

15.0 ANALYZING QUESTIONNAIRE DATA

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15.1 The DIETSYS Nutrient Analysis

The Nutrient Analysis segment of the DIETSYS software calculates nutrient estimates and other analyses based on the responses to questionnaires in the Block-NCI HHHQ format. The following files are required as input to the DIETSYS Nutrient Analysis. Therefore, each of these files must be created prior to analyzing the questionnaire data using DIETSYS.

1. **Questionnaire Data File.** The coded responses from the questionnaire are stored in this file. This includes the food frequencies and other types of questionnaire data. You may have created this file using the DIETSYS Data Entry system, the DIETSYS Interactive Interview programs, a third-party data entry software package, or it may have been created by an optical scanner. If you have not yet created a Questionnaire Data File, refer to Section 13 for a discussion of these four methods of data entry.

It is strongly recommended that the Questionnaire Data File be checked for outliers and errors using the DIETSYS Edit-Checking feature prior to using the DIETSYS Nutrient Analysis. The Nutrient Analysis program will stop processing the Questionnaire Data File if any coding errors are encountered.

2. **Questionnaire Configuration File (CFG File).** A DIETSYS Configuration File (CFG File) contains the locations and decoding information for each variable in a corresponding Questionnaire Data File.

You must have a CFG File which is compatible with your Questionnaire Data File prior to running the DIETSYS Nutrient Analysis. CFG Files have been provided for the paper questionnaires distributed with DIETSYS and for questionnaire files created via the DIETSYS Interactive Interviews. These files are:

<u>CFG File</u>	<u>Corresponding Questionnaire(s)</u>
SCAN92.CFG	HHHQ,FULL.JAN92
FULL87.CFG LONGINT.CFG	Version 02.1, March, 1987, as well as the LONG Interactive Interview
BRIEF87.CFG	Version S2.1, October, 1987. BRIEF.DIET.ONLY
SHORTINT.CFG	SHORT Interactive Interview

To use one of the CFG Files listed above, your Questionnaire Data File **must** be in the exact format described in the codebook of the questionnaire version you are using. If you created your Questionnaire Data File by scanning your questionnaires or by keying your data using a third-party data entry software package, you must be particularly careful to ensure that the CFG File is compatible with your Questionnaire Data File. If you have scanned the SCAN92 forms or contracted someone to scan the forms for you, compare the file locations of the variables in your Questionnaire Data File with the file locations listed in Section 7. Some scanners will automatically insert header information at the beginning of each data line, while others will allow that information to be stored in other locations. According to the file format specified by SCAN92.CFG, this header

information is expected at the end of each line. If your scanner inserts the header information (booklet number, application number, serial number, and batch number) at the beginning of each line, create a new CFG File. The new CFG File should be a modified version of SCAN92.CFG created by following the instructions in Section 11.4.

If you are not using one of the NCI questionnaire versions, you may create a CFG File to match your Questionnaire Data File by following the instructions in Section 11.

3. **Portion Size Data File.** This file contains the grams per serving size, food names and other data required for each food analyzed by DIETSYS. See Sections 12.1 and 12.4 for more information regarding this data file. DIETPORT.V30 is the original Portion Size Data File distributed with Version 3.0 of the DIETSYS software. If you have listed a food on your questionnaire that is not included in DIETPORT.V30, you must use the DIETSYS Foods Database Editor to add this information and create a new Portion Size Data File.
4. **Nutrient Composition Data File.** This file contains the nutrient amount per 100 grams of each food. See Section 12 for more information regarding this data file. DIETNUT.V30 is the original Nutrient Composition Data File distributed with Version 3.0 of the DIETSYS software. If you have created a new Portion Size Data File by adding foods, you must create a new Nutrient Composition Data File by supplying the nutrient content data for each of the additional foods (Section 12).
5. **Analysis Options File.** The option settings stored in this file include the Analysis Options, Report Options, and Group Information, the Top Sources nutrient list, Predict Age Categories, and the list of foods to be ignored in the analysis (Drop Foods). SCAN92.OPT, FULL87.OPT, BRIEF87.OPT, and SHORTINT.OPT are the option files distributed with this software for the NCI questionnaires and contain the recommended default option settings. Each of the Analysis Options are described in detail in Section 16. See Section 15.8 and Section 18 for information regarding the Report Options and Section 15.14 for an explanation of the Group Information. Section 15.10 gives instructions on modifying Analysis Options Files.

This is the only input file to the DIETSYS Nutrient Analysis which may be modified during the analysis session (Section 15.11). DIETSYS will load the options and group information from the Analysis Options File specified. You will then have the opportunity to change the option settings for the current analysis session and to save the changed option file for future analyses.

15.2 The DIETSYS Nutrient Analysis.

When you select "Nutrient Analysis" from the main DIETSYS menu, DIETSYS displays a submenu with four choices. The sections which discuss these choices are listed below.

- | | |
|---------------|---------------------------------------|
| Section 15.3 | 1> Analyze a File of Questionnaires |
| Section 15.21 | 2> Print Results of Previous Analysis |
| Section 15.22 | 3> Print Formatted Sources Output |
| Section 15.10 | 4> Modify an Analysis Options File |

Choices #2 and #3 from this sub-menu may only be selected if you have previously chosen #1 to "Analyze a File of Questionnaires". You may choose menu item #4 to "Modify an Analysis Options File" at any time.

15.3 Analyzing a File of Questionnaires.

Once you have selected "Analyze a File of Questionnaires" from the sub-menu described in Section 15.2, DIETSYS will prompt you for the files required by the DIETSYS Nutrient Analysis using the following screen.

Files Needed For the Dietary Analysis
Questionnaire Data File: C:\HHHQ\PROJECT1.DAT
Analysis Results File (*.RES): C:\HHHQ\PROJECT1.RES
Portion Size Data File: C:\HHHQ\DIETPORT.V30
Nutrient Composition Data File: C:\HHHQ\DIETNUT.V30
Questionnaire Configuration File (*.CFG): C:\HHHQ\SCAN92.CFG
Analysis Options File (*.OPT): C:\HHHQ\SCAN92.OPT

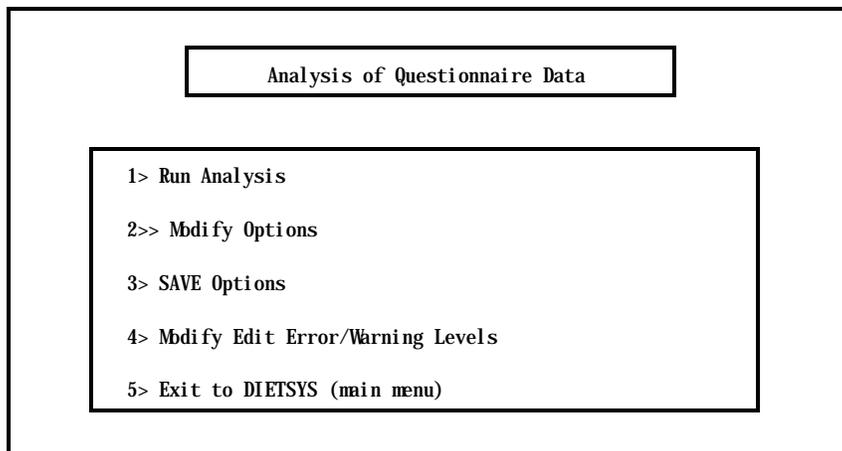
On this and other DIETSYS file screens, default file names will be available for some prompts. Other prompts will only contain a default path (a path is the drive and directory; "C:\HHHQ\" is a path). The path shown will be the current working directory unless other paths have been designated in the System Defaults utility (Section 20).

Choosing meaningful file names is essential for efficient file management. DOS file names have two parts: the name and the extension. These parts are separated by a period. The name may be up to eight characters long and should identify the study. The extension can be up to three characters long. It is recommended that you use the same name on the left of the period for the Questionnaire Data File and Analysis Results File, and use extensions which identify the file type. For example, use the extension DAT for Questionnaire DATA Files; RES for Analysis RESULTS Files; RPT for Analysis RePorT Files, etc. Recommended extensions will be displayed for some files on the screen. These extensions are not required but you may find them useful for organizing your files.

You must enter file names for those prompts which only contain a path. If necessary, you may enter new paths and/or file names for all prompts. If a path is not specified, the path of the current working directory will be used. To make changes, simply type over the names shown. The LEFT/RIGHT arrow keys and the END key can be used to pass over text which you do not wish to change. As with all file screens in DIETSYS, you may use the UP/DOWN arrows or the ENTER key to accept default file names shown.

Enter the names of the files to be used by the DIETSYS Analysis System. Each file is described in Section 15.1.

15.4 **DIETSYS Analysis Menu.** Once you have entered the file names required for the DIETSYS Nutrient Analysis as instructed in Section 15.3, DIETSYS will display the following menu.



If you select "Run Analysis" at this point, DIETSYS will analyze your questionnaire data using the option settings read from the Analysis Options File named in the file screen (Section 15.3). You will be prompted for the names of any files required as indicated by these option settings (Section 15.7). If you wish to view or modify the current option settings, select #2, "Modify Options". See Section 15.11 for instructions on modifying the Analysis Options. If changes are made to the option settings, you will be permitted to save these by selecting menu item #3, "Save Options" (Section 15.20).

Edit-checking routines are performed as the questionnaire data is analyzed. A summary of the warning and error flags are written to the Analysis Results File and to the Analysis Report (if the Report option is ON, Section 15.12). These flags are based on patterns of responses rather than an individual response. For example, it is perfectly legitimate for a respondent to select medium for one food portion size, but it suggests negligence if medium is selected for all foods. You are permitted to set the level at which these patterns generate a warning flag and at which level an error flag is generated. The screen used to permit you to set the Error/Warning levels is the same screen as is used in the DIETSYS Edit Checking system. See Section 14.4 for more information on the Warning/Error levels and for instructions on setting these levels.

If you select menu item #5, "Exit to DIETSYS", you will be canceling this analysis session. However, if an Analysis Options File was modified and saved, or the Error/Warning levels were modified, these changes will not be lost.

15.5 **Run Analysis.** When you select "Run Analysis" from the DIETSYS Analysis menu, DIETSYS will prompt you for additional information if any is required by the analysis option settings. See Section 15.11 for instructions on setting the Analysis Options. If no additional information is required, DIETSYS will immediately begin reading and analyzing each

questionnaire in the Questionnaire Data File. Otherwise, one or more of the screens described in Sections 15.6 through 15.8 will be presented.

15.6 If the Report option is ON, the following screen will be displayed:

Analysis Report

Output Report To:

))

))))))

File

Printer

Cancel Print

The Analysis Report is a formatted listing suitable for printing, of the DIETSYS Nutrient Analysis results for each individual. This report is described in detail in Section 18, which includes a sample of the DIETSYS Analysis Report. If you wish to send the Analysis Report directly to the printer and your printer is online, use the arrow keys to move the highlight bar to "Printer" and press ENTER. Note that the Analysis Report can be quite a large listing depending on the number of respondents in your Questionnaire Data File. Up to eleven pages per respondent may be produced in this report, plus two summary pages. If you would like to store the report in a file on disk, select "File". Select "Cancel Print" if you wish to run the analysis without generating an Analysis Report at this time. An Analysis Results File will still be created. You may create a report from this analysis at a later time by following the instructions in Section 15.21.

15.7 The DIETSYS Analysis System may create up to three files in addition to the Analysis Results File depending on settings of three Analysis Options. These options are Report, Sources-Matrix, and Sources-Sort. If additional files are to be created, DIETSYS will prompt you for the appropriate file names using a file screen similar to the one shown below. You will be prompted for the files required by the option settings.

Analysis Report & Sources Output Files	
Report File (*.RPT): C:\HHHQ\DEM.D.RPT	File of
SORTED Sources Data (*.SRT): C:\HHHQ\DEM.SRT	
Sources MATRIX Data File (*.MAT): C:\HHHQ\DEM.MAT	

On this and other DIETSYS file screens, default file names will be available for some prompts. Other prompts will only contain a default path (a path is the drive and directory; "C:\HHHQ\" is a path). The path shown will be the current working directory unless other paths have been designated in the System Defaults utility (Section 20).

As discussed in Section 15.3, choosing meaningful file names is essential for efficient file management. The extensions displayed in parentheses next to the prompt are recommended for the files on this screen to reduce the confusion created by multiple output files. The left side of these output files' filenames should be the same as is used for the Questionnaire Data File being analyzed (a name which identifies the study is preferable).

You may enter new paths and/or file names for all prompts. If a path is not specified, the path of the current working directory will be used. To make changes, simply type over the names shown. The LEFT/RIGHT arrow keys and the END key can be used to pass over text which you do not wish to change. As with all file screens in DIETSYS, you may use the UP/DOWN arrows or the ENTER key to accept default file names shown.

Enter the names of the files to be used by the DIETSYS Analysis System. Each file is described below.

1. **Report File.** This file will be created if the Report option is ON (Section 16A.23) and you instructed DIETSYS to store the Analysis Report in a file (Section 15.6).
2. **File of SORTED Sources Data.** This file will be created if the Sources-Sort option is set to FILE. See Section 16A.28 for a description of the data stored in the File of SORTED Sources Data. See Section 15.12 for instructions on setting the Sources-Sort option.
3. **Sources MATRIX Data File.** This file will be created if the Sources-Matrix option is ON. See Section 16A.27 for a description of the data stored in the Sources MATRIX Data File. See Section 15.12 for instructions on setting the Sources-Matrix option.

15.8 The DIETSYS Analysis Report consists of optional segments which you may decide to include or omit. DIETSYS will present the screen below to allow you to choose the configuration of your Analysis Report.

<table border="1"><tr><td style="text-align: center;">Analysis Report Options</td></tr></table>	Analysis Report Options
Analysis Report Options	
RESPONDENT'S Report = WITH ADVICE	
INVESTIGATOR'S Report = SHORT REPORT	
VITAMIN DATA Section = ON	

Section 18 contains a sample of the DIETSYS Analysis Report with a description of the effect of each of these options on the format of the report. Use the arrow keys to move to a particular option. Press the SPACE BAR to scroll through the possible settings of the option. Press F1 (Help) to read a brief description of the options. The help page presented will be of the option marked by the cursor. You may use the PGUP/PGDN keys to scroll through all of the help pages, or press any other key to return to the options screen.

- 15.9 Once you have completed the screens described in Sections 15.5 through 15.8, the DIETSYS Analysis will begin reading and analyzing each questionnaire in the Questionnaire Data File. The nutrient estimates and other calculated results will be stored in the Analysis Results File. The codebook for this file is in Section 17. The template of a SAS program for analyzing the data in the Analysis Results File has been included with this software. See Section 17, Appendix A for details. The Analysis Report is a formatted version of the data in this file. Section 18 contains a sample of the DIETSYS Analysis Report.

If DIETSYS encounters invalid codes or file errors in the Questionnaire Data File as the respondents' data are being processed, the analysis will stop. In this event, use the DIETSYS Edit-Checking system to identify errors (Section 14). An example of a typical file error is a data line which is too short. This occasionally occurs due to a malfunction when scanning forms. Use the Questionnaire Utilities to view the questionnaires if the DIETSYS Edit-Checking system does not identify the problem.

- 15.10 **Modify an Analysis Options File.** When you select "Modify an Analysis Options File" from the submenu under the "Nutrient Analysis" item in the DIETSYS main menu, DIETSYS will display a file screen prompting you for three files, the Analysis Options File, the Portion Size Data File, and the Nutrient Composition Data File. These files are described in Section 15.1. The instructions on entering file names in this screen are the same as for all DIETSYS file screens (see Section 15.3).

DIETSYS will display a menu with the following choices. See the documentation section indicated for a description and instructions for each menu item.

- Section 15.12 1> Analysis Options
- Section 15.13 2> Foods to be Dropped
- Section 15.14 3> Change Food Groupings
- Section 15.18 4> Select Nutrients for Top Sources
- Section 15.19 5> Set Predict Age Categories
- Section 15.20 6> Save Option File
- Section 15.20 7> Exit to DIETSYS (main menu)

- 15.11 **Modify Options.** When you select "Modify Options" from the DIETSYS Analysis menu described in Section 15.4, DIETSYS will display a submenu with the first four or five choices of the menu in Section 15.10. The documentation sections which discuss these choices are listed above. Menu item #5, "Set Predict Age Categories" will only be displayed if the Predict option is ON and the Age HHHQ Question is coded in a one-character format (see Section 15.19 for more information).

- 15.12 **Analysis Options.** The DIETSYS Nutrient Analysis program contains numerous options which permit the investigator to vary the nature of the output files and control to a considerable degree the nutrient calculations themselves. The investigator should personally study Section 16 to determine the option settings to be used. The options involve substantive decisions on nutrient calculations, and also have important implications for the design of the questionnaire itself. The options also permit investigators to study methodologic issues such as the importance of asking certain questions or foods, by rerunning the analysis and varying option settings.

Each option is described in detail in Section 16, Appendix A. DIETSYS uses the screen below to allow you to change the option settings. You may access this screen by following the instructions in either Section 15.10 (Modify an Analysis Option File) or Section 15.11 (Modify Analysis Options during a DIETSYS analysis Session).

Analysis Options		
AddFats = ON	FruitAdj = ON	Report = ON
AddMilk = LINE ITEM	LeanMeat = OFF	RestAdj = ON
AddSalt = OFF	LowFatFoods = ON	Sel-Quests = ALL
AgeDefault = MID AGE	MeatFat = ON	SexDefault = FEMALE
CerealAdj = ON	MedOnly = OFF	Sources-Matrix = OFF
CodeCereal = OFF	Minimum Freq = NO MIN	Sources-Sort = OFF
ColapsXL = OFF	OpenEnded Min = 1/WEEK	TopSources = ON
CookFat = MEDIUM	Portions = AGESEX	TunaQues = OFF
DarkQues = OFF	Predict = ON	VegAdj = ON
EatSkin = ON	Recalc = OFF	

Use the arrow keys to move to a particular option. Press the SPACE BAR to scroll through the possible settings of the option. Press F1 (Help) to read a brief description of the options. The help page presented will be of the option marked by the cursor. You may use the PGUP/PGDN keys to scroll through all of the help pages.

- 15.13 **Foods to be Dropped.** This feature can be used to investigate the effect of ignoring foods which were actually asked on the questionnaire. The Food IDs used by DIETSYS for the foods on your questionnaire are those in the CFG File. You may wish to list the Food IDs by printing the codebook (Section 11.30), as the correct Food ID may not be obvious from the questionnaire food descriptions. You may access the "Foods To Be Dropped From Nutrient Analysis" screen by following the instructions in either Section 15.10 (Modify an Analysis Option File) or Section 15.11 (Modify Analysis Options during a DIETSYS analysis session). Select menu item #2, "Foods to be Dropped".

List the Food IDs of the foods which you did ask on the questionnaire but which you want to ignore in the calculations. The Food IDs may be listed in any order. Abbreviate lists using ranges such as "1-10". Type a comma between each range or individual Food ID. Each Food ID corresponds to a food's database sequence number (Section 12.3).

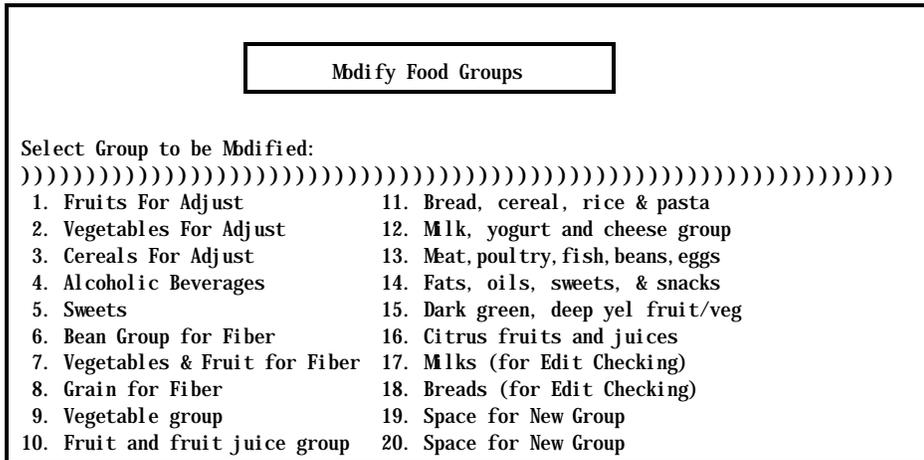
When using this screen, you may use as many of the edit lines as is necessary to list the foods to be dropped. If you are entering a long list of Food IDs, be cautious when nearing the end of the edit line. A Food ID may **not** be separated into two parts, that is, two digits at the very end of one edit line and a third digit on the next line. Carefully inspect your list before exiting. You may wish to double check your entry by exiting and re-entering the Foods to be Dropped

screen. The list will be compressed into the fewest ranges (if you enter "1,2,3", DIETSYS will compress this to "1-3").

- 15.14 **Change Food Groupings.** DIETSYS calculates daily frequencies, daily gram amounts, and performs edit-checks on up to 20 food groups in addition to the individual foods. DIETSYS permits you to define new groups of your choice as well as add and delete members from pre-defined DIETSYS groups. You may also select the groups to be printed to the DIETSYS Analysis Report; modify the text used in the Analysis Report for the group information; and control the parameters used to edit-check the group frequencies.

To modify or view any of the information regarding the Food Groups, select "Change Food Groups" from the DIETSYS Analysis menu described in Section 15.11. If you are modifying an Analysis Options File without running the analysis program, you may access the Group Information screens by following the instructions in Section 15.10 and selecting menu item #3.

DIETSYS will display the following screen to allow you to modify the Group Information.



Use the arrow keys to move the cursor to the Food Group to be viewed or modified. Note that the first eight groups listed are required by DIETSYS for various calculations and cannot be deleted or replaced. In addition, it is strongly recommended that the groups labeled "for Edit Checking" above not be deleted and be examined in the DIETSYS Edit Report (Section 14). Use the "hot keys" shown in the status line on the bottom of the screen to list the group members or to change any of the Group Information variables. Each process available is described in the documentation sections listed below. When finished, press ALT-X to exit and return to a DIETSYS menu.

- Section 15.15 Change Group Information
- Section 15.16 List Foods
- Section 15.17 Change Members

- 15.15 **Change Group Information.** The Group Information screen may be accessed by pressing the ENTER key when a group is highlighted in the screen described in Section 15.14. You

may also access the Group Information Screen by pressing ALTI when in the screen described in Section 15.17. Check the status line at the bottom of the screen to determine which key to use to access this screen.

Mdiify Group Information	
Group Name.....	Vegetable group
Reasonable Limit (Per Day)....	000.00
Recommended Text for Report...	3-5 Servings
Print In Report (Y,N).....	Y
Fix (if option on) (Y,N).....	N

Each of the items in the Group Information screen are described below.

1. **Group Name.** The text entered in the "Group Name" edit box will be used to identify this group in the DIETSYS Analysis Report, if "Print in Report" is set to yes.

Note that the "Group Name" edit box will not be available for the first 8 groups listed on the screen described in Section 15.14. These groups are required by the DIETSYS Nutrient Analysis System. Therefore, you are not permitted to change the names of these groups; their identities must be constant.

2. **Reasonable Limit (Per Day).** The DIETSYS Edit-Checking system performs reasonableness checks on group frequencies. A group frequency is the sum of the frequencies of all of the group members. If the Reasonable Limit for the group is set to 0, this edit-check is not performed. Otherwise, a questionably high frequency will be flagged for Food Groups with a daily frequency greater than the Reasonable Limit. Section 14 describes the DIETSYS Edit-Checking system. See Section 14.15 for more information on the edit-checks for Food Groups with questionably high frequencies.

The value of the Reasonable Limit for each group has no effect on the DIETSYS Nutrient Analysis. However, the setting of this parameter in the Analysis Options File will impact the DIETSYS Edit Report as described above.

3. **Recommended Text for Report.** The "Recommended Text for Report" is the text which appears under the heading "RECOMMENDED SERVINGS" in the Group Information section of the DIETSYS Analysis Report. See Section 18 to view a sample DIETSYS Analysis Report and for more details on each section within the report.
4. **Print in Report.** If this option is set to 'Y', this group will be printed to the DIETSYS Analysis Report. The information printed for each group can be seen in the example below. You may specify the text used by modifying the "Group Name" and "Recommended Text" parameters.

GROUPED FOODS	FREQUENCY (PER DAY)	RECOMMENDE D SERVINGS
Vegetable group	1.0	3-5 Servings
Fruit and fruit juice group	0.4	2-4 servings
Bread, cereal, rice & pasta	1.7	6-11 servings
Milk, yogurt and cheese group	2.5	2-3 servings
Meat,poultry,fish,beans,eggs	1.2	2-3 servings
Fats, oils, sweets, & snacks	1.8	Use sparingly
Alcoholic Beverages	0.4	In Moderation

It is recommended that you at least include the groups shown above in the Analysis Report. These groups and recommended servings correspond to the Food Pyramid recommendations. Note, however, that "Frequency (Per Day)" represents the respondent's reported frequency, and may undercount servings particularly for unitary items such as slices of bread or number of eggs. For such items, medium, "once per day" actually represents two slices, but the frequency count here would be one. However, the total grams per group is written to the Analysis Results File (Section 17) and may be used to calculate another estimate of servings per group. The weekly frequencies for all groups are written to the DIETSYS Analysis Results File, regardless of the "Print In Report" setting.

5. **Fix.** This group parameter has no impact on the DIETSYS Nutrient Analysis. The DIETSYS Edit-Checking system has an option called "Create a Fix File". This option is described in detail in Section 14.5. If Create a Fix File option is ON and the Fix parameter on this screen is set to 'Y', the foods in this group will be adjusted, if necessary, according to the algorithm described in Section 14.5.

- 15.16 **List Foods.** Use this feature to view the members of a group. From the List Foods screen you will be given the chance to print the list of group members. The List Foods screen may be accessed by pressing ALTL from either Modify Food Groups screen (Section 15.14), the Group Information screen (Section 15.15), or the Change Members screen (Section 15.17).

The Group Name and the number of members in the group will be shown at the top of the screen. The foods will be listed sequentially based on their Food IDs. Up to 20 foods will be listed on the screen at one time. If there are more than 20 foods in the current group, you may use the UP/DOWN arrow keys to scroll through the list. PGUP, PGDN may be used to scroll through the list 19 foods at a time. Press the HOME key to go to the first food in the list. Press END to go to the end of the list.

If you wish to print the list of foods, press ALTP. The list will be sent to the printer port indicated as the System Default (Section 20).

- 15.17 **Change Members.** This feature allows you to add or delete foods from a group. You may access the screen to change the group members by pressing ALTM from either the Modify Food Groups screen (Section 15.14) or the Group Information screen (Section 15.15).

To add foods to the group, simply go to the end of the current list of foods and type the Food IDs of the foods to be added. The Food IDs may be listed in any order. Abbreviate lists using ranges such as "1-10". Type a comma between each range or individual Food ID. Each Food ID corresponds to a food's database sequence number (Section 12.3).

When using this screen, you may use as many of the edit lines as is necessary to list the foods in the group. If you are entering a long list of Food IDs, be cautious when nearing the end of the edit line. A Food ID may **not** be separated into two parts, that is, two digits at the very end of one edit line and a third digit on the next line. Carefully inspect your list before exiting. You may wish to double check your entry by exiting and re-entering the Change Members screen. The list will be compressed into the fewest ranges (if you enter "1,2,3", DIETSYS will compress this to "1-3").

- 15.18 **Select Nutrients for Top Sources.** The TopSources option allows the investigator to identify the top three food sources for nutrients of particular interest to the investigator or respondents (Section 16A.29). If the TopSources Analysis Option is ON, the top food sources for up to ten nutrients will be printed to the DIETSYS Analysis Report and written to the Analysis Results File. The nutrients to be used in the TopSources option are set in the Analysis Options File. DIETSYS uses the screen shown below to allow you to change the list of TopSources nutrients. You may access the screen by selecting "Select Nutrients for Top Sources" from the DIETSYS Analysis menu described in Section 15.11. If you are modifying an Analysis Options File without running the analysis program, you may access this screen by following the instructions in Section 15.10 and selecting menu item #4.

Nutrients Used in Top Sources Output	
1. 01 TOTAL CALORIES	6. 33 PRO-A CAROTENES
2. 03 TOTAL FAT	7. 23 ZINC
3. 16 SATURATED FAT	8. 21 FOLATE
4. 20 DIETARY FIBER	9. 22 VITAMN E
5. 15 VITAMN C	10. 25 VITAMN B6

If the TopSources option is OFF, the settings on this screen will have no impact on the analysis. Section 15.12 gives instructions for setting the Analysis Options.

Enter the numbers of the nutrients to be listed in the TopSources output. The numbers correspond to the order of the nutrients in the DIETSYS Foods Database. You may view these numbers using the DIETSYS Foods Database Editor (Section 12). The nutrient name will be updated when you type a new number and press the ENTER key. You may enter up to 10 nutrient numbers. If you would like to use fewer than 10 nutrients, enter 0 for "No Nutrient".

- 15.19 **Set Predict Age Categories.** The Predict Analysis Option is designed for use with questionnaires which have food lists of approximately 60 items. If Predict is ON and 50-75 foods are asked on the questionnaire, the nutrient estimates will be multiplied by age-sex

specific adjustment factors to produce nutrient estimates close to those seen in national 24-hour recall surveys for specific age and sex groups. Section 16A.21 contains a detailed description of the Predict option.

If the Age HHHQ Question is coded as number of years, the Predict adjustment factors are determined by DIETSYS based on age ranges (Section 16A.21). However, if the Age question is asked in a one-character format as is common on scannable forms, the Predict age ranges may overlap with the age ranges presented on the questionnaire. Therefore, you are permitted to choose the predict age category which is appropriate for each digit used to code Age. See Section 10A.4 for the coding of the Age HHHQ Question.

You may access the screen to set the Predict Age Categories from the DIETSYS Analysis menu described in Section 15.11. This menu item will not be available on the Analysis Menu if Age is asked in a two-character format or the Predict option is OFF. If you are modifying an Analysis Options File without running the analysis program, you may access this screen by following the instructions in Section 15.10 and selecting menu item #5.

If you accessed this screen during a DIETSYS Analysis session, the number of age codes presented will be determined by information read from your CFG File. If you are modifying an Analysis Options File without running the analysis, eight age codes will be presented. Eight is the maximum number of age codes allowed.

Predict factors are available for six age groups (Harlan and Block, 1990). These are 18-24; 25-34; 35-44; 45-54; and 65 and older. Assign one of these age groups to each of your age codes. Use the UP/DOWN arrow keys to move from one input code to another. Use the space bar to scroll through the six age groups until the appropriate range is displayed.

- 15.20 **Save Options.** If you modify the Group Information, Analysis Options, TopSources nutrient list, Predict Age Categories, or the list of Foods to be Dropped you may save these changes in an Analysis Options File. You will then be able to use these exact option settings in a later analysis run.

You may access the screen to Save Options from the DIETSYS Analysis Menu described in Section 15.11. If you are modifying an Analysis Options File without running the analysis program, you may access this screen by following the instructions in Section 15.10 and selecting menu item #6. If you select "Exit to DIETSYS" from the DIETSYS Analysis Menu after having modified the Group Information, Analysis Options, Top Sources nutrient list, Predict Age Categories, or the list of "Drop Foods" you will be asked whether you wish to save these changes prior to exiting.

When you select Save Options, DIETSYS will display a file screen prompting you for the name of the Analysis Options File to be saved or created. The instructions for entering file names in this screen are the same as all DIETSYS file screens (see Section 15.3).

- 15.21 **Print Results of Previous Analysis.** The DIETSYS Analysis Report is a formatted version of the information in the Analysis Results File. The Analysis Report is suitable for printing while the Results File is designed for further statistical analyses. Although the report may be generated during the DIETSYS Nutrient Analysis session, it is sometimes more convenient

to create it at a later time. Therefore, DIETSYS provides the ability to produce printed analyses from previously analyzed questionnaires.

To generate an Analysis Report from an existing Analysis Results File, select "Nutrient Analysis" from the DIETSYS main menu. Then select "Print Results of Previous Analysis" from the submenu. DIETSYS will allow you to send the report directly to the printer or save it in a file on disk. Choose "File" if you wish to store the report on disk. The Report File is an ASCII text file which may be retrieved into any wordprocessing software package for printing. If you wish to send the report directly to the printer, be sure your printer is online and select "Printer". If "Printer" is selected, the report will be sent to the printer port indicated as the System Default printer port (Section 20).

DIETSYS will then display a file screen prompting you for the Analysis Results File and the Analysis Report File (if not sent to the printer). The Analysis Results File is described in Section 15.1. The instructions on entering file names in this screen are the same as all DIETSYS file screens, see Section 15.3.

To generate the Analysis Report, DIETSYS will also require the DIETSYS Foods Database Files. The names (including paths) of the Foods Database Files used to create the Analysis Results File are stored in the results file. If these files are available, DIETSYS will display a message box informing you of the file names. If these files are not available, DIETSYS will present another file screen to allow you to specify the location of these files.

The Foods Database files are the Portion Size Data File and the Nutrient Composition File. Food names are printed in the Top Sources segment of the Analysis Report (Section 18). The food names are read from the Portion Size Data File. The nutrient names and recommended ranges printed in the report are read from the Nutrient Composition Data File. If this information has changed since the Analysis Results File was created, the food and nutrient labels in the Analysis Report may be inaccurate.

15.22 Print Formatted Sources Output. The DIETSYS "Sources" data contain the amount which each food contributed to the intake of each of the nutrients among the population analyzed in the analysis run. These data are analogous to Block's (1985) Nutrient Sources papers. Nutrient Sources data may be stored in two formats, the Sources Matrix Data File and the Sorted Sources Data report.

The Sources Matrix Data File is a text file containing a "row" or line of data per food and a "column" for each nutrient. The file format for this file is described in Section 16A.27.

The Sorted Sources Data report may be stored in a file or sent directly to the printer. If you choose to send the report to a file, you will be prompted for the name of the file to contain this listing. If the listing is sent directly to the printer, it will be directed to the port designated as the System Default printer port (Section 20).

The Sorted Sources Data report consists of a list for each of the nutrients in the DIETSYS Foods Database. Each of these lists contain all foods which contributed some of the nutrient to any individual's estimates in the population. Therefore, this listing can be quite lengthy, depending on the food list and the population size. You may not want to send such a large

listing to the printer. If saved to a file, you may view the ASCII file using a listing program or wordprocessor of your choice.