODE: C01
))))))))))))))))))))))))))))))))))))))))))

Cereal Type (B=Bran F=Fortified O=Other)... B

```

1. Go to the cereal to be changed. To do this, you may press PGDN to step through each cereal. Or, press ALT-G for the "GOTO" command and enter the cereal code number (1 to 70).
2. Type the letter code for the new cereal type for this food (B=Bran & Granola Cereals, F=Fortified Cereals, O=Other Dry Cereals).
3. You may now use the "Hot-Keys" listed in the status line on the bottom of the screen to continue editing other database values or press ALT-X to exit.

12.29 **Adding a Nutrient**

You are permitted to add nutrients to the database. The **total** number of nutrients permitted in the database is 50. This total includes nutrients distributed with the software and nutrients added by you. To add a nutrient to the DIETSYS Foods Database, select "Add/Delete Nutrient" from the Foods Database Editor menu. A sub-menu will be displayed. Select "Add a Nutrient" from this menu. DIETSYS will display the following screen:

```

Foods Database Editor

Enter new nutrient name, unit, and range. Press ENTER to confirm
))))))))))))))))))))))))))))))))))))))))))

Nutrient..... 34
Name..... NUTRIENT # 34

Unit.....

Recommended Range.....

```

1. At this point, the name of the nutrient will be listed as "Nutrient # NN". Simply type over this label with the name of the new nutrient. Press ENTER.
2. Type in the appropriate unit of measure (e.g., GRAMS) for the new nutrient. Press ENTER. This unit of measure will be printed in the DIETSYS Analysis Report. You may want to abbreviate and capitalize in the same manner used for the original nutrients provided with the software.

3. Type in the appropriate recommended range for the new nutrient. Press ENTER.

A message will appear reporting that the nutrient has been added to the database. The nutrient added will have values of zero for all foods. You must now change the value of this nutrient for all foods in the database. See Section 12.25 for instructions.

12.30 Deleting A Nutrient

You are permitted to delete a nutrient from the database if it is a nutrient you added. That is, you are not permitted to delete any of the original nutrients distributed with the DIETSYS software. To delete a nutrient from the DIETSYS Foods Database, select "Add/Delete Nutrient" from the Foods Database Editor menu. A sub-menu will be displayed. Select "Delete a Nutrient" from this menu. DIETSYS will display a list of all nutrients available for deletion.

1. Use the UPARROW and DOWNARROW keys to move the highlight bar. Highlight the nutrient you wish to delete. Press ENTER.

You will then be asked to confirm that you want to delete this nutrient. You must be certain that you are deleting the correct nutrient.

12.31 Changing the Nutrient Name, Recommended Range or Units

To change the nutrient name, recommended range, or units of measure of a nutrient, select "Edit Nutrient Labels" from the DIETSYS Foods Database Editor menu. DIETSYS will display the following screen:

```

Foods Database Editor
Nutrient Labels

Nutrient..... 1
Name..... TOTAL CALORIES
Unit..... CALORIES

Recommended Range..... Depends on Age, Sex, Activity
```

NOTE: You will not be able to change the name or unit of measure of any of the original nutrients distributed with the DIETSYS software. This restriction preserves the location of these nutrients in the database. The analysis program requires these nutrients to be present in the database, and to be in a specified order.

If this is an original nutrient, only the Recommended Range will be highlighted. This is the only field you are able to change for standard nutrients.

1. Press TAB to progress sequentially through the various nutrients until you reach the nutrient to be changed. (SHIFT-TAB can be used to go to the previous nutrient.)
2. If this is not a standard nutrient, press ENTER to accept the current nutrient name, or type a new name and then press ENTER.
3. If this is not a standard nutrient, press ENTER to accept the current value for the unit of measure, or type a new value and press ENTER.
4. Press ENTER to accept the current value for the Recommended Range, or type a new value and press ENTER.
5. If you are satisfied with the changes, press ALT-X to exit. If you wish to restore the original values for all of the fields on the screen, press ESC.

12.32 Changing the Adjust Options Reference Table

WARNING: Read Sections 16 and Section 12.13 before making changes to the Adjust Options Reference Table. You will n unless you have moved or replaced foods in the Foods Database.

A copy of one part of the table is printed below. The foods listed on the left hand side are the titles of foods affected by adjustment options. For example, when the TunaQues option is implemented, DIETSYS will need to know which food in the database is "Regular Tuna". The information on the right side of the table shows the food **actually** being used for "Regular Tuna". Changing the value of the food number (database sequence number) will cause the food label on the right to be updated. The food label on the right is displayed simply to reduce the incidence of errors when modifying this screen. If the food label on the right does not correspond with the food label on the left, the wrong food number has been entered. To access this table, select "Edit Foods Used With Adjust Options" from the Foods Database Editor menu. A sub-menu will be displayed. Select "Adjust Options Reference Table" from this menu.

Foods Adjusted By Analysis Options		
Food Expected	Food Currently Used	Options Using Food
Regular Tuna	046 TUNA	TunaQues
Hamburger	038 HAMBURGER, BEEF BURRITO, M	LeanMeat, MeatFat, RestAdj
Beef	039 BEEF (FAT UNSPECIFIED)	LeanMeat, MeatFat, RestAdj
Fried Chicken	043 FRIED CHICKEN (FAT UNSPE	EatSkin, RestAdj
Other Chicken	044 OTHER CHICKEN (FAT UNSPE	EatSkin, RestAdj
Pork	042 PORK (FAT UNSPECIFIED)	MeatFat
Mexican Dishes	107 MEXICAN DISHES	RestAdj
Pizza	050 PIZZA	RestAdj

1. Search the LEFT hand column of the table for the food to be modified. If the Food is not listed on the current screen, press PGDN or PGUP to view the other table screens.
2. Enter the food number that corresponds to the food label in the LEFT column. Press ENTER. Notice that the food label in the right column has changed. Verify your entry by comparing the food label in the RIGHT column with the food label in the LEFT column.
3. Press ALT-X when you have finished modifying this table.

12.33 Changing the Vitamin Supplement Data

A. Single Vitamin Pill Size

To change the pill size associated with each 1 digit input code, select "Edit Vitamin Supplements" from the Foods Database Editor menu. From the sub-menu displayed select "Pill Size of Single Vitamins". DIETSYS will display the following screen:

Pill Size of Single Vitamins	
Vitamin A	
1 = 100 I. U.	6 = 10000 I. U.
2 = 200 I. U.	7 = 25000 I. U.
3 = 400 I. U.	8 = 50000 I. U.
4 = 1000 I. U.	Missing = 10000 I. U.
5 = 5000 I. U.	

1. According to the screen above, if '1' is coded for the response to "How many milligrams or IUs?" for Vitamin A, 100 IUs will be used in the calculation of the amount of Vitamin A from supplements. NOTE: For supplements only, 1 IU = 1 RE.
2. Enter the correct amount for each input code for the current vitamin shown on the screen. You may also use the UP and DOWN arrow keys to move to the values to be changed without changing the current value (pressing ENTER will have the same affect as DOWN-ARROW).
3. Press PGDN to step through the other DIETSYS Single Vitamins and make changes to their nutrient values as appropriate. Only the Single Vitamins which can be used for separate HHHQ Question frequencies are available (see Section 10).

Pill sizes for Vitamin E are carried on the database in a-TE, so that they may be added to the a-TE from food if desired. However, on questionnaires the respondent is prompted for pill size in IU, since this is the unit usually shown on labels. To convert, 100 IU equals 67 a-TE.

NOTE: Many questionnaires use fewer than 8 choices for pill size. For example, on SCAN92 there are 5 choices for "units per Vitamin E" and "milligrams per Vitamin C". The number of valid codes is set in the CFG file (see Section 10). The pill size set above for Missing will be used for all invalid codes. In the SCAN92 example, any character other than 1-5 would be considered invalid or missing. In addition, the Missing value will be used if the "How many milligrams or IUs?" question is not asked.

B. Nutrient Content of Multiple Vitamins

The "Nutrient Content of Multiple Vitamins" data is explained in Section 12.11. To edit this data, select "Edit Vitamin Supplements" from the Foods Database Editor menu. From the sub-menu displayed select "Nutrient Content of Multiple Vitamins". DIETSYS will display the following screen:

Multiple Vitamins			
One-A-Day			
Vitamin A	5000.0	I. U.	B-Carotene 1200.0 mcgs
Vitamin C	60.0	ngs	Thiamin 1.5 ngs
Vitamin D	400.0	I. U.	Vitamin B6 2.0 ngs
Vitamin E	20.1	a-TE	Vita B12 6.0 mcgs
Iron	18.0	ngs	Folate 400.0 mcgs
Calcium	130.0	ngs	Copper 2.0 ngs
Zinc	15.0	ngs	

1. Enter the correct amount of each nutrient for the current Multiple Vitamin. Use the UP and DOWN arrow keys to move to the values to be changed without changing the current value (pressing ENTER will have the same affect as DOWN-ARROW).
2. Press PGDN to step through the other DIETSYS Multiple Vitamins and make changes to their nutrient values as appropriate.

12.34 Changing the AddFats Option Reference Table

WARNING: You must completely understand the AddFats option and this table before making any changes. Please read Section 16 and 12.14 before changing the data in the AddFats Reference Table.

To view or change the AddFats Option Reference Table, select "Edit Foods Used With Adjust Options" from the DIETSYS Foods Database Editor menu. Then select "AddFats Option Reference Table" from the submenu. DIETSYS will display the following:

AddFats Option Reference Table		
Food Expected	Food Currently Used	
))	062 BUTTER	Butter
Half Butter, Half Marg	201 HALF MARGARINE, HALF BUT	
Soft Tub	202 SOFT MARGARINE	
Stick Margarine	203 STICK MARGARINE	
Lard	204 LARD	
Crisco	205 CRISCO	
Low Calorie Margarine	206 DIET MARGARINE (EG SHEDD	

Do not change anything if the foods on the left match those on the right. If they do not match, you must have moved or replaced foods in the DIETSYS Foods Database. Enter the correct Food IDs so the two columns match. The foods on the left must be properly identified to implement the AddFats option. The AddFats option actually uses the foods in the database which correspond to the Food IDs shown in the center. On the right are the names of the food in the current database which corresponds to these Food IDs. DIETSYS will update the food label on the right when the Food ID is changed. The food label on the right is displayed simply to reduce the incidence of errors when modifying this screen.

12.35 Printing the Foods Database Values

If you make changes to the DIETSYS Foods Database, you may wish to generate a printed copy of the values. DIETSYS gives you the option to print one of the following:

1. All values stored in the foods database.
2. Only the portion sizes and food information stored in the Portion Size Data File (see Section 12.4 for a list of these data types).
3. The nutrient composition data for all foods and the vitamin supplement data stored in the database (see Section 12.4 for a list of these data types).

If you have not created your own version of the DIETSYS Foods Database, a printed copy of DIETPORT.V30 and DIETNUT.V30 has been included in Section 12, Appendix A. This copy was created by using DIETSYS to print the values to a file and then enhancing the document in a word-processor.

Printing the entire DIETSYS Foods Database generates a very large listing, 87 pages in all (using 80 characters/line). Of the 87 pages, 25 will contain the data from the Portion Size file. The remaining 62 pages are required to print the Nutrient Content segment of the database if there are 33 nutrients in the database. This figure will increase as nutrients are added.

If you print the Foods Database to a file rather than directly to the printer, you may edit and print segments of the output via a word-processing software package. If you are a competent user of a word-processing package, it is recommended that you print the Foods Database to a file. A text file (ASCII) will be created. You may then import (text in, if using WordPerfect) the listing. You will then be able to use your word-processing package to print segments of the database if desired.

To print the DIETSYS Foods Database select "Print Foods Database" from the Foods Database Editor menu. From the sub-menu displayed select the segment of the DIETSYS Foods Database you wish to print as described above. DIETSYS will display this screen:

```

                                Foods Database Editor
Output Foods Database To:
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
File
Printer
```

Use the arrow keys to highlight your choice and press ENTER. Once you have pressed ENTER, DIETSYS will display the following:

```

                                Foods Database Editor

Select maximum line length for output
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
)))
132 chars/line

80 chars/line
```

DIETSYS generates the Foods Database listing with 58 lines per page. Selecting 132 characters per line will greatly reduce the number of pages. However, if directing this output to the printer, you are responsible for setting your printer to handle 58 lines of text with 132 characters in every line (consult your printer manual). If printing to a file, you may use your word-processing package to print the file. You may need to change the font, margins, paper width, and/or orientation before printing. Use a non-proportional font for proper spacing.

Use the arrow keys to highlight your choice of "132 chars/line" or "80 chars/line" and press ENTER. Once you have pressed ENTER, DIETSYS will begin printing the database values (that is, if you had previously selected the PRINTER to receive the listing). If you had

previously directed the listing to a FILE, DIETSYS will prompt you for the name of the file with the following screen:

Foods Database Editor
Database Print File: C:\HHHQ\

Enter the name of the file you wish to contain the DIETSYS Foods Database listing. DIETSYS will then write the listing to the file specified.

12.36 Saving Changes

If you are making a number of changes to the DIETSYS Foods Database, you should periodically save your work. If an unsaved change has been made to data in either Foods Database file, an asterisk will be displayed next to the file name in the title box of the Foods Database Editor menu. To save the Foods Database with revisions you have made in the current session, select "Save Database Changes to Files" from the Foods Database Editor menu.

If you have changed data which is stored in the Portion Size Data File, you will be prompted for the name of this file. If you have changed data which is stored in the Nutrient Composition File, you will be prompted for the name of this file. If you have only changed one of these files, you will only be prompted for that one file. If you have not made any changes, a message will be displayed stating that no changes to the Foods Database have been made.

For example, if changes have been made to data from both files of the Foods Database, DIETSYS will display the following screen:

Dietary Database Files To Be Saved
Portion Size Data File: C:\HHHQ\ Nutrient Composition Data File: C:\HHHQ\

You will not be permitted to write-over the two Foods Database files which were distributed with the DIETSYS software (DIETPORT.V30 and DIETNUT.V30). This will decrease the risk of destroying the data stored in these files. Also, if your default Foods Database files are not DIETPORT.V30 and/or DIETNUT.V30 the default names will be presented in the file screen displayed above. To accept the default names, simply press ENTER. Otherwise, enter the names of the Database Files to contain the revised data. These files are described in Section 12.4. For more information concerning default file names, see Section 20.

DIETSYS Foods Database Editor
"Hot-Key" Quick Reference

The Hot Keys listed below may be used when they are shown in the status line at the bottom of DIETSYS Foods Database Editor screens.

<u>Hot Key</u>	<u>NAME</u>	<u>Meaning</u>
ALT-G	GOTO	Go directly to a food by entering the food identification number.
ALT-L	LABEL	Edit a food label, i.e., the food name.
ALT-N	NUTRIENT	Edit the nutrient values of the current food.
ALT-P	PORTIONS	Edit the portion size values of the current food.
ALT-X	EXIT	Exit the current screen and return to the Database Editor menu. Any changes made are stored in RAM (memory). The changes can be saved to disk by selecting "Save Database Changes To Files" from the Foods Database Editor menu. If all changes have not been saved when exiting to the DIETSYS main menu, the Editor will prompt you to save.
TAB	NEXT	Go to the next nutrient or portion size in the database.
SHIFT-TAB	PREVIOUS	Go to the previous nutrient or portion size in the database.
PGDN	NEXT FOOD	Go to the next food in the database.
PGUP	PREV FOOD	Go to the previous food in the database.