
NutriGenie Software Manual

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Contents

| | | |
|-----------|---------------------------------------|-----------|
| CHAPTER 1 | <i>Introduction</i> | 1 |
| CHAPTER 2 | <i>Omega Rx Zone Diet</i> | 3 |
| CHAPTER 3 | <i>Controlled Carb Diet</i> | 7 |
| CHAPTER 4 | <i>DASH Diet</i> | 11 |
| CHAPTER 5 | <i>High Fiber Diet</i> | 15 |
| CHAPTER 6 | <i>Optimal Nutrition</i> | 19 |
| CHAPTER 7 | <i>Optimal Nutrition Screen Shots</i> | 23 |

| | | |
|-------------------|---|-----------|
| CHAPTER 8 | <i>Mother of All Diets</i> | 25 |
| CHAPTER 9 | <i>Mother of All Diets Screen Shots</i> | 29 |
| CHAPTER 10 | <i>Glucose Revolution Diet</i> | 33 |
| CHAPTER 11 | <i>Top Tips</i> | 35 |
| CHAPTER 12 | <i>The Main Window</i> | 39 |
| | Select a Meal | 39 |
| | Browse Food Databases | 40 |
| | Select a Food Item | 41 |
| | Sort Foods by Nutrient Content | 42 |
| | Specify Food Amount | 43 |
| | Remove Food from Meal | 43 |
| | Save Daily Menus | 44 |
| | The Analysis Panel | 44 |
| CHAPTER 13 | <i>Food Listing</i> | 49 |
| | By Food Groups | 49 |
| | By Name Search | 51 |
| | By Nutrient Content | 53 |
| | Hide Foods | 53 |
| | Unhide Foods | 54 |
| CHAPTER 14 | <i>Personal Food Groups</i> | 55 |
| | Adding Foods to Personal Food Groups | 55 |
| | Showing Foods in Personal Food Groups | 56 |
| | Removing Foods from a Group | 56 |

Reviewing Food Lists Dialog 56

Specific Program Notes 56

CHAPTER 15

Personal Food Database 57

Adding Foods to Personal Food Database 57

Deleting Foods from Personal Food Database 61

Editing Foods in Personal Food Database 61

CHAPTER 16

Tools 63

Desirable Weight 63

Caloric Need and Nutrient Requirements 65

Caloric Need of Infants 66

Caloric Expenditure of Common Activities 66

Nutrient Analysis 67

Caloric Analysis 69

Set Nutrient Intake Preference 70

Find Food Item with Lowest Content of a Nutrient 71

Find Food Item with Highest Content of a Nutrient 71

Body Mass Index 71

Cholesterol Profiler 73

Food Guide Pyramid 74

Target Heart Rate 75

Weight Tracker 75

Weight Control Planner 77

Weight Projection 78

Diet Tracker 79

Glucose Log 80

Blood Pressure Log 81

Average Caloric Content of Diet 82

Set Fat Warning Level 83

Set Mouse Button Option 83

Choose Printer Font 84
Choose Screen Color 84
Select Nutrients to Print or to Display 84
Set NutriGenie Automatic Menu Generator Options 84
Set Nutrient Intake Target 85
Sort Foods in Listbox by Nutrient Contents 85
Zone Filters 85
Resizing Food Selection Listbox 85

CHAPTER 17 *General Dietary Guidelines* 87

CHAPTER 18 *Automatic Menu Generators* 89

Characteristics of NutriGenie Menus 90
How to Use NutriGenie Menus for Weight Control 90
Frequently Asked Questions about the Automatic Menu Generator (AMG) 91

CHAPTER 19 *Diet Quality Analysis* 95

How NutriGenie Determines Fat, Vitamin and Mineral Qualities of a Diet 96
How NutriGenie Determines the Star Rating of a Diet 97
Is it possible for a diet very low in vitamins and minerals to have a 3-star ('Acceptable') rating? 98

CHAPTER 20 *Product Catalog* 99

This software manual covers the following NutriGenie products:

1. Omega Rx Zone
2. Controlled Carb Diet
3. DASH Diet for Lowering High Blood Pressure
4. High Fiber Diet
5. Optimal Nutrition
6. Mother of All Diets
7. Glucose Revolution Diet
8. S Beach Nutrition Counter
9. Compleat Nutritionist
10. Total Nutrition

Please note that some software features described in this comprehensive manual are not available in all programs. For example, the Zone block calculations are applicable only to our Zone diet programs and do not exist in other NutriGenie software. Also newer features, such

as Diet Quality Analysis, are available only in our latest NutriGenie programs.

For additional information about our software that is not included in this manual, please visit our website: nutrigenie.biz. Please download the free sample software from our website for evaluation before purchasing. The evaluation software is, in almost all respects, identical to the full version. The key difference is that it contains only a sample food database of approximately 800 food items.

NutriGenie's latest zone diet software is the perfect companion to Barry Sears' **Omega Rx Zone**, as well as *Mastering the Zone*, *Zone Food Blocks*, and the *Top 100 Zone Foods*.

In fact, *NutriGenie Omega Rx Zone Diet Software significantly enhances the Omega Rx Zone diet as prescribed by Sears*. Please read on and you will see how. The basic plan of Sears' Omega Rx Zone can be summarized in the following steps:

- Step 1: Every meal starts with an adequate serving of low-fat protein.
- Step 2: Balance the meal with desirable carbohydrates, mainly fruits and vegetables.
- Step 3: Add monounsaturated fat while avoiding saturated and polyunsaturated fats.
- And the most important part of Sears' updated dietary program (Omega Rx Zone as opposed to Zone) is the increased intake of omega-3 fatty acids for modulation of eicosanoids.

NutriGenie Omega Rx Zone Diet automatically calculates the Protein, Carbohydrate and Fat blocks for every food item, whether it is in the provided NutriGenie database or in user's own food database, facilitating the task of balancing a zone meal. This takes care of steps 1 and 2. In fact, balancing a zone meal is made even easier by NutriGenie's graphic indicators which display the current zone status of your meal.

NutriGenie Omega Rx Zone Diet also allows user to accurately monitor the saturated, monounsaturated and polyunsaturated fat contents of every meal. This takes care of step 3.

For the final step, NutriGenie Omega Rx Zone Diet package includes an Omega-3 Counter Windows program that lists approximately 250 common foods with highest concentration of Omega-3. Andrew Stoll, M.D., Director of the Psychopharmacology Research Lab at Boston's McLean Hospital and Assistant Professor of Psychiatry at Harvard Medical School, long ago found that Omega-3 acids, already known for their importance in preventing heart disease and cancer, play a crucial role in mental health— regulating and enhancing mood, sharpening memory, and even aiding concentration and learning. This substance, so essential to our health is often depleted by our Western diet and lifestyle. In addition to these potential benefits, Omega-3 fatty acids have been shown, in several studies, to help fight atherosclerosis and lower blood cholesterol levels. Instead of having to take artificial supplements, you can use NutriGenie Omega-3 Counter to identify and acquire the richest natural sources of Omega-3 fatty acids.

Furthermore, since **Glycemic Index** (GI) is a key factor in evaluating high-quality carbohydrates for the zone diet, NutriGenie Omega Rx Zone Diet software provides the GI ratings (low, medium or high) for over 2,500 commonly used food items in its database. This is the most comprehensive glycemic index rating compilation available in any software product. We aggregate GI measurements from the most

authoritative sources and normalize the ratings into 3 categories: low, medium and high. Users can assign and modify the ratings for any foods in the NutriGenie database or in their own database. With a single command, the user can see all foods in the appropriate GI category for selection. Menu planning using desirable GI foods has never been easier. NutriGenie Omega Rx Zone Diet software is the only software that can analyze your diet and tell you precisely its calorie percentage from low, medium or high GI foods. This is the most meaningful way to assess the glycemic index of one's nutrition.

Finally, *NutriGenie Omega Rx Zone Diet goes beyond what Sears describes in his books*. A healthy diet, zone or any other kind, must be varied. One shouldn't subsist on Zone bars, day in and day out, no matter how zone-balanced they are. A healthy diet, zone or any other kind, must provide adequate vitamins and minerals required for proper functioning and development of human body.

NutriGenie Omega Rx Zone Diet provides crystal clear quality assessments of total fat, vitamin and mineral contents of user's diet.

NutriGenie Omega Rx Zone Diet also provides star ratings for evaluating overall diet quality. Each diet is given a rating from 1 to 5, with 1 being the lowest in quality. Our ratings take into account the latest guidelines issued in September 2002 by the Institute of Medicine, the medical division of the National Academies.

The latest guidelines establish for the first time a range of recommended amounts (Dietary Reference Intakes or DRIs) for macronutrients — proteins, fats and carbohydrates — and also include advice on how much dietary fiber and how little cholesterol or saturated fat people should strive for to maintain good health. Previous reports from the National Research Council over the last 60 years have dealt only with recommended levels (RDAs) of vitamins and minerals.

As software publisher, NutriGenie does not promote or make judg-

ment on any specific diet. We only provide the tools for our users to monitor their nutrition. The only nutrition principles we consistently present in our software so that our users have a basis for comparison are those from the National Institutes of Health and from members of the US National Academies such as the Institute of Medicine, the National Research Council and the National Academy of Sciences.

- **Database:** 8,000 items plus user's own food database
- **Analyses:** RDA, calories, protein, carbohydrate, total fat, saturated fat, monounsaturated fat, polyunsaturated fat, glycemic index, zone blocks.
- **Features:** weight log, diet history, blood pressure log, cholesterol profiler, weight control planner, body mass index, caloric need and caloric expenditure calculators, target heart rate calculator, caloric and nutrient distribution analyzer, search and sort capabilities. Excellent food database management utilities, personal food groups, hide and unhide foods. Personal nutrient intake goals. [Descriptive analyses of daily diet](#) for fat, vitamin and mineral contents. Star ranking of overall diet quality.
- **Requirement:** screen resolution of 960 x 720 or higher.

The perfect companion to Atkins for Life, The Complete Controlled Carb Program for Permanent Weight Loss and Good Health.

Staying on the Atkins diet has never been so easy. This is our latest update of the Atkins diet software series. Its nutrition analysis automatically calculates the unique Atkins Net Carbs values (of over 8,000 food items) to help you stay on the Atkins diet. No other software on the market offer this exquisitely convenient feature.

Whether you are in the Atkins Induction Phase, Ongoing Weight Loss, Pre-Maintenance, or Lifetime Maintenance Phase, you can maximize the benefits of your Atkins diet only by removing the uncertainty of guesswork from your daily nutrition. An example: in your Ongoing Weight Loss Phase, you add just 5 grams of Net Carbs per day in weekly increments until weight loss ceases. Five grams of anything is just over one-sixth of an ounce! If you inaccurately guess your Net Carbs consumption, you might think that you are on the Atkins diet but, in fact, you are not.

In addition, since Glycemic Index (GI) is a main component of the Atkins diet, NutriGenie Atkins for Life Diet software provides the GI ratings (low, medium or high) for over 2,500 commonly used food items in its database. This is the most comprehensive GI rating compilation available in any software product. We aggregate GI measurements from the most authoritative sources and normalize the ratings into 3 categories: low, medium and high. Users can assign and modify the ratings for any foods in the NutriGenie database or in their own database. With a single command, the user can see all foods in the appropriate GI category for selection. Menu planning using desirable GI foods has never been easier. NutriGenie Atkins Diet software is the only software that can analyze your diet and tell you precisely its calorie percentage from low, medium or high GI foods. This is the most meaningful way to assess the GI of one's nutrition.

The new automatic Weight Projection feature takes into account every bite of food you eat and projects your future weight a week or a month away. If you want motivation for weight control, this real-time predictor is the ultimate motivator.

NutriGenie Atkins Controlled Carb Diet is one of our latest and most comprehensive nutrition software with many of NutriGenie unique technologies and analyses, such as star rating of overall diet quality where each diet is given a star rating from 1 to 5, with 1 being the lowest in quality. Our ratings take into account the latest guidelines issued in September 2002 by the Institute of Medicine, the medical division of the National Academies.

The latest guidelines establish for the first time a range of recommended amounts (Dietary Reference Intakes or DRIs) for macronutrients — proteins, fats and carbohydrates — and also include advice on how much dietary fiber and how little cholesterol or saturated fat people should strive for to maintain good health. Previous reports from the National Research Council over the last 60 years have dealt only with recommended levels (RDAs) of vitamins and minerals.

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- **Database:** 8,000 items plus user's own food database.
 - **Analyses:** RDA, calories, protein, carbohydrate, total fat, fiber, glycemic index, Net Carbs.
 - **Features:** weight log, diet history, blood pressure log, cholesterol profiler, weight control planner, weight projection, body mass index, caloric need and caloric expenditure calculators, target heart rate calculator, caloric and nutrient distribution analyzer, search and sort capabilities. Excellent food database management utilities, personal food groups, hide and unhide foods. Personal nutrient intake goals. Descriptive analyses of daily diet for fat, vitamin and mineral contents. Star ranking of overall diet quality.
 - **Requirement:** screen resolution of 960 x 720 or higher.

The DASH diet is based on findings from the "**Dietary Approaches to Stop Hypertension**" a National Heart, Lung, and Blood Institute-supported study that found that elevated blood pressure levels can be reduced with an eating plan low in total fat, saturated fat, and cholesterol, and rich in fruits, vegetables, and lowfat dairy products. Magnesium, potassium, calcium as well as protein and fiber are important components of the DASH diet.

Blood pressure is the force of blood against the walls of arteries. Blood pressure rises and falls throughout the day. But when the pressure stays elevated over time, then it's called high blood pressure or hypertension. High blood pressure is dangerous because it makes the heart work too hard and contributes to atherosclerosis (hardening of the arteries). It increases the risk of heart disease and stroke, the first- and third-leading causes of death among Americans. High blood pressure also can result in other conditions, such as congestive heart failure, kidney disease, and blindness.

High blood pressure affects about 50 million—or one in four—Amer-

ican adults. Some people are more likely to develop it than others. Also, many Americans tend to develop high blood pressure as they get older, but hypertension is not a part of healthy aging. About 60 percent of all Americans age 60 and older have high blood pressure.

The DASH eating pattern has been shown to substantially lower blood pressure without weight loss or reduced sodium intake. More recently, another landmark study, **DASH-Sodium**, has shown that *a combination of the DASH diet and sodium reduction can lower blood pressure even more*. This combination benefits those with and without high blood pressure.

NutriGenie DASH Diet is one of our latest and most comprehensive nutrition software with many of NutriGenie unique technologies and analyses, such as star rating of overall diet quality where each diet is given a star rating from 1 to 5, with 1 being the lowest in quality. Our ratings take into account the latest guidelines issued in September 2002 by the Institute of Medicine, the medical division of the National Academies.

The latest guidelines establish for the first time a range of recommended amounts (Dietary Reference Intakes or DRIs) for macronutrients — proteins, fats and carbohydrates — and also include advice on how much dietary fiber and how little cholesterol or saturated fat people should strive for to maintain good health. Previous reports from the National Research Council over the last 60 years have dealt only with recommended levels (RDAs) of vitamins and minerals.

- **Database:** 8,000 items plus user's own food database.
- **Analyses:** RDA, calories, protein, carbohydrate, total fat, saturated fat, cholesterol, fiber, calcium, magnesium, sodium, potassium, USDA Food Pyramid.
- **Features:** weight log, diet history, blood pressure log, cholesterol profiler, weight control planner, weight projection, body mass index, caloric need and caloric expenditure calculators, target heart

rate calculator, caloric and nutrient distribution analyzer, search and sort capabilities, NutriGenie auto menu generator. Excellent food database management utilities, personal food groups, hide and unhide foods. Personal nutrient intake goals. Descriptive analyses of daily diet for fat, vitamin and mineral contents. Star ranking of overall diet quality.

- **Requirement:** screen resolution of 960 x 720 or higher.

*"new nutritional recommendations issued today
by the National Academy of Sciences ...
urge more fiber in the diet"*
Washington Post
September 5, 2002

This software was developed in collaboration with Dr. James W. Anderson and his staff at the University of Kentucky College of Medicine.

Dr. Anderson is **Professor of Medicine** and **Clinical Nutrition** at the **University of Kentucky**. His research interests relate to diabetes, blood lipid disorders, obesity and nutrition. He pioneered the use of high fiber diets for treatment of diabetes.

Dr. Anderson was listed among "The Best Doctor's in America" in 1999 and is the Secretary-Treasurer of the American College of Nutrition.

He serves on the Editorial Boards of the following publications: Diabetes Self-Management, 1987-present; Prevention, 1989-present; PRIME Health and Fitness, 1998-present; Editor, HCF Diabetes and Nutrition Newsletter.

Dr. Anderson's HCF Nutrition Plan

Diabetes

Generous fiber intake lowers blood glucose levels, reduces insulin needs and improves blood glucose control. An HCF Nutrition Plan helps control diabetes with diet rather than medicine by reducing (for Type 1) or eliminating (for Type 2) the need for medicines or insulin.

High Cholesterol

Foods rich in soluble fiber, such as oat products and beans, lower blood cholesterol. An HCF Nutrition Plan lowers blood cholesterol and other blood fats by as much as 30%, reducing the risk for heart disease by 60%.

High Blood Pressure

High Fiber intake lowers blood pressure 10% or more. Since the HCF Nutrition Plan emphasizes unprocessed foods such as fresh fruits and vegetables, it is low in sodium and high in potassium, calcium, magnesium. Sodium contributes to high blood pressure in many individuals.

Obesity

High fiber diets promote weight loss and increases satiety. Dr. Anderson's successful weight control approach combines an HCF Nutrition Plan with regular exercise, fostering lifelong weight management.

Heart Disease

People with high fiber intake experience less heart disease than those with low fiber intake. An HCF Nutrition Plan protects against heart disease by reducing risk factors such as high blood fats, high blood pressure and obesity.

For additional information about Dr. Anderson and his research, please visit Anderson.org.

This software contains many of [NutriGenie unique technologies and analyses](#), such as star rating of overall diet quality. Each diet is given a star rating from 1 to 5 making it superbly convenient to assess the quality of one's nutrition. After all, the best diet is about more than any one single aspect of nutrition. The best diet should minimally be nutritious, balanced and varied. No software from our competitors can provide the [sophisticated nutrition evaluation](#) that ours does.

*NutriGenie **High Fiber Diet** incorporates the September 2002 guidelines issued by the Institute of Medicine, the medical division of the National Academies.* The latest guidelines establish for the first time a range of recommended amounts (Dietary Reference Intakes or DRIs) for macronutrients — proteins, fats and carbohydrates — for maintenance of good health. Previous reports from the National Research Council over the last 60 years have dealt only with recommended levels (RDAs) of vitamins and minerals.

- **Database:** 8,000 items plus user's own food database.
- **Analyses:** RDA, calories, protein, carbohydrate, total fat, dietary fiber, [USDA Food Pyramid](#).
- **Features:** weight log, diet history, blood pressure log, cholesterol profiler, weight control planner, [weight projection](#), body mass index, caloric need and caloric expenditure calculators, target heart rate calculator, caloric and nutrient distribution analyzer, search and sort capabilities, NutriGenie auto menu generator. Excellent food database management utilities, personal food groups, hide and unhide foods. Personal nutrient intake goals. [Descriptive analyses of daily diet](#) for fat, vitamin and mineral contents. Star ranking of overall diet quality.
- **Requirement:** screen resolution of 960 x 720 or higher.

Our latest and most comprehensive nutrition software with many of NutriGenie unique technologies and analyses. The program analyzes nearly 30 nutrients in user's diet and has almost all utilities available in other NutriGenie products.

If you wish to choose a single general nutrition program from our catalog, Optimal Nutrition is our recommendation. It is the latest update of our most frequently licensed software by universities and health facilities worldwide and has been translated into other languages.

Optimal Nutrition is the first, and so far, the only, nutrition analysis software in existence that incorporates the September 2002 guidelines issued by the Institute of Medicine, the medical division of the US National Academies. The latest guidelines establish for the first time a range of recommended amounts (Dietary Reference Intakes or DRIs) for macronutrients — proteins, fats and carbohydrates — and also include advice on how much dietary fiber and how little cholesterol or saturated fat people should strive for to maintain good health. Previous reports from the National Research Council over the last 60

years have dealt only with recommended levels (RDAs) of vitamins and minerals.

In a single program, user can evaluate his daily nutrition based on any of the following diet guidelines:

- the Food Guide Pyramid Nutrition from the USDA or American Diabetes Association,
- the American Heart Association nutrition recommendations,
- the Glycemic Index Diet,
- the Low-Carbohydrate, High-Protein Diets, such as Atkins diet.

The **Food Pyramid** analysis is provided for every single item in the NutriGenie food database and user's daily nutrition is analyzed and displayed not only in numbers but graphically. This is a superb tool for those who wish to follow the American Diabetes and American Heart Associations' guidelines.

Low-carb, high-protein dieters can use Optimal Nutrition to count their carb, protein and fat grams. Percentage of calories from carbohydrate, protein, or fat is displayed for each food item, each meal or for the day.

In addition, the program provides a unique **glycemic index** (GI) indicator for over 500 common foods. One single mouse click will show you all high, medium, or low GI foods in the database. You can assign or re-assign GI values to any foods in the NutriGenie database, or in your personal food database. Optimal Nutrition automatically calculates the percentage of your daily calorie consumption attributable to each of these GI categories. No other existing software on the market offers this functionality.

NutriGenie diet software is for the informed and sophisticated users. It can be used to monitor special diets but it also provides the U.S. **Recommended Dietary Allowances** for comparison. Users can set

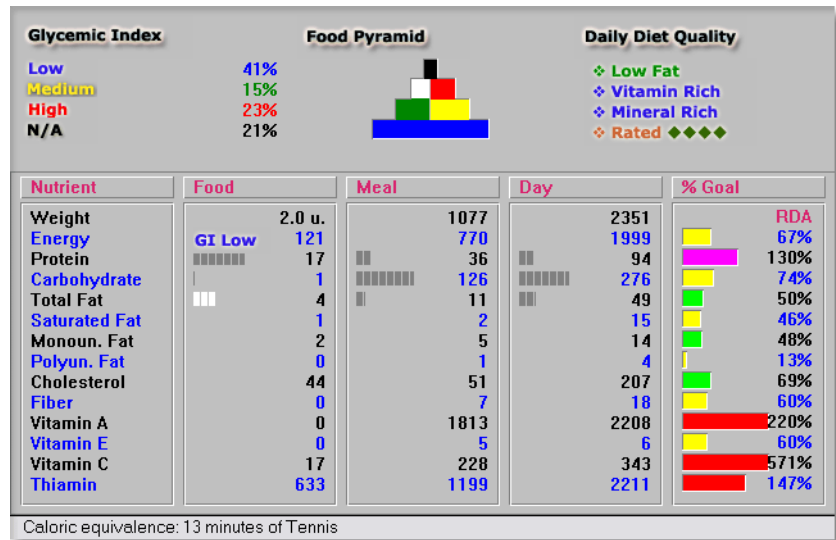
their own nutrient intake preferences and the program's superb graphic interface makes identifying an optimal diet a breeze.

Last but not least, Optimal Nutrition can automatically generate literally thousands of menus based on user's calorie specification. These balanced menus follow the Food Guide Pyramid principles and are within a few calories of specification. Again, no existing diet software offers this unique capability.

- **Database:** 8,000 items plus user's own food database.
- **Analyses:** RDA, calories, protein, carbohydrate, total fat, saturated fat, monounsaturated fat, polyunsaturated fat, cholesterol, fiber, vitamin A, vitamin E, vitamin C, thiamin, riboflavin, niacin, vitamin B6, folate, vitamin B12, calcium, phosphorus, magnesium, iron, zinc, copper, sodium, potassium, alcohol, USDA Food Pyramid.
- **Features:** weight log, diet history, blood pressure log, cholesterol profiler, weight control planner, body mass index, caloric need and caloric expenditure calculators, target heart rate calculator, caloric and nutrient distribution analyzer, search and sort capabilities, NutriGenie auto menu generator. Excellent food database management utilities, personal food groups, hide and unhide foods. Personal nutrient intake goals. Descriptive analyses of daily diet¹ for fat, vitamin and mineral contents. Caloric distribution based on glycemic index ratings of foods. Star ranking of overall diet quality.
- **Requirement:** screen resolution of 960 x 720 or higher.

1. See "Diet Quality Analysis" on page 95

Optimal Nutrition Screen Shots



In a single glance, the user can see the evaluation of his diet based on the glycemic index ratings, the USDA and ADA food guide pyramid,

as well as the NutriGenie Diet Quality Analysis. For more information see “Diet Quality Analysis” on page 95.

See also “Mother of All Diets Screen Shots” on page 29 for further description of the NutriGenie main window.

NutriGenie Mother of All Diets (MAD) is simply the most remarkable diet software on the market. In a single program, user can evaluate his daily nutrition based on any of the following diet guidelines:

- the Food Guide Pyramid Nutrition from the USDA or American Diabetes Association,
- the American Heart Association nutrition recommendations,
- the Zone Diet by Barry Sears,
- the Glycemic Index Diet,
- the Low-Carbohydrate, High-Protein Diets, such as Atkins diet.

The **Food Pyramid** analysis is provided for every single item in the NutriGenie food database and user's daily nutrition is analyzed and displayed not only in numbers but graphically. This is a superb tool for those who wish to follow the American Diabetes and American Heart Associations' guidelines.

NutriGenie Mother of All Diets is also an excellent companion to **The Zone, A Dietary Road Map** and **Mastering the Zone** by Barry

Sears. The software analyzes your diet using macronutrient blocks as well as convenient household units. It automatically calculates the protein - carbohydrate ratio in your daily diet and lets you know whether your nutrition is in the Zone or not.

Low-carb, high-protein dieters can use MAD to count their carb, protein and fat grams. Percentage of calories from carbohydrate, protein, or fat is displayed for each food item, each meal or for the day.

In addition, the program provides a unique **glycemic index** (GI) indicator for over 500 common foods. One single mouse click will show you all high, medium, or low GI foods in the database. You can assign or re-assign GI values to any foods in the NutriGenie database, or in your personal food database. MAD automatically calculates the percentage of your daily calorie consumption attributable to each of these GI categories. No other existing software on the market offers this functionality.

NutriGenie diet software is for the informed and sophisticated users. It can be used to monitor special diets but it also provides the U.S. **Recommended Dietary Allowances** for comparison. Users can set their own nutrient intake preferences and the program's superb graphic interface makes identifying an optimal diet a breeze.

Last but not least, MAD can automatically generate literally thousands of menus based on user's calorie specification. These balanced menus follow the Food Guide Pyramid principles and are within a few calories of specification. Again, no existing diet software offers this unique capability.

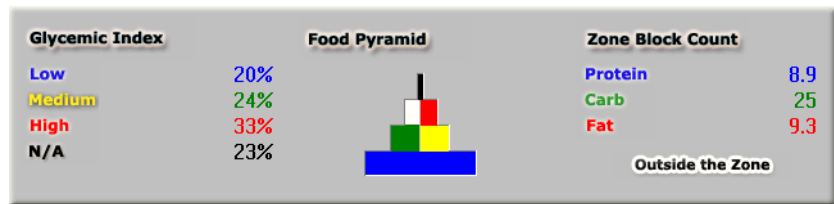
- **Database:** 8,000+ items plus user's own food database
- **Analyses:** RDA, calories, protein, carbohydrate, total fat, Protein Block, Carbohydrate Block, Fat Block, glycemic index, Food Guide Pyramid.
- **Features:** automatic menu generator, weight log, diet history, weight control planner, body mass index, caloric need and caloric

expenditure calculators, target heart rate calculator, caloric and nutrient distribution analyzer, search and sort capabilities, convenient food database editing and organizing tools.

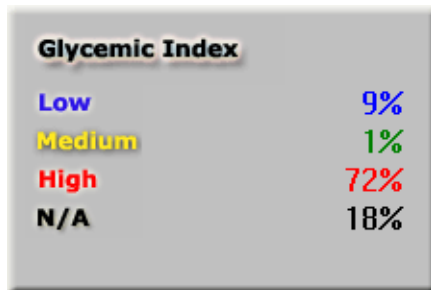
- **Requirement:** screen resolution *higher* than 800 by 600.

Mother of All Diets

Screen Shots



In a single glance, the user can see the evaluation of his diet based on the glycemic index ratings, the USDA and ADA food guide pyramid, as well as the zone diet. In this example, the percentages of calories from Low, Medium, and High GI foods are 20%, 24%, and 33%, respectively. The rest, 23%, is from foods unassigned to any GI rating group. His daily nutrition is quite balanced according to the Food Pyramid. However, his daily nutrition is not zone-favorable: he consumes 8.9 protein blocks, 25 carb blocks and 9.3 fat blocks. His carbohydrate/protein ratio is outside the zone.



An example of high GI diet where 72% of calories come from high GI foods.



An example of imbalanced diet where consumption of foods in the Meat Group is relatively high. The NutriGenie Food Pyramid Analysis dialog gives more detailed analysis.



This diet is in the Zone. The carbohydrate-protein ratio is close to 1.

| Nutrient | Food | Meal | Unit |
|--------------|--------------------|------|----------|
| Weight | 1.0 units | 439 | gram |
| Energy | GI High 237 | 398 | Calories |
| Protein | | 11 | gram |
| Carbohydrate | | 53 | gram |
| Total Fat | | 13 | gram |

Caloric equivalence: 26 minutes of Tennis

Calories, protein, carbohydrate and fat grams are tallied for each food item, for the current meal as well as for the day. In the above example, the selected food's glycemic index is rated High. The food item contains 237 calories, 2 grams of protein, 31 grams of carbohydrate and 11 grams of fat. The gray and white blocks on the left side indicate the percentages of calories from protein, carbohydrate and fat for this food. Each block represents 10%. This means less than 10% of the food's calories comes from protein, more than 50% from carbohydrate and more than 40% from fat! The fat percentage is highlighted in white instead of gray because the user has set a Fat Warning level of 30% above which the software flags all fatty foods.

Similarly, the current meal's calories from fat is slightly higher than 30% and this fatty meal is also flagged.

The user has set his Favorite Activity to Tennis in the Caloric Expenditure dialog, therefore the software automatically converts the calorie intake from the food item to the calorie expenditure of the exercise: the user would have to play approximately half an hour of tennis to expend the 237 calories from this food.

| Nutrient | Day | % Goal | Unit |
|--------------|------|--------|----------|
| Weight | 1996 | | gram |
| Energy | 1799 | 67% | Calories |
| Protein | 65 | 100% | gram |
| Carbohydrate | 266 | 80% | gram |
| Total Fat | 41 | 46% | gram |

Other meals are less fatty, however, and the day's fat consumption is just over 20% of calories. The software calculates the percentages of energy and macro nutrient consumption against the RDA. This is a relatively low-calorie (just under 1800 calories) diet for weight loss so the calories consumed is only 67% of the amount recommended for maintaining current weight. The protein consumption is 100% of the RDA. Eighty percent of recommended carbohydrate and 46% of the allowed fat grams are consumed.

Our software also lets the user set his own personal calorie or nutrient intake goals. The color indicators yellow, green, magenta and red signal the intakes below goal, on target, just above target or way above target, respectively.

Glycemic index (GI) is a rating system for evaluating how different foods affect blood sugar levels. This system has been used to select foods and create diets that aim to control obesity, manage diabetes, etc.

NutriGenie Glucose Revolution Diet software has the GI ratings (low, medium or high) for over 2,500 commonly used food items in its database. This is the most comprehensive GI rating compilation available in any software product. We aggregate GI measurements from the most authoritative sources and normalize the ratings into 3 categories: low, medium and high. Users can assign and modify the ratings for any foods in the NutriGenie database or in their own database. With a single command, the user can see all foods in the appropriate GI category for selection. Menu planning using desirable GI foods has never been easier.

Besides evaluating individual foods based on their GI, the software also provides a unique food guide pyramid analysis of user's diet to make sure that it is nutritious and balanced. In addition, millions of

well-balanced daily menus can be automatically generated by the software based on user's calorie specification.

Our latest and most comprehensive Glycemic Index nutrition software contains many of [NutriGenie unique technologies and analyses](#), such as star rating of overall diet quality. Each diet is given a star rating from 1 to 5 making it superbly convenient to assess the quality of one's nutrition.

*NutriGenie **Glucose Revolution Diet** incorporates the September 2002 guidelines issued by the Institute of Medicine, the medical division of the National Academies.* The latest guidelines establish for the first time a range of recommended amounts (Dietary Reference Intakes or DRIs) for macronutrients — proteins, fats and carbohydrates — for maintenance of good health. Previous reports from the National Research Council over the last 60 years have dealt only with recommended levels (RDAs) of vitamins and minerals.

- **Database:** 8,000 items plus user's own food database.
- **Analyses:** GI, RDA, calories, protein, carbohydrate, total fat, dietary fiber, USDA Food Pyramid.
- **Features:** weight log, diet history, blood pressure log, cholesterol profiler, weight control planner, body mass index, caloric need and caloric expenditure calculators, target heart rate calculator, caloric and nutrient distribution analyzer, search and sort capabilities, NutriGenie auto menu generator. Excellent food database management utilities, personal food groups, hide and unhide foods. Personal nutrient intake goals. [Descriptive analyses of daily diet](#) for fat, vitamin and mineral contents. Caloric distribution based on glycemic index ratings of foods. Star ranking of overall diet quality.
- **Requirement:** screen resolution of 960 x 720 or higher.

Please note that some features are program specific and not available in all programs. Please visit our website *nutrigenie.biz* for the feature list of a particular software.

- Try all buttons, icons and menu commands at least once to see what features the program offers.
- If the tooltip feature is not available for icons on the toolbar, click on an icon and hold down the mouse button to see the icon's function on the status bar at the bottom of the main NutriGenie window.
- Refer to “The Analysis Panel” on page 44 for meanings of the graphic symbols.



- Use Search function to find foods. Try both global (alt-g) and local (alt-l) searches as well as 'exclude' search (using !). Global search find foods in both NutriGenie and user's personal database. Local search looks for foods only in listbox. See “By Name Search” on page 51.



- Click and drag mouse for quick food amount input. Try both left and right mouse buttons, set them to different common quantities. See “Set Mouse Button Option” on page 83.



- Use Find Max to locate food that causes excessive nutrient intake. See “Find Food Item with Highest Content of a Nutrient” on page 71.

- Copy and paste meals to reuse favorite menus. See “Copy and Paste Meals” on page 40.
- Hide foods you don't use and copy frequently used foods to personal food lists or exchange lists for easy retrieval of favorite foods. See “Hide Foods” on page 53 and “Adding Foods to Personal Food Groups” on page 55.



- Use NutriGenie Automatic Menu Generator for suggestions of well-balanced daily menus that meet your caloric requirement.¹

1. Feature not available in all programs.



- Use NutriGenie Automatic Exchange Menu Generator for suggestions of daily menus that meet your ADA exchange requirement and use only the foods you specify.²



- Use Pyramid Analysis to see if your diet is well-balanced.³

-
2. Feature not available in all programs.
 3. Feature not available in all programs.

This window is where you prepare your menus for each meal of the day. Our software follows the Multiple Document Interface convention so you can have several windows open at the same time and you can copy meal from one window then paste it to another just like copying and pasting text.

There are several ways to prepare your menus. You can have the meals generated automatically¹ by NutriGenie using the food exchange options or the calorie value you specify. Or you can prepare the menus manually.

Select a Meal

To modify a daily food consumption document, you first select a meal you want to record the data for. There are 6 meals in a day:

-
1. The automatic menu generator feature is not available in every program.

Breakfast, Morning Snack, Lunch, Afternoon Snack, Dinner and Evening Snack. Select one from the left pull-down list box.

Then you select a food group from the right hand side pull-down list box.² It is easy to get to the food group you want: once the input focus is at the food group combo box (by tabbing to or clicking the mouse on this control), you can type just the first letter of the food group and the next group name starting with that letter will be displayed. Repeating a character will cycle all the group names with that starting character through the combo box.

Copy and Paste Meals

If you would like to reuse a meal (or repeat a few food items) in your diet, here is a convenient way to do so: prepare the meal (or the food items) you plan to reuse. Copy or cut it to the clipboard; then go to another meal or open another day's file and paste to a new meal! The serving information is retained, not just the food name. When you insert a meal into a partially planned meal, the inserted food items will appear immediately below the currently selected food item in the receiving meal.

You can also delete all food items from a meal by using the Edit Clear All command or the Clear All icon.

Browse Food Databases

The program lists foods in a food group by default. You can display food group names in normal order or reverse this order.

2. Depending on the program's database, there are approximately 30 to 50 food groups.



displays food group names in normal order.



displays food group names in reverse order.



This icon lists foods in your personal food database.



This icon lets you search for foods by their names.

Select a Food Item

Highlight a food item in the right listbox, click on the 'I Eat' button. This item will be recorded in the meal you selected. You can also just double-click the food item without using the 'I Eat' button.

If necessary, you can adjust the amount consumed for a food item by typing the desired amount in grams in the edit control above the '*Am(oun)t. OK*' button. Once the right amount has been typed in, click on '*Amt. OK*' to confirm and record this value.

For your convenience, we have provided 2 popup menus which you can use to quickly adjust the amount of servings:

- a left mouse button click anywhere on the background of the document window will display a selection of common serving sizes. If the serving size is 1 cup (the serving size or unit is enclosed in square brackets, for example, [1 cup]), selecting .5 indicates that you consume half a cup of a particular food item. How much half a cup weighs and the nutrient contents of this amount of food are adjusted and recorded automatically for you. You can turn off this feature via the Options menu.

- a right mouse button click will display a selection of common servings in grams, ounces, or common serving sizes. When you release the mouse button after selecting an amount, the amount in the edit box and other data will be updated automatically. You can also choose the preferred input type via the Options menu.

Quick Serving Entry in Ounces

This option allows you to hold down the right mouse button on the main window's background and select one of the standard serving sizes in ounces for quick data input.

Quick Serving Entry in Grams

This option allows you to hold down the right mouse button on the main window's background and select one of the standard serving sizes in grams for quick data input.

Quick Serving Entry in Common Serving Sizes

This option allows you to hold down the right mouse button on the main window's background and select one of the standard serving sizes for quick data input.

Sort Foods by Nutrient Content

Select either



to sort foods in ascending order or nutrient content, or



in descending order.

A floating menu will appear inside the listbox, you can then select the nutrient you would like to sort on. Once the list box is sorted, you can single click on a food item to review its nutrient's content. Please note that the nutrient contents sorted on are normalized to be based on each 100g of food item; this makes direct comparison between food items easier. A sort is valid only for the current content of the list box, this means if you move to another food group or do another food search, the new content will be listed in alphabetical order (except for the search content). *When the list box is sorted, a small square appears inside a sort icon to indicate which sort sequence is in effect.*

Specify Food Amount

If necessary, you can adjust the amount consumed for this food item by typing the desired amount in the edit control above the 'Am(oun)t. OK' button. Once the right amount has been typed in, click on 'Amt. OK' to confirm and record this value. You need to use this button only when you manually enter the weight in the edit control.

Hint: Click left or right mouse button on the window's background to select a standard food amount for fast adjustment of quantity. You don't need to click on 'Amt. OK' when the portion is selected this way.

Remove Food from Meal

If a food item is not what you intended to add to a meal, you can highlight it and then click on the 'Delete' button to remove it from your meal.

You can display the graphic caloric analysis of a food item in a meal by selecting an entry in your meal food consumption then click on the

graph icon. A graph will appear to show you the percentages of calories of this food item that come from fat, protein and carbohydrate. To review the caloric analysis of your day food consumption, select the 'Caloric analysis...' menu item from the 'View' menu. [The graph icon is not available in all programs.]

Repeat the food selection process for each meal, omitting the meals where you don't eat any food.

Save Daily Menus

When you are done, you can save the day food consumption data for later review or for use in your weight control planning. Use 'File' 'Save As...' or the diskette button on the toolbar.

The Analysis Panel³

The analysis panel is the gray panel in the lower half of your screen. The panel is divided into 6 sections except when the 2-column display mode is selected.

- The Information section contains the names of the nutrients being analyzed and the weight or serving size of a food item.
- The Food Item, Meal Total, and Day Total sections contain the numerical values of the contents of various nutrients in the food item, in a meal, and daily diet, respectively. They also show the caloric percentages from protein, carbohydrate and fat in bar graph format. Each full fraction of a bar represent 10% of caloric contribution from the nutrient. When the percentage of calories from fat





3. See page 31 for illustrations.

exceeds that of user's specified value, the bar color is displayed in white instead of dark gray.



- The Glycemic Index Indicators⁴





TABLE 1. GI Indicator Color Coding

| Symbol | Color | Value |
|---|--------|--------------------------|
|  | Gray | GI value is not assigned |
|  | Green | GI value is LOW |
|  | Yellow | GI value is MEDIUM |
|  | Red | GI value is HIGH |

4. Glycemic Index indicators are available in some programs only.

- Zone-Favorable Indicators⁵




TABLE 2. Zone Diet Color Coding

| Symbol | Color | Favorability | Value |
|---|--------|-------------------------|----------------------------------|
|  | Gray | Outside favorable range | less than .6 or more than 1.0 |
|  | Yellow | Close to ideal ratio | from .6 to .65 or from .9 to 1.0 |
|  | Orange | Closer to ideal ratio | from .65 to .7 or from .8 to .9 |
|  | Red | Closest to ideal ratio | from .7 to .8 |

- The % RDA section shows the percentage of Recommended Dietary Allowances⁶ for your daily diet both numerically and graphically. The color of the bar graph correspond to user's own personal Nutrient Intake Preference. Starting with version 4.6, users can choose to display their nutrient intake as percentage of U.S. RDA or of their own personal preference. The percentage is based on the RDA or the upper end of user's intake preference respectively. Nutrient intake as percentage of goal is color coded, allowing immediate visual assessment of the diet:

5. Zone-Favorable indicators are available in some programs only.

TABLE 3. Nutrient Intake Indicators

| | Color | Indication |
|---|--------------|--------------------------|
|  | Yellow | Below Goal |
|  | Green | Within Goal |
|  | Magenta | Somewhat above Goal |
|  | Red | Significantly above Goal |

- The Unit section lists the unit of measurement for each analyzed nutrient.

-
6. The RDA figures are for the average normal and healthy people in the United States under usual environment stresses. Your optimal personal requirements may be different. In addition, diets should be based on a variety of common foods to provide other nutrients for which human requirements have been less well defined.

In general, you should strive to achieve a balanced diet which is reflected by the green bars the analysis displays. Excessive consumption of certain nutrients is not desirable.

You can set your own preferred nutrient intake levels and the analysis colors are modified accordingly: a yellow bar is displayed when the current intake is below your desired range; green when within range; magenta when moderately above range and red when much higher than your preferred range.

Please note that the personal preferred nutrient intake specifications affect only the color of the analysis bars. The RDA percentage values are always based on the standard Recommended Dietary Allowances for a healthy person in your category (age, weight, life style).

Strictly speaking, there is no RDA for carbohydrates. However, the Food and Nutrition Board of the National Academy of Sciences recommends that more than half the energy requirement beyond infancy be provided by carbohydrates.

- Different programs offer different additional information on the analysis panel. For example, our Zone diet programs provide macronutrient block calculation, glycemic index indicator; some programs provide the K-factor analysis or Cholesterol-Saturated Fat Index.

There are several ways to display the food list. The most common ways are described below.

By Food Groups

In this mode, the default mode, you will see a pull down listbox that contains approximately 30 food groups such as "Cookies", "Oils", "Beef", etc. By selecting any of these food groups, the food items belong to the group will be displayed in the list box immediately below. This mode is useful when you want to browse through the standard database, or when you want to do your menu planning which requires selection of foods from different food groups.

Since there are about 30 food groups and the average screen may not display all 30 food groups at a time in a drop down list box, there are 2 icons to facilitate your viewing of the food groups. By alternating between these 2 icons, you can see the complete list of food groups in

the drop down list box. You can also select a food group by typing the first character of its name when this list box has the focus.



displays food groups in normal order in drop down list box.



displays food groups in reverse order in drop down list box.

The food groups in the NutriGenie 8,000-entry database are:

1. Milk, Yogurt, Cream, Milk Drink
2. Ice cream, Cheese, Pudding, Milk products
3. Eggs, Egg products
4. Beef
5. Pork, Ham, Bacon
6. Lamb, Veal, Game
7. Poultry
8. Liver, Organ meats
9. Sausages, Lunch meats, Hot Dog
10. Fish, Shellfish
11. Sandwiches, Burger, Pizza
12. Mixed dishes with meat
13. Mixed dishes with vegetable
14. Mixed dishes with grain products
15. Soups
16. Breads, Rolls, Flour
17. Cakes
18. Pies, Pastries
19. Cookies, Crackers, Other grain products

20. Cooked Cereals, Rice, Pasta
21. Cereals not cooked
22. Fruits, Citrus, Juices
23. Legumes, Nuts, Seeds
24. Vegetables
25. Potatoes
26. Pickles, Relishes, Olives
27. Fats, Oils, Salad dressing
28. Sugars, Sweets
29. Beverages, non-alcoholic
30. Beverages, alcoholic

By Name Search

This is one of the most convenient features of NutriGenie programs. It allows you to find any particular food items from the standard and user databases without your having to browse through different categories of food groups.



When search mode is selected, an edit control is displayed in place of the Food Group combo box and 2 search icons are shown. You type in the name of the food item you want to find, for example "apple", then click on one of the search icons. The list box will be filled with all food items containing "apple". You don't need to type in a complete word: "app" will suffice. On the other hand, when there are too many matching food items, you might want to restrict the match by specifying longer name such as "apple juice" or do a local search after having the result of the global search. The search is not case sensitive: you can use lower or upper case letters and this won't affect the result.

To exclude food items, use ! (the exclamation point) before the text string. Search on !spinach will display all items that do not have 'spinach' in their names.

The program will look for matching entries not only in the standard food database that comes with your software but also in your own personal food database.

The matched food items displayed in the list box can be selected as those in any other mode.

In the registered version of the software, there is no restriction on the size of the user database on which the search will be performed. However, memory limitation of your system might prevent the display of all matched entries in the list box. In this case, a message box will appear to alert you of this situation.

In the evaluation version, search will be performed on the abbreviated standard database and on the first several records of the user database.



Global search: searches both the NutriGenie and user databases for a food item containing or not containing a text string.



Local search: searches only the listbox's content for food items containing or not containing a text string. This is convenient for pruning down a previous search result which might contains hundreds of food items.

Tip: After entering the text to be searched, you can use Alt-G to do a global search or Alt-L to do a local search without having to use the mouse to click on a search icon.

By Nutrient Content

You can quickly identify food items high or low in certain nutrients by sorting them. Since the nutrient values are those contained in 100g of each food item, you can directly compare different items and easily select the appropriate foods to meet your dietary requirement.



Clicks this icon to sort the items in the listbox in ascending order. A selection menu will appear to let you specify which particular nutrient you want to sort on.



Clicks this icon to sort the food items in descending order.



This icon indicates the food items are sorted in ascending order, click on a food item in the listbox to see the nutrient's value.



This icon indicates the food items are sorted in descending order, you can click on a food item to view the particular nutrient's content.

Foods in the standard NutriGenie database can be hidden and unhidden to allow convenient browsing of the food database. You might want to hide all foods that you don't normally use to reduce the number of foods to scroll through in the food listbox. Foods that are hidden will not show up in a search.

Hide Foods

There are 3 ways to hide foods:

- one food at a time: select a food entry in the listbox under the NutriGenie food groups combobox. Then choose the 'hide food' menu item to hide this food. The food is automatically removed from the listbox and will not show up again.
- a whole meal at a time: if there are NutriGenie foods in a meal, all of them can be hidden at your request. You can use any meal to accumulate the various foods you wish to hide and hide them all at the same time.
- all foods in food listbox (from version 4.5a): this method is most convenient for hiding whole categories of foods you don't eat. For example, if you are allergic to cashew, you can do a global search for 'cashew' then hide all the found foods.

Note: You can review the hidden food list and unhide any items you wish to restore.

Unhide Foods

You can unhide foods one item at a time. You must first show the hidden foods, then select the item you wish to restore to the database.

Users can create personal food groups to facilitate their accessing frequently used food items. In some programs, personal food groups are used for special lists such as High GI, Good Carbohydrate Foods, etc.

Adding Foods to Personal Food Groups

There are 3 ways to add foods to personal food groups:

1. one food at a time: select a food entry in the listbox under the NutriGenie food groups combobox. Then choose the 'add' menu item to add this food to desired food groups. A food can be added to more than one personal food groups.
2. a whole meal at a time: if there are NutriGenie foods in a meal, all of them will be added to the desired group at your request. You can use any meal to accumulate all the foods you wish to group together and add them all at once.
3. all foods in the right-side food selection listbox at a time.

Showing Foods in Personal Food Groups

If a group contains at least 1 item, this command will be enabled.

Removing Foods from a Group

You can remove foods one item at a time. All the groups that an item belongs to are highlighted on the pulldown menu.

Reviewing Food Lists Dialog

This dialog box provides a summary of food counts in exchange and meal groups. You can clear all food items from a list by clicking on the 'Clear' button.

Note: In programs that incorporate the ADA Exchange System, the Personal Food Groups are replaced by the Food Exchange Groups and the Meal Groups. When a food item is assigned to an exchange groups, its serving size should be that of 1 exchange in this group.

Specific Program Notes

- *Zone Diet Meal Planner:* the macronutrient blocks (Protein Blocks, Carbohydrate Blocks, and Fat Block) replace the personal food groups. Operations on these blocks are similar to those on the Personal Food Groups or Food Exchange Groups.
- *Rotation Diet Meal Planner:* the personal food groups can be used to organize allergen lists or they can be used to extend the number of days in user's rotation cycle.

Occasionally you may not find a food item in the standard database. What do you do when you've just eaten a serving of Haagen-Dazs ice cream? Or want to include a favorite ethnic TV dinner in your weekly plan? Most of these items do have nutritional information on their packaging. NutriGenie program can access and use their nutritional information once you've entered the data into your personal food database. The registered version of the software does not set an upper limit on the number of food items in the user's personal database.

Choosing Personal Food Database from the Options menu will display all food items from your database in the list box. This mode is convenient when your diet consists mainly of special food items or when you just want to browse the contents of your data.

Adding Foods to Personal Food Database

Starting with version 4.2, all of our software products offer a convenient dialog to add food to the user's food database. You will need to

fill in the food name, its serving designation (1 cup, 1 fruit, etc.), its food group (for pyramid analysis, if this feature is available) and nutrient information and click the 'Add' button. If any nutrient information is not available, you can enter an approximation. Naturally, nutrition analysis for food items with missing data is not as complete as for existing food items in the NutriGenie database.

We have also made it very easy for you to customize the existing food data or add recipes without having to obtain all the nutrient information or retyping it.

- *Customizing existing food entries:* You can copy existing food entries from the program's standard food database, modify them then add these entries to your personal database. For example the hamburger you make at home is especially low in sodium. You can create an entry for this item by selecting a similar hamburger entry from the standard database and add it to a blank meal. When you bring up the Edit Food Database dialog box, its nutrient information will have been filled in for your modification. Just reduce the sodium content, give the entry a name then click on 'Add'.
- *Adding recipes to user's database:* Suppose your favorite snack is a glass of milk and a couple of almond cookies. Just select a blank meal, add these items to it, then bring up the Edit Food Database dialog box. The nutrient data in the dialog box are those of all the items in this meal.

Food Group Selection

[This item is applicable only to programs having the USDA Food Pyramid Analysis feature.]

Please select Group 1 only if an item belongs to the Sweets category. The number of Fats servings is calculated automatically for you so do not specify 1 for a Fat item.

Important: Every entry in your personal food database should reflect one serving of that food. This allows the food pyramid analysis to

accurately calculate the number of servings of each food group in your diet. If you don't know the weight of one serving of your food, you should use an approximation.

Format of the user's food database

Note: Read this section only if you wish to edit the personal food database using a text editor or by exporting data from a database software.

The user food database is a file named '*userfood.txt*'. The file can be edited using any plain text editor such as the Windows notepad program. You can also use a database program such as Access, FoxPro, or Paradox, etc. to create this database and export/save the database to/in the plain text format.

A sample format of each record (entry, line) in this database is:

- food name in double quotes (e.g., "Quarter Pounder with Cheese")
- weight of 1 serving in grams (e.g., 184)
- calories from 1 serving in Kcalories (e.g., 560)
- protein from 1 serving in grams (e.g., 32)
- carbohydrate from 1 serving in grams (e.g., 37)
- total fat from 1 serving in grams (e.g., 30)
- other nutrients
- food group (1 to 6) (e.g., 3)

Each food item must be stored on a single line and each nutrient information is separated from one another by a comma so the above food item is recorded as:

"Quarter Pounder with Cheese", 184, 560, 32, 37, 30, ..., 3

Space(s) before or after the commas is optional. Food group information is recorded last on line.

Water data, when available, are specified in milliliter (ml) or gram (g). One ml of water weighs one gram.

Hint:

- Please print out the file 'userfood.txt' for sample entries. The order of the nutrient data follows the order of the nutrients as displayed in the main window.
- When you add new entries to userfood.txt, it's best to append the new entries to the end of the database to maintain the existing order of previously entered foods.
- The current maximum length of each entry is 120 characters. The food name, therefore, should be limited to approximately 80 characters or less.

Food Group Data Entry

Please note that there are 6 pyramid food groups:

Group 1: Fats and Sweets

Group 2: Milk, Yogurt, and Cheese

Group 3: Meats, Poultry, Fish, Dry Beans and Peas, Eggs, and Nuts

Group 4: Vegetables

Group 5: Fruits and Juices

Group 6: Breads, Cereals, Rice and Pasta

Enter 2 for items belong to Group 2. Enter 3 for Group 3, and so on.

Important:

- Please enter 1 (for Group 1) only if an item belongs to the Sweets category. The number of Fats servings is calculated automatically for you so do not specify 1 for a Fat item.
- If an item doesn't belong to any food group, please enter 0.

Deleting Foods from Personal Food Database

The recommended way to '*delete*' foods from either the NutriGenie standard database or the user's personal database is to *hide* them. Hiding foods makes them invisible but the hidden foods still reside in the database and you can unhide them if desired. Hiding foods has no effect on food choices by the auto-menu generator because the generator has to use all foods to prepare well-balanced diet in accordance with the USDA Food Pyramid guidelines.

If you wish to actually delete foods from the personal database, you can use a plain text editor to delete unwanted foods from the file `userfood.txt`. Please note that because the daily menu files use indices to foods in the databases, removing foods may affect previously saved files.

Editing Foods in Personal Food Database

If you need to change any information for a food item in the personal food database, you can edit the file `userfood.txt` using a text editor such as notepad.

Another option is to add a new entry with the updated information and hide the previous entry.

Please note that if you directly edit the file `userfood.txt`, you must not run NutriGenie software while editing. NutriGenie software opens this file when it runs and will not allow changes to the file from an external editor.

This chapter is a compilation of all the tools that exist in NutriGenie programs. Some tools are specific to a particular software and are not available in other programs. Our website *nutrigenie.biz* has the feature list for every program that we publish.

Desirable Weight

This utility calculates the normal weight based on a person's height, sex and age.

If you are too fat or too thin, your chances of developing health problems are increased.

Being too fat is common in the United States. It is linked with high blood pressure, heart disease, stroke, the most common type of diabetes, certain cancers, and other types of illness.

Being too thin is a less common problem. It occurs with anorexia nervosa and is linked with osteoporosis in women and greater risk of early death in both women and men.

Whether your weight is 'healthy' depends on how much of your weight is fat, where in the body the fat is located, and whether you have weight-related medical problems, such as high blood pressure, or a family history of such problems.

What is a healthy weight for you? There is no exact answer right now. Researchers are trying to develop more precise ways to describe healthy weight. In the meantime, you can use this utility to help judge if your weight is healthy. Find out if your weight is within the normal range. The range is higher for people 35 years or older than for younger adults. This is because recent research suggests that people can be a little heavier as they grow older without added risk to health. Just how much heavier is not yet clear. The weight ranges given by the utility are likely to change based on research under way. The 1989 data are derived from Diet and Health (National Research Council, 1989). In 1996, a new set of weight ranges are recommended. We provide both sets of figures for your comparison.

Ranges of weight are given by this utility because people of the same height may have equal amounts of body fat but differ in muscle and bone. The higher weights in the ranges are for people with more muscle and bone.

Weights above the range are believed to be unhealthy for most people. Weights slightly below the range may be healthy for some small-boned people but are sometimes linked to health problems, especially if sudden weight loss has occurred.

Please consult with your doctor to find out what is the optimal weight for you. Because individuals differ, your optimal weight may be lower or higher than the normal range.

Use the spin controls in the dialog box to specify your height (without shoes). Specify your sex and age by selecting the appropriate radio buttons.

To plan your weight loss use Weight Control Plan.

If you close the dialog box by clicking the OK button, the information will be saved and redisplayed next time you invoke the dialog box. Use the Esc key to close the dialog box without saving.

Caloric Need and Nutrient Requirements

This dialog box calculates your daily caloric need and recommended intakes of important nutrients according to your age, sex, ideal weight, activity level. Please note that the recommended values are for an average healthy individual, your optimal intakes may differ. If you have special nutrition requirements, please consult your physician or nutritionist.

Specify your age, ideal weight and activity level using the spin buttons. Activity level ranges from 1 (sedentary) to 10 (strenuous).

Suggested total fat intake is based on the American Heart Association's and the Food and Nutrition Board's recommendation that no more than 30% of your calories come from fat.

Recommended intakes of other nutrients are based on the Surgeon General's recommendation and on the National Research Council's data.

To leave the dialog box, click on the OK button or select Close from the dialog box's system menu or hit Esc. If you click OK, the current information is saved for next time you invoke the dialog box.

The dialog box must be filled out at least once: when you run the application for the first time, the dialog box is automatically pre-

sented to obtain your individual information. You can revise the information anytime.

For Ketogenic Diet Meal Planner:

This dialog box calculates the patient's caloric need and recommended intakes of macronutrients according to his age, weight and ketogenic ratio.

Patient's age can be entered in years or months and his weight can be in pounds or kilograms. Please select the appropriate units.

Ketogenic ratio should be determined by the healthprovider. Refer to the diet protocol for further information.

Recommended caloric intake per kg is based on the Stanford protocol, recommended protein intake is from the National Research Council's RDA. You can specify your own preferences but they should not vary significantly from the recommended values.

The calculation is updated after each change when the focus is moved from the modified edit control.

Caloric Need of Infants

This dialog box calculates the caloric needs and essential nutrient requirements of infants in their first year.

Caloric Expenditure of Common Activities

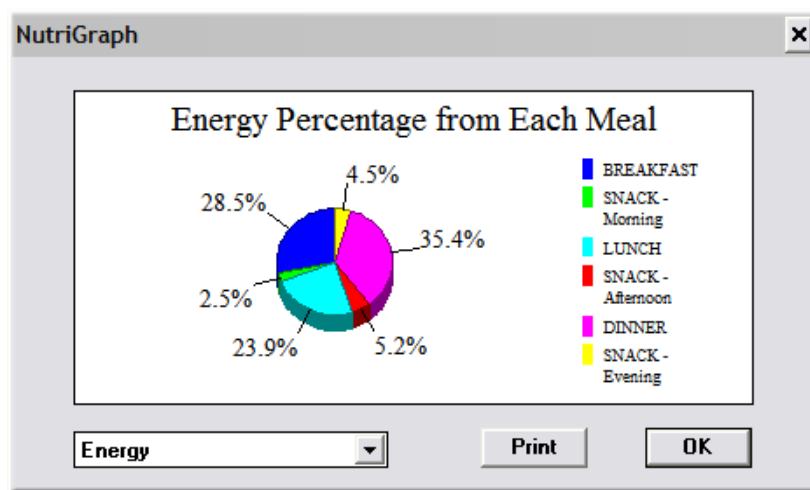
This utility allows you to calculate how many calories you burn by exercising or by doing many of the usual daily activities. The registered database contains information on 130 common activities. You

should select an activity and set it (via the 'Set Favorite Activity' button) as your favorite activity. Once this has been set, each time you consume a food item, its caloric equivalence in terms of your favorite activity is calculated and displayed on the status bar at the bottom of your screen. For example, you set Tennis as your favorite activity and you weigh 160 lbs.; when you drink a cup of milk, the caloric equivalence of this food item is 18 minutes of Tennis. This means it takes you 18 minutes of playing tennis to burn away the calories contained in one cup of milk!

Another interesting piece of information the Caloric Expenditure dialog box provides is how much exercise it takes to lose one pound of weight. Let's say you weigh 155 lbs. and usually play tennis for an hour each time you get to play. The dialog box figures out you need to repeat this activity (an hour of tennis) 7 times to burn away one pound of weight, everything else being equal. Please note that this is not an advice for you to go out and play tennis 7 times to achieve this weight reduction! The information is presented so that you can have another measure of the relationship between weight loss and physical exercise. Before embarking on any exercise program, you should obtain approval from your doctor.

Nutrient Analysis

Do you know which meal provides you with the most protein in your diet? With the most fat? This graph displays the percentage of each nutrient consumed during each meal of the day.



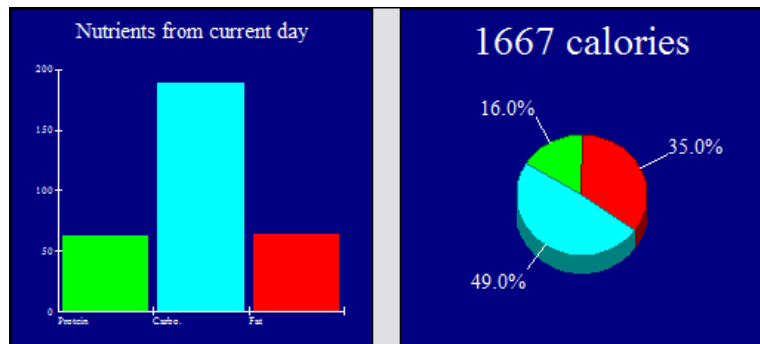
Select 'Protein' from the combo box and the graph shows the percentage of protein that comes from breakfast, morning snack, lunch, afternoon snack, dinner and evening snack in counter clockwise order.

The analyses are provided for weight, calories, protein, carbohydrate, fat, and other essential nutrients when available. These analyses are very convenient when you want to spread out your energy intake throughout the day instead of concentrate your food consumption in infrequent big meals. In addition, it is easier for the gastrointestinal tract to absorb nutrients from small amounts of food over small periods of time.

To leave the dialog box, click on the OK button or select Close from the dialog box's system menu or hit Esc. If you click OK, the currently selected nutrient will also be initially selected next time you invoke the dialog box.

Caloric Analysis

These 2 graphs provide information about the nutrient contents of your food intake for the current day or for that previously saved in a file.



The left graph shows the weight in grams of protein, carbohydrate and fat in the day's food consumption. The right graph shows the day's caloric intake and a pie chart depicting the percentages of calories from protein, carbohydrate and fat in counter clockwise order. Each nutrient is color coded for easy identification. Please note that throughout this program, the percentages of calories from fat, protein and carbohydrate are relative to one another, energy contribution from alcohol is included in the total energy figure but excluded from the percentage calculation.

You should pay particular attention to the percentage of calories from fat. The American Heart Association recommends that your total fat intake be no more than 30 percent of your total calories.





To leave the graphs click the mouse anywhere inside them or hit the escape key.

Set Nutrient Intake Preference

How much of each nutrient do you want to consume each day? Use this dialog box to set your own preference. The color of the RDA analysis bars will reflect your preference. The bars are green when your consumption is within your preferred range, yellow when you are not having enough of a nutrient, magenta when your intake is somewhat above the optimal range, and red when the consumption is considerably higher than desired.

Nutrient intake as percentage of goal is color coded, allowing immediate visual assessment of the diet:

TABLE 1. Nutrient Intake Indicators

| | Color | Indication |
|---|--------------|--------------------------|
|  | Yellow | Below Goal |
|  | Green | Within Goal |
|  | Magenta | Somewhat above Goal |
|  | Red | Significantly above Goal |

Click on the Use RDA button if you want the Recommended Dietary Allowance value for any particular nutrient. Please note that the RDA values are for an average healthy individual. You might need to adjust your optimal intake accordingly.

Starting with version 4.6, users can choose to display their nutrient intake as percentage of U.S. RDA or of their own personal preference. The percentage is based on the RDA or the upper end of user's intake preference respectively.

Find Food Item with Lowest Content of a Nutrient



Click this button to search for food item in your day consumption that has the lowest amount of a particular nutrient. The food item is highlighted and the meal where it is consumed is selected. This is useful when you want to keep the consumption of a particular nutrient low. For example, you can find food items with lowest fat content and consume more of these items without worrying about quickly increasing your fat intake. If your day's consumption has several items with the same low fat content in different meals, the program cycles through these items each time you click on this button.

Find Food Item with Highest Content of a Nutrient

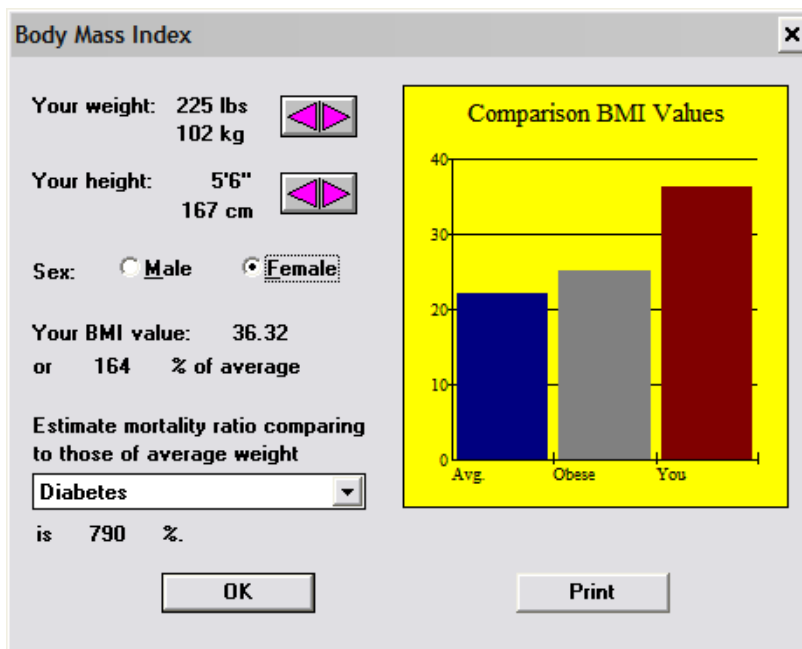


Click this button to search for food item in your day consumption that has the highest amount of a particular nutrient. The food item is highlighted and the meal where it is consumed is selected. This is very useful when you want to quickly lower or raise the consumption of a nutrient. For example, your day consumption is too high in fat. You can use this button to identify the food item that most contributes to the high fat content and adjust your consumption of this item accordingly.

Body Mass Index

Are you thin, or are you overweight? This dialog box uses the Body Mass Index (BMI) which is derived from your height (without shoes)

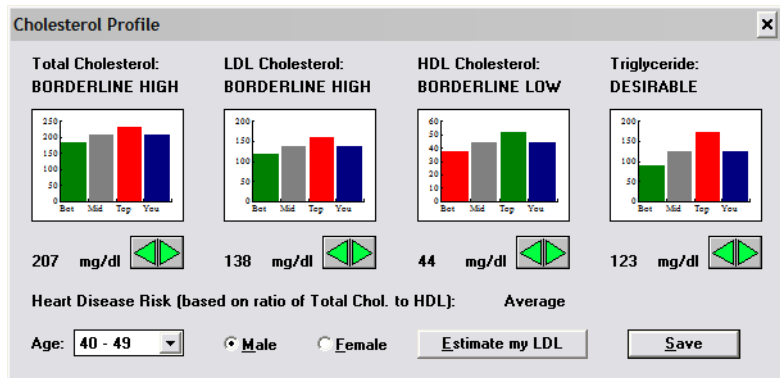
and weight (without clothes) to chart your precise standing. Compare your BMI with that of an average person, or an obese individual.



Relative body weights above 100 to 109 percent of desirable are associated with increased mortality as well as morbidity from heart disease, cancer, diabetes, digestive diseases, and cardiovascular disease. The higher the relative weight, the greater the risk for these conditions. Rates of hypertension and diabetes are nearly tripled for persons 20 percent or more overweight, and hypercholesterolemia was 50 percent more common. The large American Cancer Society Study found mortality from various causes to increase according to the degree of overweight. Of all obesity-related diseases, noninsulin-dependent diabetes is most clearly and strongly associated with obesity. Many other serious conditions such as gallstones, sleep apnea, osteoarthritis, and other disabling disorders of locomotion bear a direct relationship to obesity.

Cholesterol Profiler

This utility compares your cholesterol levels (total cholesterol, LDL cholesterol, HDL cholesterol and triglyceride) with those of the general population. There are 4 bars in each graph, the first bar indicates the lowest quartile (the lowest 25% of the population have cholesterol below this value), the second bar is the average value of the population, the third bar shows the highest quartile (the top 25% of the population have their cholesterol level above this value) and the last bar is your own level.



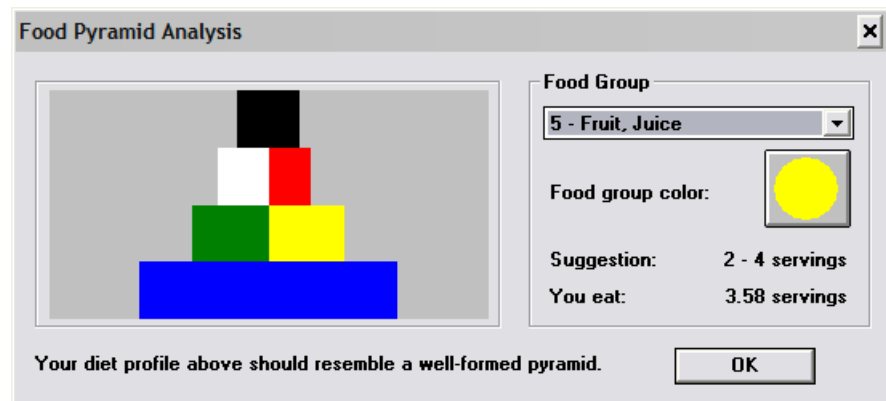
Select your age group, your sex and use the spin controls to set your own cholesterol levels. The utility will adjust the graphs and indicate whether your level of a particular cholesterol is desirable, borderline high, or high, etc. These categories are defined by the National Institutes of Health's Adult Treatment Panel. Sometimes, LDL cholesterol is not measured directly in your test. In this case, you can tell the utility to estimate your LDL cholesterol from your total cholesterol, HDL cholesterol and triglyceride.

Your heart disease risk is categorized based on the ratio of your total cholesterol over your HDL cholesterol.

The 'Save' button will close the dialog and saves your personal values for future retrieval.

Food Guide Pyramid

This dialog box displays the Food Guide Pyramid analysis of your current diet. If your diet is balanced and varied, the result should resemble a well-formed pyramid where the base is larger than the top.



The USDA recommended number of servings is for an average individual; you may want to consult with your doctor to design an optimal personal diet program. The RDA and caloric counters of this program can also serve as a guide.

To arrive at your ideal weight, you may need to change your current approach to eating. Permanent weight loss is most easily achieved with a varied, balanced and nutritious diet that is low in fat and in empty calories. Use this Pyramid Food Analysis to help you identify imbalanced or restrictive diet.

Please note that you can add your own favorite foods to the user's food database and specify a food group for each of these foods. The

registered version of this software does not set a limit on the number of entries in the user's food database.

Target Heart Rate

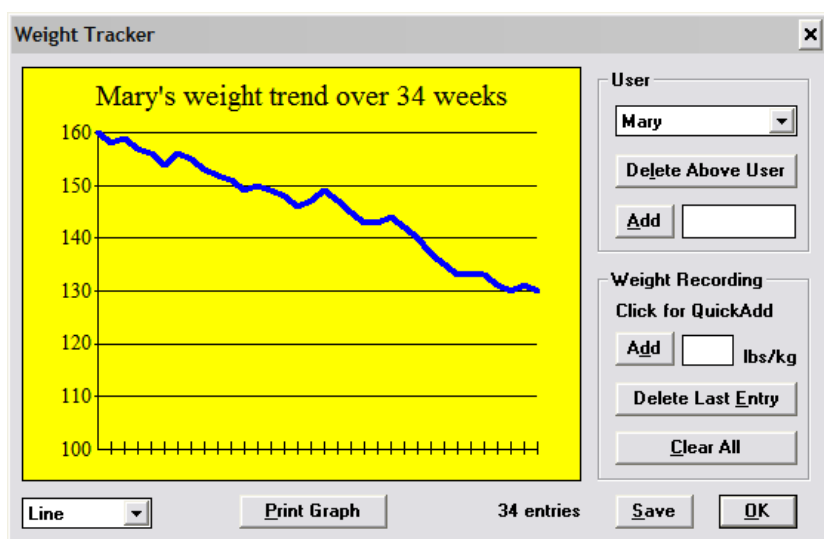
This utility helps you determine if your heart is fit. During your next workout, take a break from your routine and take your pulse for 10 seconds to measure the intensity of your workout. Refer to the dialog box: if this number is within your Target Heart Rate then you are heart fit and your workout is efficient. When exercise, you should aim for your Target Heart Rate because you will get the maximum benefit from your exercise.

Your heart rate typically has a maximum value according to your age. This means your heart doesn't beat faster than this rate no matter how strenuously you exercise. Normally, you should try to reach from 65 to 85% of this heart rate from your exercise. Below this range, you are not exercising hard enough; above it, you might want to take it easy while working out. The 85% maximum heart rate is for athlete in training.

User over 40 years old or those with heart problem should definitely consult with their doctors and have a stress electrocardiogram performed before adopting any exercise program.

Weight Tracker

This utility allows you to keep track of your weight loss progress over time. It can accommodate many users and although its primary purpose is for weight tracking, you can use its graphing and convenient data entry capabilities to keep track of other information too.



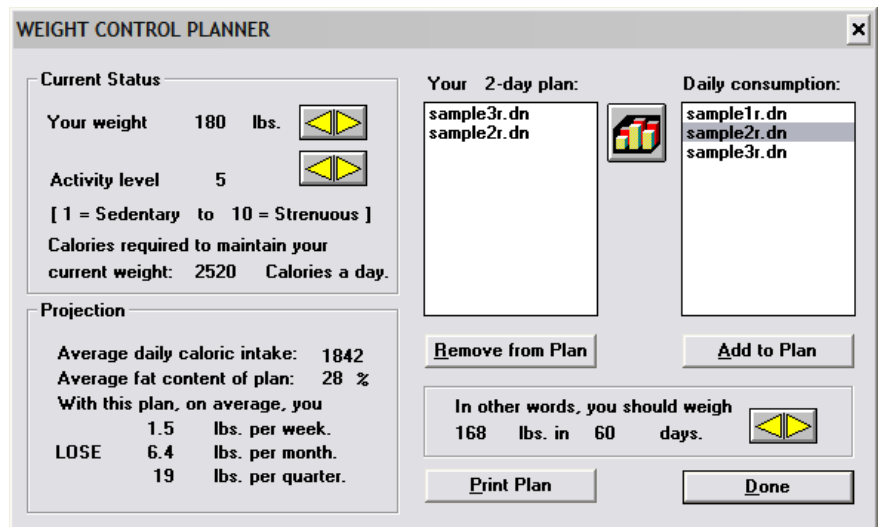
Begin by creating a log for yourself using your name, for example. Once a user's log has been created, you type in the initial weight in the weight recording edit control. Afterwards, the easiest way for data entry is to click and drag the mouse on the background of the dialog box to select the desired weight. Make sure you save or click OK before closing the dialog box to retain the data for next time. Or hit 'esc(ape)' to cancel the data entry. Normally you enter the data weekly. You can also enter the data every few days. Please just make sure that the data are entered regularly enough so that the shape of the graph accurately reflects your progress.

The Glomerular Filtration Rate (GFR) and Blood Sugar Trackers work similarly.

Note: The default unit for recording blood glucose is mg/dl. The utility is unit independent and you can use it for recording measurements in mmol/dl also. However, since the utility accepts only integer values, you might want to uniformly multiply the mmol/dl values by 10 before recording them.

Weight Control Planner

It's hard to achieve your weight goal without planning. This utility allows you to establish a plan and estimate precisely how much weight you will gain or lose when you follow this plan.



First, specify your current weight and activity level by clicking on the appropriate spin controls. The activity levels range from 1 (for those having sedentary lifestyle) to 10 (for those having physically strenuous occupations). The dialog box displays the number of calories required for you to maintain your current weight.

The 'Daily consumption' list box (on the right) should contain several files for you to add to your plan (the list box on the left). Please note that you must have previously saved some files before you can use this dialog box. Or you can try out the sample daily food consumption files we provide.

Let's assume you've prepared 7 daily menus and name them Sun, Mon, Tue, etc. [The program automatically adds in the standard extension for your files, please use the standard extension.] These files should appear on the right hand side list box. You add the files one by one to your plan by selecting them then click on the 'Add to Plan' button or by double-clicking the file names.

As you add in these files, the dialog box automatically calculate the amount of weight you should gain or lose if you follow your plan, the average daily caloric intake and the average fat content of your plan.

NutriGenie weight control plan is truly flexible: you can set a food plan to be repeat every week, every 3 days or every 10. You can also anticipate your future weight when your plan is repeated during this period by adjusting the number of days in the period via the spin control.

Once an entry is added into your plan, you can select it then click on the 'chart' button to review its nutritional content.

In general, you should not try to achieve significant weight loss in just a few days. Please consult your physician regarding your weight loss goal. Even an energy deficit of just 500 kcal a day should result in a loss of approximately 1 pound per week or 50 pounds a year!

After setting up your plan, print out a report to keep track of your food intake and to motivate yourself to achieve your goal.

Weight Projection

After you provide your current weight and activity level (from 1 to 10, with 1 being sedentary and 10 super athletic), the software automatically estimates your weight a week and a month from now if you maintain the same level of calorie intake as your current daily diet.

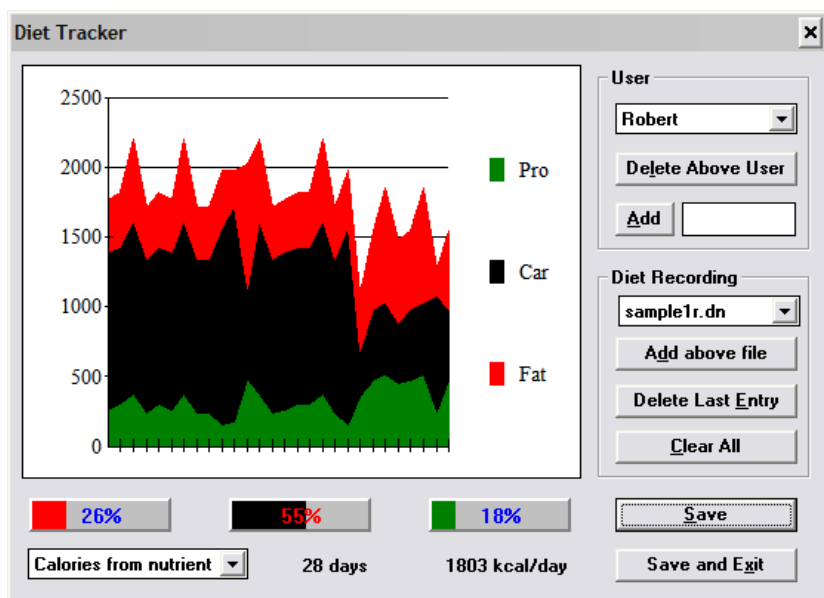
A dialog box titled "Weight Projection" with a light gray background and a drop shadow. It contains four lines of text, each with a label on the left and a value on the right. The labels are "Current wt.", "Activity Level", "Wt in 1 week", and "Wt in 1 month". The values are "185 lbs", "5", "184 lbs", and "180 lbs" respectively. The text is color-coded: "Current wt." is blue, "Activity Level" is green, "Wt in 1 week" is red, and "Wt in 1 month" is black.

| | |
|--------------------------|----------------|
| Weight Projection | |
| Current wt. | 185 lbs |
| Activity Level | 5 |
| Wt in 1 week | 184 lbs |
| Wt in 1 month | 180 lbs |

Every time, you add a food item to or remove it from you daily menu, you immediately see its effect on your future weight. Planning a menu for weight control has never been easier or more effective.

Diet Tracker

This utility allows you to keep track of your diet over time. You can keep track of the diet for many users using this dialog box. Make sure you save or use the OK button to save the data when exit. Select one of the files in the combo-box and add it to your diet log.



You can view the diet history in 2 formats: absolute calories or percentage calories contributed from fat, carbohydrate and protein. The dialog box also displays a running average of percentages of calories from fat, carbohydrate and protein as well as the average daily caloric intake for the whole period.

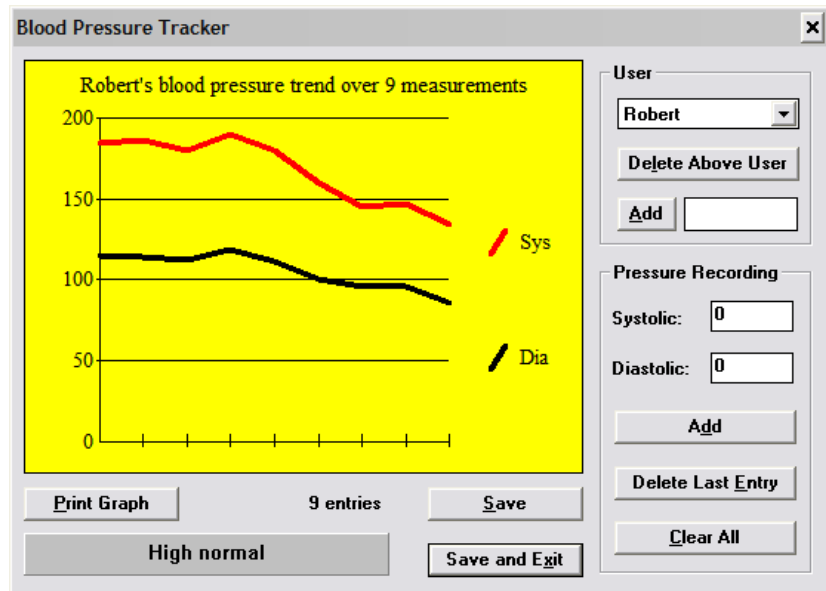
Glucose Log

This utility allows you to keep track of your blood glucose levels over time. You begin by creating a list of the times when you normally measure your glucose each day. For example, 8 AM, 10 AM, 2 PM, etc. You can also name these periods more descriptively: Fasting BG, After Lunch BG, etc. Afterwards, you add the daily glucose measurement that correspond to a period to the log. The resulting graph will show the accumulating data over time.

Initially, you should freely experiment with the log by creating and deleting different time periods and using the mouse to enter the data (by clicking on the dialog's window and selecting from the popup menu). Once you've established a regular pattern, you should record the data daily for each time period.

Blood Pressure Log

This utility allows you to keep track of your blood pressure over time. Begin by creating an entry for yourself (the dialog supports multiple users), then enter your systolic and diastolic readings in the appropriate edit controls and click on 'Add'. You should measure your blood pressure at regular time intervals (weekly or monthly, for example). The utility also classify your readings into one of the following categories: Optimal, Normal, High Normal, and Stage 1 through Stage 4 Hypertension.



Average Caloric Content of Diet

What is important is not a single day's diet but your cumulative diet. This dialog box shows you the average caloric content of your diet that comes from each of the following nutrients: fat, carbohydrate and protein; a relative percentage value is also given. The percentages may not add up to exactly 100% because of truncation. Please also note that throughout this program, the percentages of calories from fat, protein and carbohydrate are relative to one another, energy contribution from alcohol is included in the total energy figure but excluded from the percentage calculation.

Set Fat Warning Level

"Because fat contains more than twice the caloric value per gram of either protein or carbohydrate, the general public would benefit from reduced fat intake."

U.S. Surgeon General

Is this food too fatty? Use this dialog box to set the threshold when the program should warn you when a food item exceeds the limit. The fat percentage bar in the gray analysis panel¹ will change the color from dark gray to white when the fat content exceeds the limit.

When you print out your nutritional analysis of your diet, each fatty food will also be marked with an asterisk for easy recognition.

Set Mouse Button Option

You can quickly input food amount by clicking either the left or right mouse button on the screen and select the desired amount by dragging the mouse then releasing its button at the appropriate selection. The selection can be set to be in serving portion, gram or ounce. You can also turn this option off.

The 'Am(oun)t OK' button needs to be used only when you want to specify an exact weight by typing the amount in the edit control above this button. Otherwise using the mouse is more convenient.

1. See "The Analysis Panel" on page 44 for more info.

Choose Printer Font

Use this option to select the printer font for your Nutritional Analysis Report and Weight Planning Report.

Choose Screen Color

Some monitors flicker noticeably when certain colors are displayed. Use this option to select the most pleasing color for your screen background.

Select Nutrients to Print or to Display

When the number of nutrients analyzed by the program is large, user has the option of selecting a subset of the nutrients for print output or screen display.

For printing, this allows the selection of a larger font size when printing. Another option is to use the landscape print mode which provides more space per horizontal line.

Set NutriGenie Automatic Menu Generator Options

Use this dialog box to specify the desired caloric intake level for NutriGenie. The menus generated by NutriGenie, in almost all cases, are within +/- 10 Calories of user's specification.

Please note that the menus generated by NutriGenie are intended for an average healthy individual. If you have special dietary requirements, you may have to modify the generated menus to fit your needs.

Set Nutrient Intake Target

Starting with version 4.6, users can choose to display their nutrient intake as percentage of U.S. RDA or of their own personal preference. The percentage is based on the RDA or the upper end of user's intake preference respectively.²

Sort Foods in Listbox by Nutrient Contents

Entries in the food selection listbox can be sorted by their nutrient content. Once the listbox has been sorted, a single-click on an entry will display the value of the key nutrient per 100g of food.

Zone Filters

There are 3 filters for food selection in Zone Nutrition Professional: zone-favorable foods, foods containing antioxidants and foods containing co-factors.

Selecting any of these filters will leave only zone-favorable foods in the listbox, or those having at least a measurable amount (in 100g of food) of one of the antioxidants or co-factors.

Resizing Food Selection Listbox

Some food entries take more than one line in the food selection listbox resulting in fewer items being visible at one time. This option expands and contracts the width of the food listbox as desired.

2. See "The Analysis Panel" on page 44 for more information.

When the listbox is expanded, it covers the 'I Eat' button and the sort icons. You can double-click a entry instead of using 'I Eat' and the food listbox sort feature can be accessed through the menu bar.

Please note, the content of the food listbox is refreshed to that of the original selected food group each time the width is resized.

General Dietary Guidelines

Essential nutrients must be obtained from diet in proper amounts and proportions to maintain good health and to prevent deficiency diseases. A deficiency of an essential nutrient causes signs and symptoms that can be prevented or cured by an increased intake of the nutrient.

Just as a deficiency of a nutrient can cause disease, too much of a nutrient can also lead to disease. For example, the excessive consumption of energy, fat (especially saturated fat), and alcohol have been associated with the development of specific chronic disease conditions. Excessive intake of some vitamins and most of the minerals also has been shown to result in either acute or long-term disorders.

For most nutrients, there is a safe and adequate range of dietary intake that satisfies nutritional requirements but does not cause undesirable symptoms. The need to establish goals for good nutrition in the United States led to the establishment of the Committee on Food and Nutrition, now called the Food and Nutrition Board of the National Research Council, National Academy of Sciences. The

Board has established Recommended Dietary Allowances (RDAs) for energy, and other essential nutrients to sustain normal growth, development and health.

To obtain RDA data, please use the *Caloric and Nutrient Requirement Dialog*.¹

1. See “Caloric Need and Nutrient Requirements” on page 65

Automatic Menu Generators

Starting with version 4.0 of our software, we incorporate a unique technology into all of our nutrition software products: the NutriGenie calorie-based Automatic Menu Generator (AMG) technology. With this technology, the user can specify a daily caloric consumption target and instruct the program to automatically generate menus that are well-balanced and meet the desired caloric requirement.

The task of menu preparation can be quite tedious for health professionals who need to recommend different diets to a large number of people; or for individual users who have to follow certain restrictive diet but don't know what and how much they can eat.

NutriGenie AMG technology removes this difficulty: with a click of a button, a well-balanced menu is freshly created each time. None of the menus are pre-generated, and with a food database of approximately 8,000 items, users have literally millions of nutritious menus to choose from. [The menus generated for the evaluation version are not as varied because of the much smaller sample food database.]

The daily menus generated by NutriGenie, in almost all cases, are

exactly at or within a few Calories of the requested caloric level. In addition, with the occasional exceptions in highly restrictive diets (below 1000 Calories/day), the menus generated are well-balanced and conform with the USDA Food Pyramid guidelines.

Characteristics of NutriGenie Menus

The generated menus are intended to show you the large variety of foods that you can eat even when you are on a diet. The menus also illustrate what a well-balanced diet should look like at different caloric intake levels.

In general, you don't have to deprive yourself of any particular food category so long as the amount you eat is appropriate for your optimal caloric consumption target. For example, even a low-calorie diet can include ice cream for dessert although the amount is more likely half a cup instead of a cup of ice cream.

NutriGenie menus are suggestions, not rigid prescriptions. Although we use a standard food database appropriate for the US population, our database also contains a number of food products from other parts of the world. This reflects the diversity of the American population as well as the culinary sophistication of our users. So you will see fruits like kiwi or mango, cheese like Camembert or Gruyere, etc., on our suggested menus. Feel free to substitute them by comparable foods that are readily available in your area.

How to Use NutriGenie Menus for Weight Control

NutriGenie menus are perfectly suited for use with our Weight Control Planner utility. You can use the Planner to determine the caloric

intake level that maintains your current weight. If you desire to lose some weight, for example, you can tell NutriGenie to generate several menus at different lower caloric levels. Using these test menus in the Planner, you can find out the caloric intake level that helps you achieve your weight goal at the optimal rate. Once this figure has been obtained, NutriGenie can generate a week's or month's worth of menus for you to review and edit. The printed copies of these menus are a most convenient tool for you to monitor your diet.

Frequently Asked Questions about the Automatic Menu Generator (AMG)

Can I restrict the menu generator to a list of my favorite foods?

The menu generator has to use the complete list of foods in the NutriGenie database because it has to generate balanced menus. If the user doesn't like fruits or vegetables and has none on his list, for example, the generator cannot create balanced menus. In general, if you see a suggested item that you don't like, you can manually replace it with something else comparable. For example, you can replace a fruit with another fruit.

Why doesn't the menu generator use the foods in my personal food database?

There is not enough information in the personal food database for the software to select these foods appropriately. Generating appropriate menus is somewhat complicated, that's why no competitive nutrition software offers this feature, ever since NutriGenie introduced this technology in 1994.

First, the software needs to know when to use a particular food. It should not suggest Beef Steak for Morning Snack, for example.

Then it needs to know what kind of dish the food is: dessert or entree, etc. so that the menus generated consist of customary courses.

It also needs to know the food's standard serving size so that portions are not too large or too small.

To create balanced menus, it also needs to know the Food Pyramid components of the item. For example, a hamburger has both Meat and Bread/Grain components. The software needs to make sure that fruits and vegetables are consumed proportionately with meat, grain and dairy items.

Last but not least, the software needs to know which foods go with what so that the menus are sensible: the vegetable that goes well with Hamburger can be French Fries but not Okra, etc.

The personal food database doesn't contain this kind of information.

What are the differences between the calorie-based AMG and one based on exchanges?

We do have an automatic menu generator based on the American Diabetes Association's Exchange System. This Exchange-based AMG is only available in our diabetes software such as Diabetes Nutrition, Diabetes Meal Planner, etc.

With the standard calorie-based AMG, the user just specifies the calorie target and the AMG creates Food Pyramid-balanced menus. User cannot specify the foods that the AMG uses.

With the Exchange-based AMG, the user specifies the number of exchanges for each meal, the exact foods to use and the AMG creates the menus that use only selected foods to satisfy the exchange requirements. However, because of the flexibility of specific food choices, the Exchange AMG requires more preparation from the user: foods need to be assigned to exchange lists so that the software knows what exchanges they belong to, they also need to be assigned to various meal lists so that the software knows when to use them. In addition, when foods are assigned to various exchanges, the portion

must be for 1 exchange so that the software can generate the exact and correct serving amount for any food selection. To use the Exchange AMG effectively, the user needs to spend time preparing the food lists, test and refine the list contents gradually. The trade-off between the 2 AMGs is convenience vs. flexibility.

NutriGenie software provides the most comprehensive and insightful analyses of user's diet. In addition to giving numerical values of macro- and micro-nutrients in a diet, it graphically compares them to the established RDA values or personal goals.

Most NutriGenie programs provides Food Guide Pyramid analysis as well as calorie distribution from fat, carbohydrate and protein. Several programs calculate Zone blocks and distribution of glycemic index ratings in user's diet.

However, it is not easy to just look at a set of numbers, or even a set of bar charts, and immediately know whether a diet is lacking in minerals or vitamins. It is even harder when one wants to compare one day's diet to another.

NutriGenie solves these problems by providing descriptive Diet Quality Analysis, one of the most significant and convenient features ever implemented in nutrition analysis software. Again, none of our competitors offers this feature.

Starting with Optimal Nutrition version 7.5, we provide descriptive analyses for each diet such as: low-fat, vitamin rich, mineral deficient, etc. Each diet is also rated from 1 to 5 stars based on its nutrition quality.

How NutriGenie Determines Fat, Vitamin and Mineral Qualities of a Diet

The determination of fat, vitamin and mineral qualities is straightforward. There are 4 ratings for each:

| | | | | |
|----------|------------|------|------------|-----------|
| FAT | Very Low | Low | High | Very High |
| VITAMINS | Extra Poor | Poor | Acceptable | Rich |
| MINERALS | Extra Poor | Poor | Acceptable | Rich |

Fat ratings are based on the latest recommendation from the Institute of Medicine for total fat consumption in a healthy person's diet, with 20% to 35% of calories from fat as the limits of the Low Fat rating.

Vitamin and mineral content ratings are user-specific: the vitamin and mineral contents of a user's diet is compared with his own RDAs. This means, although uncommon, a diet may be vitamin-poor for an individual but vitamin-adequate for another because the latter's RDAs are lower.

Basically, the more vitamins and minerals exist in a diet the better the ratings. To a limited extent, higher amounts of individual vitamins and minerals also count towards the rating.

Not every diet is perfect in all respects, so a diet low in one or two vitamins can still be rated Vitamin Acceptable if other vitamins are present in high amounts.

These ratings are color-coded: black and red ratings are not desirable, while green and blue are.

How NutriGenie Determines the Star Rating of a Diet

Each diet is given a star rating from 1 to 5, with 1 being the lowest in quality. A 3-star rating means the diet is acceptable.

Our ratings take into account the latest guidelines issued in September 2002 by the Institute of Medicine, the medical division of the US National Academies. These guidelines establish the Dietary Reference Intakes for energy, fiber, and macronutrients beyond the earlier RDAs established for vitamins and minerals.

These factors are considered *in varying degrees* towards the rating:

- Contents of
 1. total fat
 2. saturated fat
 3. cholesterol
 4. sodium
 5. protein
 6. fiber
 7. vitamins
 8. minerals
- Variety of foods: diet lacking variety of foods automatically gets a 1-star rating. For example, a diet without fruits, vegetables or grain products in sufficient quantities is a 1-star diet no matter how rich it is in vitamins and minerals.
- Caloric value of diet: extremely low or extremely high calorie diets receive 1-star rating.

Based on these criteria, users might wish to select diets with at least a 3-star rating. It is not necessary to always aim for a 5-star diet to achieve healthy nutrition. In fact, because of our strict rules, a 4-star diet is a very healthy diet based on current recommendations from various health organizations and government agencies such as the National Institutes of Health, the American Heart and Diabetes Associations, etc.

To allow some convenience in testing hypothetical diets, our software doesn't take into account the distribution of foods throughout the day in its rating. The user can record a full day's worth of foods in one single meal for evaluation. Once a satisfactory diet has been obtained, the foods can be redistributed to other meals as desired.

Is it possible for a diet very low in vitamins and minerals to have a 3-star ('Acceptable') rating?

Yes, if it is a well-balanced diet and other aspects of the diet are desirable such as: low fat, low saturated fat, low cholesterol, low sodium, adequate fiber, etc. Normally, a low-calorie diet for weight control tends to lack vitamins and minerals. Users on low-calorie diet might want to consider taking vitamin and mineral supplements.

Please visit our website *nutrigenie.biz* for latest catalog, information about purchasing our products and evaluation software download.

