DAX-pro

Diet and eXercise
version 1.8.0

Reference Manual

Table of Contents

What is DAX-pro?

DAX-pro is an application that can:

- help you log your daily diet and exercise

- help you design a diet and exercise program

- help you track your fitness progress over time

- help you understand how diet and exercise work together

Key features include:

- Extensive database of food items, exercises, and programs for weight loss and muscle building

- Visual representation of nutrition, as you build your food plan for the day

- Support for diets based on Glycemic Load

- Support for cyclic programs, such as carb cycling

- DAX-pro can suggest foods that will balance your diet

System Requirements and Installation

Latest Version

You can download the latest version of DAX-pro here:

http://WestHollywoodTrainer.com/Pages/DAX_Download.html

System Requirements

DAX-pro will run on any system that has Java 6 installed. Java 6 is available for all Windows PC platforms, Mac OS X, Linux, and other operating systems.

You can verify whether Java 6 is already installed by following this link:

http://www.java.com/en/download/installed.jsp

If it is not, you can download Java 6 for free from this website:

http://www.java.com

Installation for Mac

Open the disk image DAX-pro.dmg by double clicking it. Drag the application DAX-pro.app to the "Applications" folder.
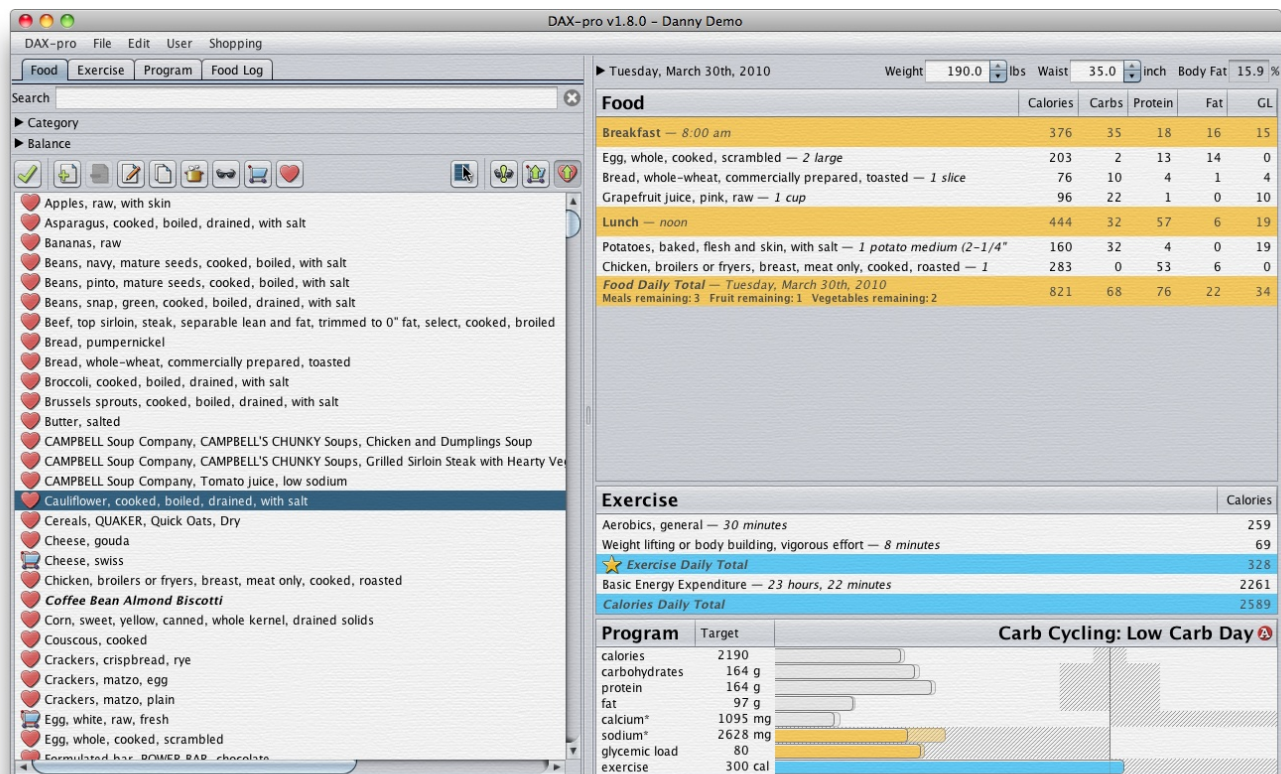
Installation for Windows

Place DAX-pro.jar in the "Program Files" folder. If Java is installed, you should be able to open DAX-pro.jar as if it were an application.

Installation For All Other Operating Systems

Place DAX-pro.jar where you keep your applications.

Overview

Main Application Window

The main application window of DAX-pro has two panels: the Library panel on the left, and the Day Plan panel on the right. In general, you find items in the library, and put them in the day plan.

The day plan panel is further divided into three sections. They are labeled "Food", "Exercise", and "Program". The Food and Exercise sections will contain the food and exercise for the day. The Program section shows you how food and exercise work together. The Program section gives you a detailed nutritional breakdown, and a graphic representation of how the nutrition of the day compares to the daily target.

Working with DAX-pro

First you need to enter your measurements. DAX-pro needs this information to adjust its calculations for your body. You have to do this only once, although you may want to update your measurements as you lose or gain weight.

Secondly, you must select a program. A program in DAX-pro is a set of rules for nutrition and exercise to achieve your fitness goal: fat loss or muscle building. You have to do this only once, although you may switch to a different program at any time.

Every day, you start with a blank day plan.

To build the day plan, you select activities from the exercise library, and set the amount of time exercised. This tells DAX-pro the amount of calories that you have burned. The exercise calories will show up as a horizontal bar in the program section, near the bottom of the day plan. When the bar reaches the hairline, it will turn blue. This means that the target amount of exercise has been reached.

You also select food items from the food library, and organize them into meals in the food section of the day plan. As you do this, DAX-pro will compute the nutritional breakdown, and display it in the program section. Each nutrient will show as a horizontal bar. There is a bar for carbohydrates, one for protein, another for fat, several more for vitamins and minerals, as well as calories and glycemic load. When a bar reaches the hairline, the day plan contains exactly the right amount of that nutrient.

The goal is to make all bars meet the hairline, by the time the day plan is complete.

DAX-pro has several features that help you achieve that. In particular, check out the Balance Feature, the Preview Feature, and the Favorite Icon. Once you understand these three features, you can really tap into the power of DAX-pro.

Plan ahead, update as you go

You can use DAX-pro to plan the day the day ahead, and follow that plan. However most people will not follow the plan exactly, and as the day progresses, they make choices that are not on the plan. That is fine. But it is a good idea to update DAX-pro as soon as you have a chance. That makes it easy to compensate for these alternative choices and get back on track.

For example, if you have created a day plan that is perfect in calories and nutrients, but decide to have a chocolate bar in the afternoon. If you enter this chocolate bar into DAX-pro, you will see that the day plan is now has too much fat and sugar. You can use the Preview Feature to identify what changes you can make to the rest of the day to restore daily balance.

Day Plan

Panel: Calendar

The current day is always shown at the top of the day plan panel. To change to a different date, click the disclosure triangle to the left of the date. This will open the calendar view.

Dates drawn in gray have empty day plans. Dates in black and white have either food or exercise, or both.

If a date has a gold star, both its exercise and nutrition targets have been met.

Mouse: click on date

Select date.

Key: ◀/▶/▲/▼

Change the date by one day, or one week.

Button: left or right arrow to either side of the calendar
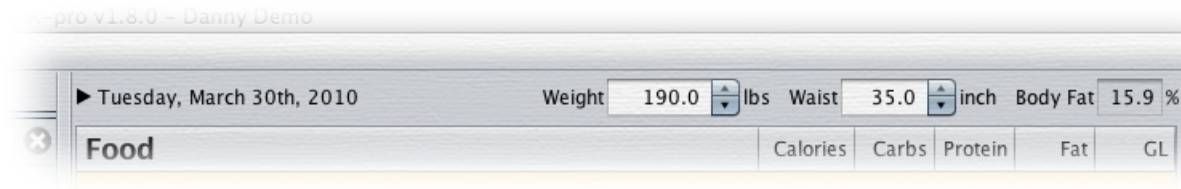
Change month.

Context Menu: Reveal Program and Measurement Changes

DAX-pro can store one measurement change, and one program change per day. When revealed, days with such a change are drawn in red.

Context Menu: Remove Program/Measurement Change
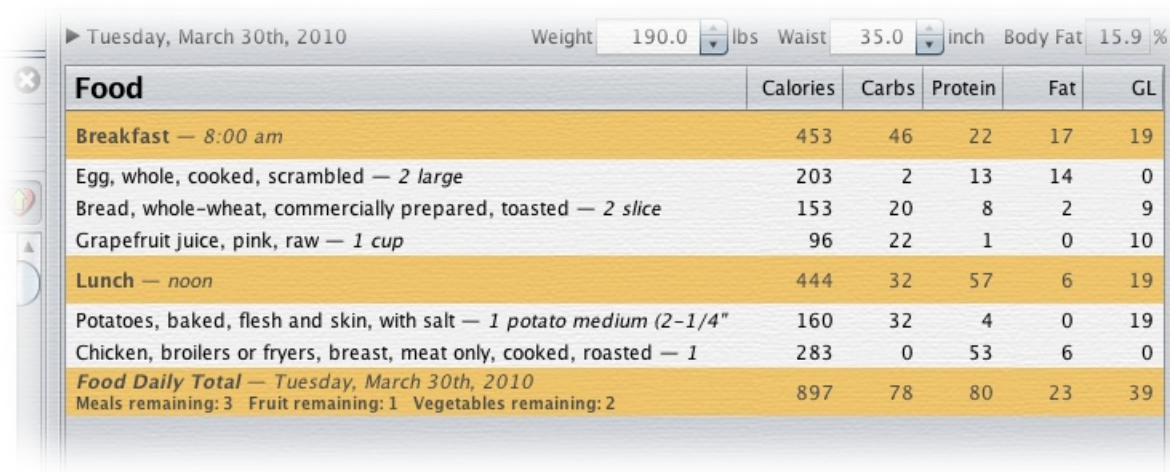
Remove the measurement and program change.

Panel: Quick Change

To set your daily measurements, adjust the Weight and Waist controls (for women, also Hips). If body fat "Auto" was deselected in the Edit Measurements dialog, the Body Fat field will be editable, otherwise it just displays the computed body fat percentage. DAX-pro stores one set of measurements per day.

Panel: Food

The food panel in the day plan is used to organize one day's worth of food.

You may add food to the day plan by double clicking a food item in the food library. This will activate the Food Amount dialog.

Mouse: double-click on Meal Name

Activate the Meal Details dialog.

Key: control-▲/▼ on highlighted Meal Name

Change time of meal in hour steps.

Key: control-◄/► on highlighted Meal Name

Change time of meal in minute steps.

Mouse: double-click on Food Item

Activate the Food Amount dialog.

Key: control-▲/▼ on highlighted Food Item

Move food item up or down in the sequence.

Key: control-◄/► on highlighted Food Item

Change food amount by single units.

Key: delete on highlighted Meal Name

Delete entire meal.

Key: delete on highlighted Food Item

Delete Food Item

Panel: Exercise

The exercise panel in the day plan is used to organize one day's worth of exercise.

The Basic Energy Expenditure line is not editable. It is automatically computed by DAX-pro, from the information entered in the Edit Measurements dialog and the Quick Change panel.

Double-click on Activity

Activate the Exercise Duration dialog.

Control-▲/▼ keys on highlighted Activity

Move activity up or down in the sequence.

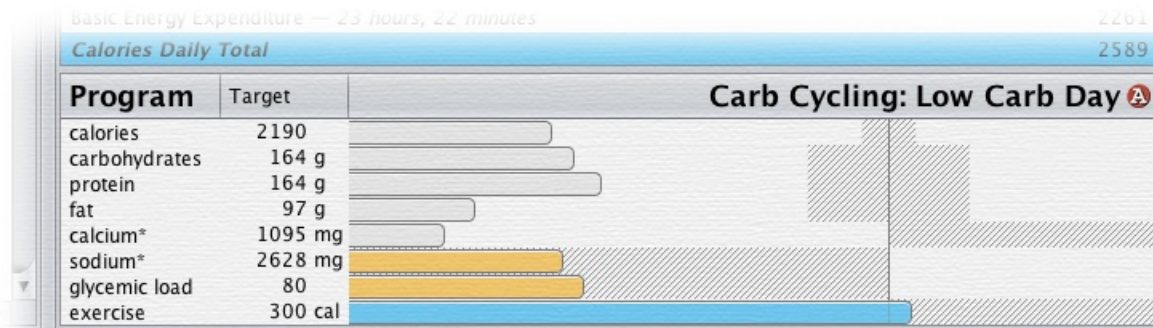### Control-◄/► keys on highlighted Activity

Change duration of activity.

Panel: Program

The Program Panel shows how the current day plan is tracking against the program target.

Understanding the Program Target

DAX-pro computes the total amount of calories, carbohydrates, protein, etc, that you need in the day plan to conform with the selected program. Each bar represents the percentage complete of that amount. When the day plan is empty, the bars are at zero. When the day plan contains the exact amount of nutrition and exercise, all bars would be exactly at the hairline.

Of course in practice, reaching the target hairline (100%) precisely is rare. The "gray zone" around the hairline gives you are wider target. The shaded area is different for some targets. For calories, the target area is quite narrow (± 5%). Your calorie intake is by far the most important aspect of your food plan. For carbohydrates, protein and fat, the target area is wider (± 15%). For "good stuff", the target area is past the hairline only. This indicates that it does not matter how much over the hairline you go. For "bad stuff", the target area is before the hairline. This indicates that you can't go too low, just don't go over the line.

Two of the bars are marked with a * (asterisk). They are combined bars. Each one represents several values.

The first combined bar represents "good stuff", and shows either fiber, vitamin A, vitamin C, calcium, iron or potassium. These are nutrients that you need to consume enough of, and you are unlikely to consume too much. The nutrient shown is the one with the lowest percentage complete value. In other words, out of the "good stuff" nutrients, only the one with the shortest bar is shown. This is the nutrient that you need to pay attention to, because it is lagging behind the others. The target area is shaded to the right, indicating that the bar is meant to go over the hairline.

The second combined bar represents "bad stuff", and it shows either sodium, cholesterol, sugar or saturated fat. These are nutrients that you need to consume little of. The nutrient shown is the one with the highest percentage complete. In other words, out of the "bad stuff" nutrients, only the one with the longest bar shows. This is the nutrient you need to pay attention to, because it is ahead of the others. The target area is shaded to the left, indicating that the bar is meant to stay below the hairline. Note that by default, sugar and cholesterol tracking are disabled. This can be changed in the Preferences Dialog. So by default, the "bad stuff" bar only shows sodium or saturated fat.

By the way, this method of combining "good stuff" and "bad stuff" nutrients into just two bars can be changed in the Preferences dialog. You may choose to show all nutrients with their own bar.

The last two bars show glycemic load and exercise.

Mouse: click on second column header

Switch display of this column between four modes:

- **Target**
Show the target that DAX-pro has computed for this nutrient.

- **Current**
Show the sum total of the day plan for this nutrient.

- **Remain**
Show the difference between the computed target and the sum total. This is how much more of the nutrient you need to add to the day plan. If the number is negative, you need to remove some of that nutrient from the day plan.

- **Complete**
Show the percentage complete.

Mouse: double click program name

Activate the Set Program dialog. This will allow you to change to a different program, and (if the program supports cycling) change the cycling details.

Using the Preview Feature

When you select food items in the day plan, the nutrition bars in the Program area will briefly show a preview of what would change, if you were to remove this food item. This can be helpful when one or more of the nutrition bars is exceeding its target. The suggested use is to use the ▲/▼ arrow keys to highlight each food item in the plan in sequence, and observe the effect on the bars. This will help you find which food items contribute the most of the nutrient. That will then suggest one or more candidates to cut, or cut back.

When you select a meal name in the Day Plan, the preview will show what would happen if the entire meal was removed.

Note that in both cases (selecting food items or meals in the Day Plan), the preview shows what would happen if the item was *removed*. But if you select a food item in the Food Library, the preview will show what would happen if the food item was *added*.

This may help you find items in the library that will improve nutrition balance. This aspect of the preview feature (selecting food items in the Food Library) is especially useful when you are working with the Balance Feature.

Panel: Recipe

Denver Omelette	Calories	Carbs	Protein	Fat	GL
Egg, whole, raw, fresh — *3 large*	214	1	18	14	0
Onions, raw — *1 cup, chopped*	64	12	1	0	5
Peppers, sweet, red, raw — *½ cup, chopped*	23	2	0	0	1
Peppers, sweet, green, raw — *½ cup, chopped*	14	2	0	0	0
Pork, cured, ham, low sodium, lean and fat, cooked — *2 oz*	97	0	12	4	0
Pork, cured, bacon, cooked, baked — *2 slice cooked*	88	0	5	7	0
Butter, salted — *2 tbsp*	203	0	0	23	0
Recipe Total —	706	18	40	50	7

Name	Denver Omelette
Makes	1 omelette
Serves	1

Melt butter in a large skillet or on a griddle. Saute onion, bell pepper, ham and bacon until the onion starts to become opaque. In a small bowl, whip the eggs lightly. Add salt, pepper and hot sauce if desired. Slowly, stir the eggs into mixture in skillet. Lightly brown on one side. Turn over and lightly brown other side.

A recipe in DAX-pro is a combination of foods in the food library. The recipe food becomes available in the food library as a single food item, and can be handled like any other food item.

The Recipe Panel is activated when you click the Recipe button in the toolbar, or when you click the Edit button in the toolbar while a recipe is highlighted.

Adding and arranging food items in a recipe is very much like adding and arranging food items in a meal. The controls are the same.

The area at the bottom is for notes. You may write the method for making this recipe here, or anything else. DAX-pro does nothing with this information, other than store it and display it.

Mouse: double-click on Food Item

Activate the Food Amount dialog.

Key: control-▲/▼ on highlighted Food Item

Move food item up or down in the sequence.

Key: control-◄/► on highlighted Food Item

Change food amount by single units.

Field: Name

Enter the name of the recipe. The name is repeated across the top of the Recipe edit window.

Field: Makes

Enter any number of descriptions of the serving size. This could be the number of cookies, biscuits, pancakes, etc. Separate entries with a comma. You may use decimal fractions (0.5) or proper fractions (½ or 1/2).

DAX-pro uses the serving size information to offer you a list of serving sizes in the Add Food dialog.

### Field: Serves

Enter the number of servings that this recipe yields.

Often, a recipe will make more than one serving. For example, the "Makes" field may read "12 cookies". If you decide that 12 cookies is six servings of two cookies each, make the "Serves" field read "6".

This number allows DAX-pro to offer you "2 cookies" as the default serving size, when you go to add this food to the day plan.

Library: All

Panel: Search
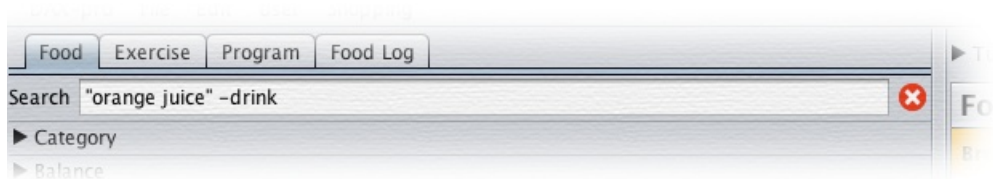
All libraries feature a Search Panel. The search feature is activated as soon as you start typing. The search is complete as soon as you finish typing.

You may enter multiple terms in the Search Panel. A search term is a single word, or a phrase surrounded by double quotes. A negative search term is a word that is preceded by a minus sign.

The search feature will filter the library list to only show those items that:

- contain all the search terms, *and*

- do not contain any of the negative search terms.

For example, typing `orange juice` in the Food Library Search Panel, will filter the list to show only food items that contain both "orange" as well as "juice" anywhere in their description. This includes, for example, "orange and apricot juice drink". To find only those items that contain "orange juice", strictly in that order, type `"orange juice"` instead. The double quotes turn these two words into a single search term, rather than two independent ones. If you type `orange -juice`, only items will be shown that contain "orange", but not "juice". And indeed, typing `-"orange juice"` will show the entire list of food items, except those that contain exactly "orange juice".

The search feature is not case sensitive.

The search feature is not plural sensitive. Searching for `strawberry` will match "strawberry" as well as "strawberries".

The list is filtered as long as there is any text in the search field. To clear the field, and cancel the search, click the "X" icon to the right of the search field.

Library: Food

Panel: Category

The Category Panel is revealed by clicking the disclosure triangle to the left of the word "Category" in the Food Library.

When the panel is hidden, by clicking the disclosure triangle again, the feature is deactivated.

The Category Panel allows you to control visibility of food items in the list based on their food category. The built-in food library is divided into twenty five categories, all listed on the Category Panel. User defined foods are categorized as "User Defined", and user defined recipes are categorized as "Recipe".

The category feature is active as long as the panel is open. To cancel the feature, close the panel by clicking the disclosure triangle on the left.

Check Box: All

Click this check box to clear or set all the category check boxes.

Check Box: User Defined

User defined foods always belong to this category.

Check Box: Recipe

User defined recipes always belong to this category.

Panel: Balance

The balance feature is activated when the panel is opened by clicking the disclosure triangle on the left.

Please refer to Using the Balance Feature for details on how to use it.

The balance feature is active as long as the panel is open. To cancel the feature, close the panel by clicking the disclosure triangle on the left.

Button: Fiber

Select this button to include Fiber in the balancing calculation.

Button: Good Stuff

Select this button to include Vitamin A, Vitamin C, Calcium, Iron, and Potassium in the balancing calculation.

Button: Bad Stuff

Select this button to include Sugar, Saturated Fat, Sodium, and Cholesterol in the balancing calculation.

Button: Glycemic

Select this button to include the Glycemic Load in the balancing calculation.

Button: Fruit & Veg

Select this to include fruit and vegetable servings in the balancing calculation.

Button: XL Servings

By default, DAX-pro will calculate nutrition for each food item in the list using the default serving size. But that may not be the amount that *you* would eat. Perhaps you have a big appetite, and like to serve larger portions.

With the XL Servings button activated, DAX-pro will consider the default serving size, and also a larger serving size, up to twice the normal serving. When activated, you may see the same food suggestion in the list twice: once as calculated for the regular serving size, and once with the larger

serving size. The entry with the larger serving size will be marked with an asterisk: *

Use the Help/Information window to see the exact serving size.

Using the Balance Feature

When the balance feature is active, the Food Library list is sorted in a special way. DAX-pro will place food items that can balance the current day plan near the top. For example, if the program view indicates that carbohydrates are ahead of protein and fat, DAX-pro will suggest foods that are low in carbohydrates, high in protein and fat, to restore the balance. Not only does DAX-pro suggest foods based on carbohydrates, protein and fat, but it can optionally include all other nutrients in the calculations, as well as the glycemic load, and fruit and vegetable servings.

The sorted list is only a suggestion. DAX-pro has no sense of taste, does not know what is in your fridge, so the top spot of the list may not be the best choice for you. Typically, you will have to scan down the list to find a suitable suggestion. In most cases, there are many good candidates, even if you have to scroll down a few pages to find something you like.

If you have a good number of food items marked with the Favorite icon, activating the "Show Favorites" feature will ensure that the top recommended foods are all foods that you are familiar with.

The best way to use the feature is to start building your day plan with foods that you would like to eat. Then you engage the balance feature to find the last few items. You can insert these items into any meal, or eat them separately as a snack.

When you can't find a good choice in the first few pages of the list, try deselecting some of the nutrient buttons. By reducing the number of nutrients DAX-pro has to balance, you give it more freedom and DAX-pro may come up with more sensible suggestions.

Panel: Tool Bar
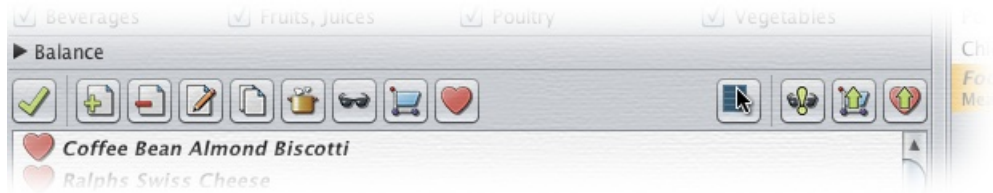
Button: Use Item

Use the selected food item in the Day Plan. This button will activate the Food Amount dialog.

Button: New Item

Create a new food item in the library. This button will activate a blank Edit Food dialog.

Button: Delete Food Item

Remove the food item from the library.

Button: Edit Food Item

Edit the selected library food item. This button will activate the Edit Food dialog.

Button: Duplicate Food Item

Make a duplicate of the food item in the library.

Button: New Recipe

Create a new recipe. This button will activate the Recipe Panel.

Button: Toggle "Hidden" Icon

Toggle the "Hidden" icon on the selected food item(s). The items will disappear immediately. You can view them again by activating the Show Hidden button.

Button: Toggle "Shopping List" Icon

Toggle the "Shopping List" icon on the selected food items.

Button: Toggle "Favorite" Icon

Toggle the "Favorite" icon on the selected food items.

Button: Select All/None

Select all items in the list. If all items are already selected, select none.

Button: Show "Hidden"

Show only items with the "Hidden" icon.

Button: Sort "Shopping List"

Sort all items flagged with the "Shopping List" icon at the top of the list.

Button: Sort "Favorite"

Sort all items flagged with the "Favorite" icon at the top of the list.

Using the "Favorite" Icon

Navigating the Food Library becomes much easier when you flag many food items with the "favorite" icon.

The database contains more than 7,000 items, most of which you have never heard of, or would know where to get, how to prepare.

You should think of a "favorite" food, as a food that you are familiar with, or that you like, that you know where to get, or how to make, foods that you regularly have in your refrigerator or pantry. In other words, anything that you would consider eating again, at some point.

Food items can be flagged with the favorite icon manually, by clicking the appropriate button in the toolbar. Also, whenever a food item is added to a Day Plan or a recipe, it is automatically marked as "favorite". User defined foods are also automatically flagged.

When the Sort Favorite button in the toolbar is selected, the food list is divided into to parts. All food items with the favorite icon are at the top, sorted alphabetically, or by balance (when the Balance Feature is active). All remaining food items are also sorted, directly following the favorite items.

Using the "Hidden" Icon

The library contains more than 7,000 food items, derived from the UDSA nutrition database. A number of them are completely irrelevant to you. It contains a full range of baby foods, whale blubber and caribou eye, and a broad assortment of leaves and twigs that you will never encounter in your local supermarket.

The "Favorite" icon makes it easier to find foods that are relevant to you. Primarily these are foods that you have eaten before. But that still leaves many thousands of items that are of varying interest: some you might need one day, but others are completely irrelevant to you.

The "Hidden" icon is almost the opposite of the "Favorite" icon. It is intended for food items that you will never look at. It will hide a food item from view. A hidden food item will not show up in the search

results, it will not be suggested by the Balance Feature, and it is not visible in the list.

Hidden foods are not permanently gone. They live in their own list. To view the list of hidden items, click the Show "Hidden" button in the toolbar. You may now inspect the list, and if you wish, you may restore any item by removing the icon.

The feature is best used with the Search and Category features. For example, if you are allergic to peanuts, you type `peanut` in the search field. This will show only food items with that term in their description. Now click the Select All button, and then the Toggle "Hidden" Icon button. All food items with "peanut" in their name are now hidden from view.

Note that by default, DAX-pro will automatically hide several food items. They include:

- *All foods in the "Baby Foods" category*

- *All foods in the "Ethnic Foods" category. Note that this is not the category for Thai red curry or Mexican tamales. Rather, this category contains foods from the Alaska Native, Navajo, Apache, and other traditions.*

- *All foods with "unprepared" in their description.*

You may view these hidden foods, and optionally return them to the list, in the manner described above.

Panel: List

The largest portion of the library panel is the library list. User defined items are indicated by a bold italic font. Built-in items are shown in a plain font. When no special sorting is selected in the tool bar, the list is sorted alphabetically, but with user defined items at the top.

Items with a heart icon are marked as "favorite". Please refer to the chapter Using the Favorite Icon.

Items with a shopping cart icon are marked as "shopping list".

Items with sunglasses are marked "hidden". They are only shown when the reveal hidden button is selected.
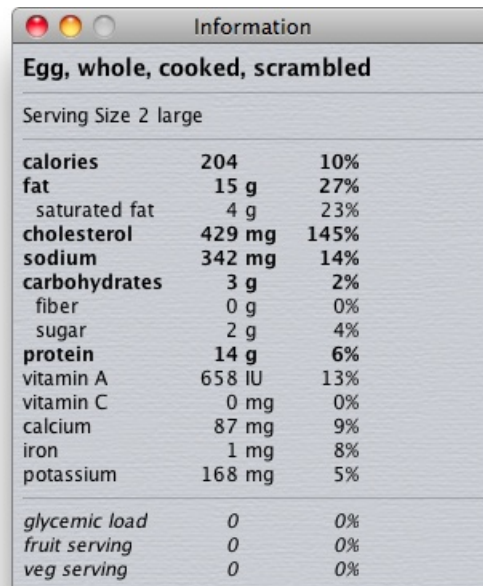
Window: Help/Information
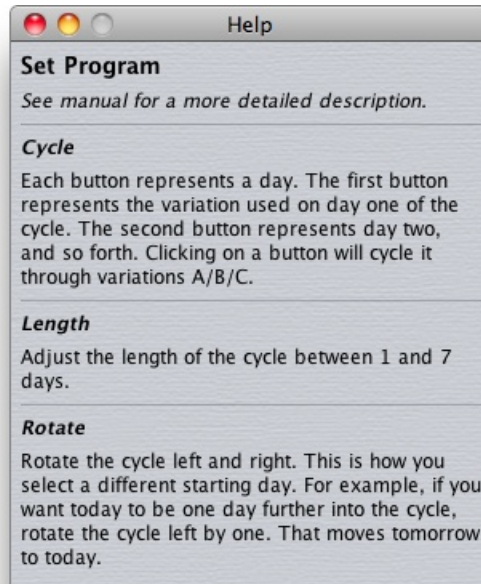
The Help/Information window can be activated through the Help menu. It can also be activated by clicking the I icon in the bottom right hand corner of every dialog. It can be closed by accessing the same menu item in the Help menu.

The Help/Information window serves a double purpose: it can display either help or information.

Help

When any dialog is active, the Help/Information window will display a reminder of the use of the dialog's fields, and in some cases also usage tips. In most cases, it is a short version of the information in this manual.

Information

When <u>no</u> dialog is active, the Help/Information window will show information about items that you select in the main window.

- Click on a food in the Food Library, and the Help/Information window will show you the nutrition for the default serving size. The values in the percentage column are based on the current day plan. If the food is a recipe, any notes that are stored with the recipe (such as the preparation method), are also displayed.

- Click on a food in the Day Plan, and the Help/Information window will show you the nutrition for the serving as selected in the Day Plan.

- Click on a meal name in the Day Plan, and the Help/Information window will show you the nutrition for that meal.

- Click on an exercise Exercise Library, and the Help/Information window will show you the amount of calories that would be burned when performed for 30 minutes, at your current body weight.

- Click on an exercise in the Day Plan, and the Help/Information window will show you the amount of calories burned for the duration as selected.

- Click on any program in the Program Library, or on the program name in the Day Plan, and the Help/Information window will show you a brief summary of the program, and a short explanation of what the program is for, and how to use it.

Dialog: Food Amount
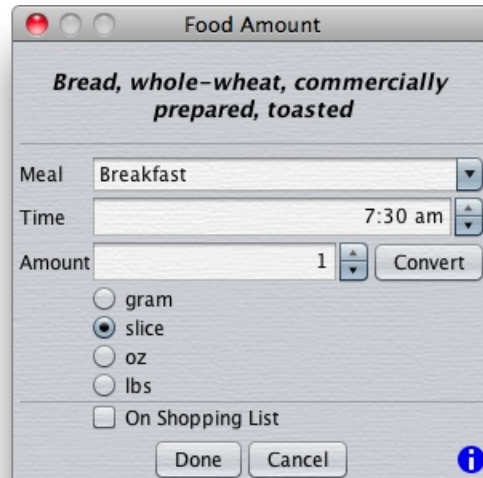
The Food Amount dialog allows you to add a certain amount of a food item to the Day Plan, or to adjust the amount of a food item already in the Day Plan.

To activate the Food Amount dialog, double click a food item in the Food Library or double click a food item in the Day Plan.

Field: Meal

Enter the name of the meal that this food belongs to. You may select an existing meal name from the drop down list, or type a new meal name to begin a new meal with this food.

The drop down list will contain several default meal names, as well as the meal names that are in the current day plan. The list of default names can be changed in the Edit Preferences dialog.

The most recently use meal name will be automatically selected when the dialog appears.

If the name you enter or select does not match a meal in the current day plan, a new meal will be created, containing this food item.

Field: Time

Select the time of the meal. If you have selected an existing meal, the time will automatically reflect the time of the existing meal, and you don't have to do anything. If you are starting a new meal with this dialog, you may set the time of the new meal.

Field: Amount

Enter the amount of food. You may use a decimal point or use fractions. For example "3/4" is the same as "0.75."

This works field together with the unit, which is selected below the field.

Selection: Gram, oz...

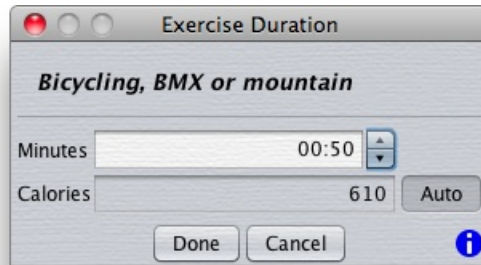Select the unit for the amount of food.

Button: Amount – Convert

When active, the value in the amount field will be converted when you select different units. For example, "1 oz" is converted to "28.35 gram."

Check Box: On Shopping List

When selected, this food will appear on the Shopping List.

Dialog: Exercise Duration

The Exercise Duration dialog allows you to add a certain amount of exercise to the Day Plan, or to adjust the duration of an exercise item already in the Day Plan.

To add a certain amount of exercise to the Day Plan, double click an exercise in the exercise library. To adjust an exercise item already in the Day Plan, double click the item.

Field: Minutes

Enter the amount of time that you will be doing, or have done of, this exercise.

Field: Calories

Based on the type of exercise, the duration, and your lean body weight, DAX-pro can calculate the amount of calories burned. This field will display the amount. If you have better way to determine the calories, for example if are using training equipment with a digital calorie counter, you may override this calculation by deactivating the Auto button.

Button: Calories – Auto

Deactivate to enter the amount of calories manually.

Dialog: Set Program (plain version)
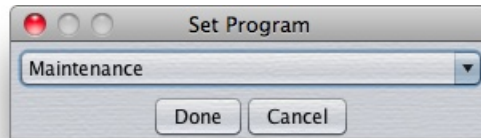
The Set Program dialog allows you to select a different program for the Day Plan.

To change the program for the Day Plan, double click the name of the program in the program section of the Day Plan, on the right hand side.

You may also double click on an item in the Program Library.

Dialog: Set Program (cyclic version)

The cyclic version of the Set Program dialog is activated when you set a cyclic program to the Day Plan. It allows you to change the details of the cycle.

Field/Buttons: Cycle

Each button represents a day. The first button represents the variation used on day one of the cycle. The second button represents day two, and so forth. Clicking on a button will cycle it through Ⓐ - Ⓑ - Ⓒ.

Use the "Rotate ◄/►" buttons to select where in the cycle you want to start (as of today).
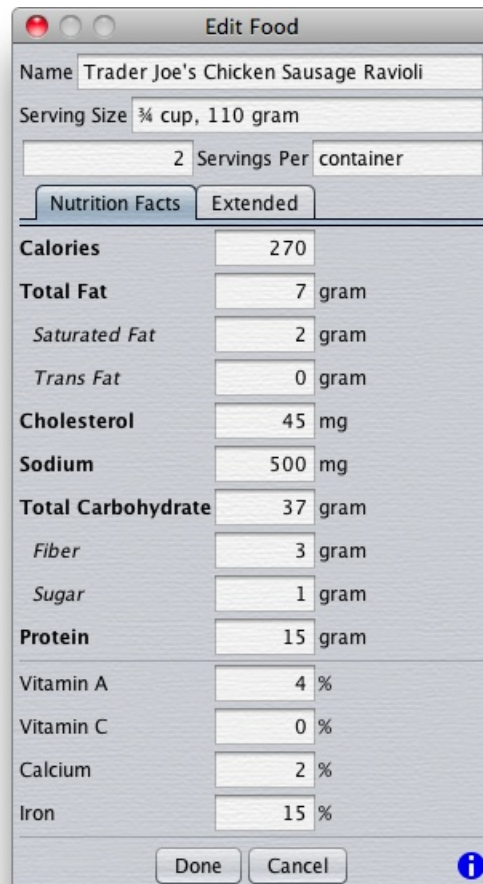
Field: Length

Adjust the length of the cycle between 1 and 7 days.

Field/Buttons: Rotate ◄/►

Rotate the cycle left and right. This is how you select a different starting day. For example, if you want today to be one day further into the cycle, rotate the cycle left by one. That moves tomorrow to today.

Dialog: Edit Food

The Edit Food dialog allows you to create a new food item in the Food Library, or to change a food item already in the library.

To create a new food item, click the "New" button in the Food Library tool bar.

To edit an existing food item in the Food Library, select the item, and click the "Edit" button in the tool bar.

You cannot change any item in the built-in library. If the selected food item is part of the built-in library, a copy of the item is automatically created, that may be edited.

Tab: Nutrition Facts

The Nutrition Facts tab of the Edit Food dialog resembles the layout of the standard US FDA Nutrition Facts panel on packaged foods. The order of the fields is the same, the units are the same.

Some Nutrition Facts panels have fewer lines. You can leave them at zero.

Field: Name

Enter the name of the food.

DAX-pro uses this name in the food library list, and in the meal of the day plan.

Field: Serving Size

You may use decimal fractions (0.5) or proper fractions (½ or 1/2). Enter any number of descriptions of the serving size. Separate entries with a comma. On most Nutrition Facts panels, the serving size is given in a food specific unit (3 cookies), followed by that amount in grams. Enter both.

DAX-pro uses the serving size information to offer you a list of serving sizes in the Food Amount dialog.

The first serving size will be used as the default in the Food Amount dialog, when you add this food to a day plan.

Field: Servings Per

If a packaged food contains more than one serving, the number of servings per package will be indicated in the Nutrition Facts panel. The first entry (before "Servings Per") must contain a number, the second entry (after "Servings Per") must contain a description of the container. So that could be something like "box", "bottle", or "loaf".

Field: Calories, Total Fat...

Enter the amounts exactly as they are given on the Nutrition Facts panel. If a value is not available, leave it at zero.

DAX-pro uses these values to calculate your daily nutrition.

Tab: Extended

The Extended Tab of the Edit Food Dialog contains values that are not usually found on the standard Nutrition Facts panel.

Field: Potassium

Enter the amount of potassium. If unknown, leave it at zero.

Field: Fruit Servings...

This may be printed on the packaging, especially if this is a frozen meal or canned entree. If the packaging does not have this information, you may make a guess.

The value you enter here is the number of fruit/vegetable servings. So if the food you are entering *is* a fruit or a vegetable, the value would be 1. If the food has no fruit or vegetable content, the value would be zero. If the food contains some amount of vegetables, for example canned soup, the value will be somewhere in between.

If you need to make a guess, keep in mind that the USDA sets a serving size for fruit or vegetables to

be equal to about one-half cup. Greens like spinach and lettuce have a serving size equal to one full cup. One serving of sliced fruit is equal to one-half cup. However a single piece of fruit, such as an apple or a banana counts as one serving.

DAX-pro uses the fruit and vegetable servings value to monitor your fruit and vegetable intake.
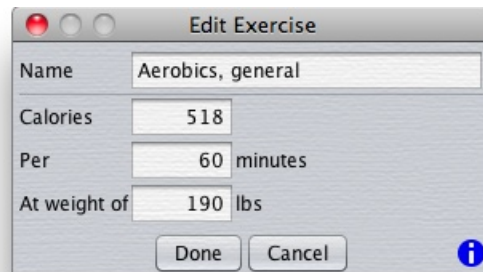
Field: Glycemic Index

DAX-pro will calculate an estimated value for this field. If you know the Glycemic Index (it may be printed on the packaging, or you may find it on the Internet), deactivate the "Auto" button.

Button: Glycemic Index - Auto

Deactivate to enter the value manually.

Dialog: Edit Exercise

The Edit Exercise dialog allows you to create a new exercise in the Exercise Library, or edit an existing one.

To create a new exercise, click the "New" button in the Exercise Library toolbar. To edit an existing exercise in the Exercise Library, highlight it, and click the "Edit" button in the toolbar.

The number of calories burned during exercise is determined by the type of activity, the duration, and the body weight.

This kind of information is available from various publications and on the Internet.

Note that this dialog does not describe *your* body weight, or the amount of time that *you* will be doing the exercise. Rather, this dialog describes the findings of a laboratory that measured the calorie burning rate of a test subject performing this exercise.

Later, when you use the Exercise Duration dialog add a certain amount of exercise to your day plan, DAX-pro will use this data to compute the amount of calories that *you* burn, at *your* body weight, for a duration that *you* decide.

Field: Calories

Enter the amount of calories burned with this type of exercise.

Field: Per … minutes

Enter the amount of time for which the calories rate was measured. For example, some publications describe the calorie burning rate per hour per body weight. Others describe the rate per half hour.

Field: At a weight of … lbs

Enter the body weight for which the calorie rate was measured.

Note that the unit can be selected from lbs and kg in the Preferences Dialog.

Dialog: Edit Program (plain version)

The Edit Program Dialog allows you to create a new diet and exercise program, or change an existing one.

To create a new program, click the "New" button in the Program Library. To change an existing program in the Program Library, highlight it, and click the "Edit" button in the toolbar.

You cannot change any item in the built-in library. If the selected program is part of the built-in library, a copy of the program is automatically created, that may be edited.

Please read the Designing a Program chapter for more details of the meaning of various fields.

Field: Name

Enter the name of the program.

Check box: Cyclic

Check this to enable the cyclic feature in this program.

Field: Exercise … calories

Enter the target calorie amount from exercise.

A muscle building program requires you to lift weights. That is obvious I hope. But even a fat loss

program requires exercise. It is not recommended that you lose weight by just lowering your calorie intake alone. Your body needs nutrients for health. Therefore, you should eat enough food, and address the calorie balance by adding exercise.

The value entered here is not used directly in any computation. It is simply put in the Program section of the day plan. The nutritional calculations that DAX-pro does are based on the total amount of calories *actually burned* – whether it matches the exercise target or not.

Field: Calories … plus calories burned

This is the calorie balance, sometimes called the calorie deficit or calorie surplus of the diet.

When computing the day plan target, DAX-pro will add up all calories burned, as seen in the Exercise section. Then it adds the number from this dialog field, and that is the dietary calorie target.

If this number is zero, DAX-pro will set the daily dietary calorie target to the exact amount that is burned. The effect is that you neither lose nor gain weight.

If this number is negative, DAX-pro will set the dietary calorie target to an amount less than the calories burned. That way you consume less than you burn, and you lose weight. A value of -500 calories would let you lose about 2 lbs per week.

If the number is positive, muscle mass building becomes possible. The daily dietary target will be greater than the amount of calories burned.

Field: Allow … %

It is not necessary to reach the 100% target hairline precisely. This field controls the "gray zone" around the hairline. Normally, try to reach the calorie target fairly accurately, allow a little more room for individual nutrients.

Field: Carbohydrates … % of calories

Specify the percentage of total calories that should come from carbohydrates. See chapter in Targets for more details on how this is used.

The amount of carbohydrates targeted here, and below, is *net* carbohydrates. That is, only carbohydrates that contribute calories. In other words, the carbohydrates target includes contribution from sugar, but not from fiber. Fiber is not a source of calories, and not part of the carbohydrate target.

Field: Carbohydrates … g per lb LEAN body mass

Specify the amount of carbohydrates relative to body mass. See chapter in Targets for more details on how this is used. If this calculation should not be used, set field to zero.

Field: Carbohydrates … g per lb TOTAL body mass

Specify the amount of carbohydrates relative to body mass. See chapter in Targets for more details on how this is used. If this calculation should not be used, set field to zero.

Field: Carbohydrates … g minimum

Specify the minimum amount of carbohydrates in grams. In most cases, you won't need this. It is more customary to compute the carbohydrate amount as a percentage of calories, or in grams per pound/kilo of body mass. See chapter in Targets for more details on how this is used. If this calculation should not be used, set field to zero.

Field: Protein … % of calories

Specify the percentage of total calories that should come from protein. See chapter in Targets for more details on how this is used.

Field: Protein … g per lb LEAN body mass

Specify the amount of protein relative to body mass. See chapter in Targets for more details on how this is used. If this calculation should not be used, set field to zero.

Field: Protein … g per lb TOTAL body mass

Specify the amount of protein relative to body mass. See chapter in Targets for more details on how this is used. If this calculation should not be used, set field to zero.

Field: Protein … g minimum

Specify the minimum amount of protein in grams. In most cases, you won't need this. It is more customary to compute the protein amount as a percentage of calories, or in grams per pound/kilo of body mass. See chapter in Targets for more details on how this is used. If this calculation should not be used, set field to zero.

Field: Fat … % of calories

Specify the percentage of total calories that should come from fat. Note: if % of carbohydrates and protein have been set, this field will already have been calculated. After all, the three values should add up to 100%. See chapter in Targets for more details on how this is used.

Field: Glycemic Load

Specify the Glycemic Load target. A Glycemic Load of 80 is considered "low", a value of 100 is "medium", and a value of 120 is "high".

Dialog: Edit Program (cyclic version)

This version of the Edit Program dialog is for cyclic programs. Please refer to the plain version for an explanation of the common fields.

When a field is different in at least one of the variations, it is highlighted in yellow.

Field: Name Ⓐ Ⓑ Ⓒ

Enter the name of each variation.

Tab: Variation Ⓐ Ⓑ Ⓒ

Button: Copy from Ⓐ Ⓑ Ⓒ

Copy all fields from another variation.

Tab: Cycle
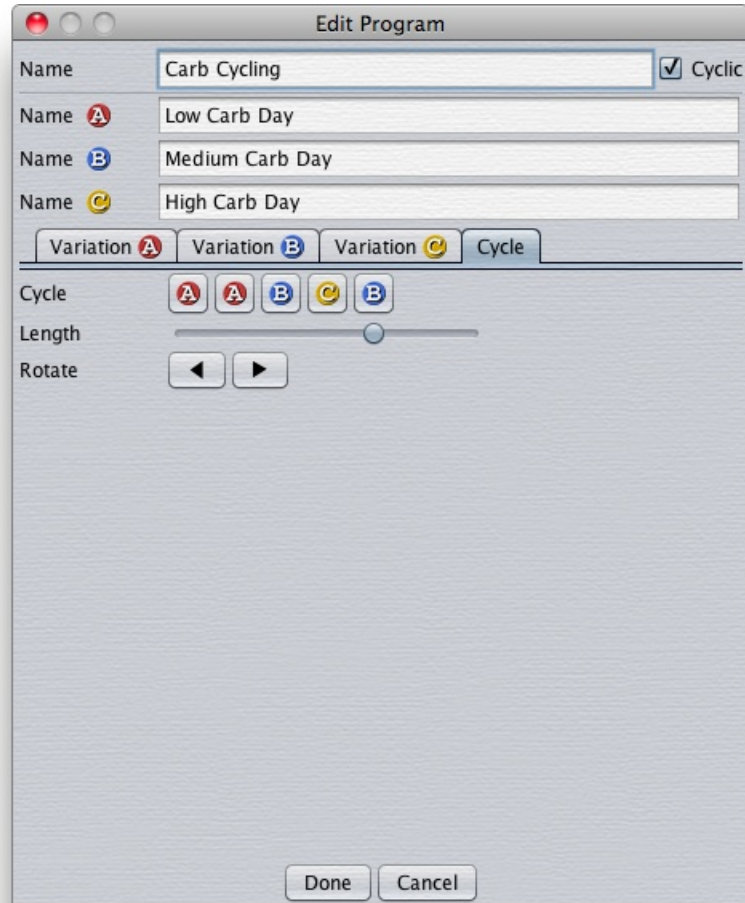
Field/Buttons: Cycle

Clicking on a button will cycle it through Ⓐ - Ⓑ - Ⓒ. The first button represents the variation used on the first day of the cycle. The second button represents the second day, and so forth.

Field: Length

Adjust the length of the cycle between 1 and 7 days.

Field/Buttons: Rotate ◄/►

Rotate the cycle left and right.

Dialog: Preferences

The Preferences dialog allows you to customize some aspects of DAX-pro.

To activate it, select "Preferences..." from the main application menu.

Tab: Regional
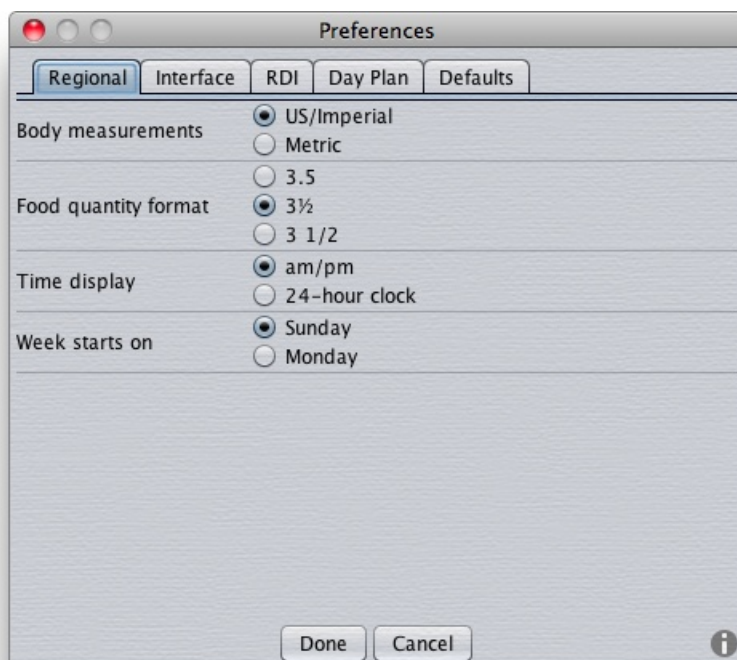
Selection: Body Measurements

DAX-pro can accept and display body measurements in pounds and inches, or kilograms and centimeters. Note: this only controls the units of body measurement. It does not control units of food measurement. Most food amounts can be specified in grams, regardless of this setting. Nutrients are always specified in grams.

Selection: Food Quantity Format

DAX-pro can display food quantities with a decimal point, or proper fractions.

This setting only controls how DAX-pro *displays* fractional values. DAX-pro always *accepts* all three forms as input, regardless of this setting.

Selection: Time Display

Choose between a 12 hour clock or a 24 hour clock time display.

Selection: Week Starts On

Control the organization of the Calendar View.

Tab: Interface
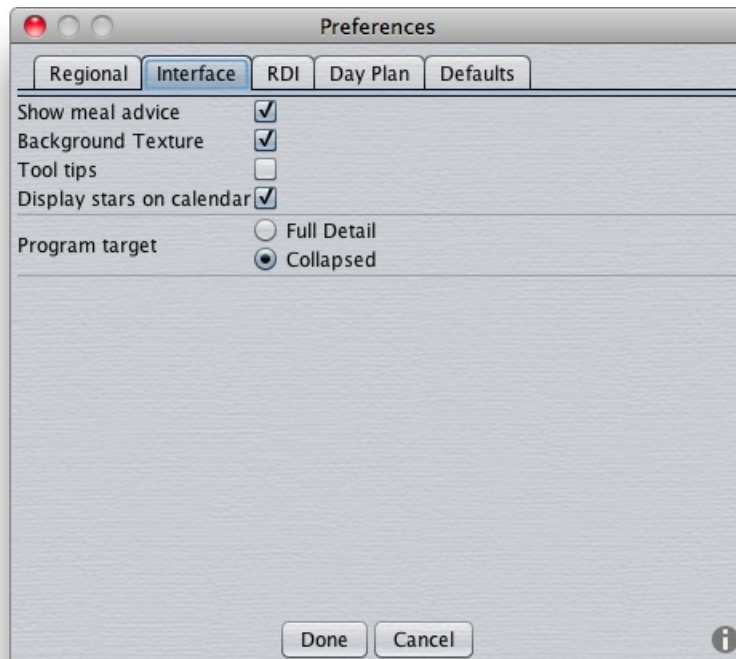
Check Box: Show Meal Advice

DAX-pro will put notes in the meal name, and in the Daily Total line in the day plan. It will point out when the glycemic load is high, when the meal contains too much protein or carbohydrates, and for the daily total it will remind you how many more meals, fruit and vegetable servings are desirable. You can turn that advice off with this check box.

Check Box: Background Texture

DAX-pro has a subtle canvas texture in all windows. You can turn it off here.

Check Box: Tool Tips

Turn off tool tips globally.

Check Box: Display Stars on Calendar

When a day plan is perfect, and diet and exercise are right on track, DAX-pro will draw a gold star on that day in the calendar. You can turn that off here.

Selection: Program Target

The program target contains a lot of information. It may be simplified by combining "good stuff" into

one bar, and "bad stuff" into another. The "good stuff" bar will combine:

- Fiber

- Vitamin A

- Vitamin C

- Calcium

- Iron

- Potassium

Whichever one of these is falling behind the most will be shown. For example if your day plan in progress is on track for both vitamins, calcium and iron, but potassium is falling behind, the "good stuff" bar will show potassium. In other words, the combined bar will show the nutrient that needs your attention the most. The hidden nutrients will be better (higher).

The "bad stuff" bar will combine:

- Sugar

- Saturated Fat

- Sodium

- Cholesterol

Whichever one of these is the furthest ahead will be shown. For example if you have successfully controlled sugar, saturated fat, and cholesterol, but sodium is getting ahead of the rest, the "bad stuff" bar will show sodium. In other words, the combined bar will show the nutrient that you need to pay attention to. The hidden nutrients will be better (lower).

Tab: RDI

The Program tab of the Preferences dialog contains all dietary values that are constant between all programs. These dietary values are important for health, not for fat loss or muscle gain. The default values for nutrients were taken from the FDA website. There is no FDA recommendation for Sugar.

Field: Sodium, Cholesterol, Sugar, Saturated Fat

These are the "bad stuff" nutrients. The values entered here are a daily target maximum. Consuming more than this may adversely affect your health.

Field: Fiber, Vitamin A, Vitamin C, Calcium, Iron, Potassium

These are the "good stuff" nutrients. The values are a daily target minimum. You must consume at least this amount of these micronutrients for health.

Tab: Day Plan

Field: Protein … Max Per Meal

Your body has a limited capacity to process protein. Consuming too much protein in one sitting is a waste of protein. The excess is converted to calories, and does not contribute to muscle building. Set the value to zero to disable checking.

Field: Carbohydrates … Max Per Meal

Similar function as the Protein field. Set to zero to disable checking.

Field: Glycemic Load … Max Per Meal

Consuming a high glycemic meal may cause a sudden rise of insulin, in response to the rise in blood sugar. This has several unwanted effects.

Field: Fruit/Vegetable Servings … Per Day

Fruits and vegetables are packed with fiber, vitamins, minerals, and enzymes. DAX-pro can count the number of fruit and vegetable servings in your day plan. It will write the remaining number into the Daily Total line of the day plan, to remind you.

Field: Meals … Per Day

Eating frequent small meals may help your body absorb nutrients better. DAX-pro will can count the

number of meals in the day plan, ans will write the number remaining into the Daily Total line of the day plan, to remind you.

Check Box: Track Cholesterol

Your blood contains LDL or "bad" cholesterol and HDL or "good" cholesterol. An excessive level of LDL cholesterol in the blood is associated with heart disease. HDL cholesterol will limit the damage done by LDL.

But dietary cholesterol and blood cholesterol are not the same thing, and their relationship is complex. Blood cholesterol levels are influenced by the amount of cholesterol in your food, but more so by the amount of saturated fat, as well as your weight, physical activity, age, sex, genetics, smoking, high blood pressure, and the level of HDL cholesterol.

Athletes who consume a high protein diet, containing plenty of meat and eggs, consume far more than the recommended intake of dietary cholesterol. Yet athletes do not, on average, have excessive blood cholesterol or heart problems. So for some people, consumption of dietary cholesterol does not lead to problems.

But everybody is different. It is a good idea to get your cholesterol tested, more frequently as you get older. Discuss your diet and exercise regime with you doctor, and bring up cholesterol.

If you and your doctor decide that the standard recommendation of cholesterol intake (300mg) is unnecessarily restrictive for you, you can raise the cholesterol target, or turn off dietary cholesterol tracking altogether.

More information on blood cholesterol can be found on the National Institute of Health website:

 http://www.nhlbi.nih.gov/health/public/heart/chol/wyntk.htm

Check Box: Track Sugar

If you control your Glycemic Load, you probably don't need to keep track of sugar as well.

Tab: Defaults
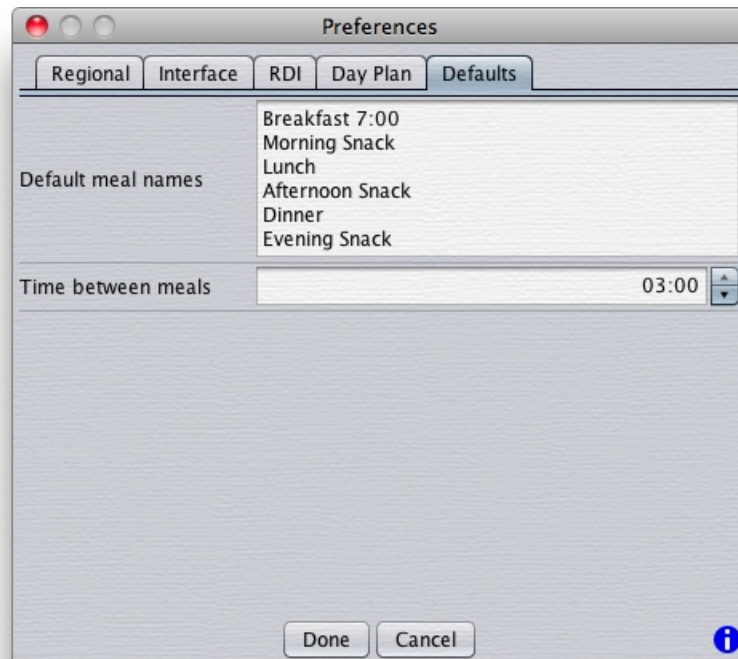
Field: Default Meal Names

The Food Amount dialog allows you to select from several default meal names. The default names are defined in this preferences field.

If a name is followed by a time, it will be used as the default time for that meal. If a meal name is specified but no time is given, the default will be the time of the item above it, plus the amount of time indicated in the "Time Between Meals" field.

In the example dialog, "Time Between Meals" is 3 hours. The first default meal name is "Breakfast 7:00". This means that default meal "Breakfast" has a default time of 7:00 am. The next line reads "Morning Snack", but it has no time. The time used for default meal "Morning Snack" will therefore be 7:00 am plus 3 hours, thus 10:00 am.

DAX-pro will recognize time in various 12-hour and 24-hour formats. For example "2:30pm", "14:30", and "1430h" are all valid expressions of half past two in the afternoon.

Field: Time Between Meals

Time between default meals, if no time is specified. See description under "Default Meal Names"

Dialog: Edit Measurements

The Edit Measurements dialog is used to let DAX-pro know your body measurements and body type. DAX-pro needs this information to perform calculations.

It can be activated from the User>Edit Measurements... menu item. The dialog appears automatically when the application is run for the first time, and when a new user is created.

Measurements are expected to change over time. Therefore, DAX-pro stores one set of measurements data per day. That is why the dialog has a date on it.

For daily changes, however, access to this dialog is not needed. The measurements that are likely to change (weight, waist, hips) can be updated directly in the Quick Update panel in the main application window.

Selection: Units

DAX-pro can accept and display body measurements in pounds and inches, or kilograms and centimeters. This option is duplicated in the Preferences Dialog.

Selection: Sex

Men and women store their body fat in different ways. DAX-pro adjusts its calculations according to this setting.

Field: Weight

Enter your weight of the day.

Field: Height

Enter your height.

Field: Neck

Measure your neck circumference at the level of the larynx or adam's apple.

Field: Waist

Measure your waist at the height of the belly button.

Field: Hips

This measurement is only needed for women. Measure your hips at the widest part.

Selection: Body Type

All bodies are different and respond differently to diet and exercise. DAX-pro will make adjustments in the daily targets, based on body type. Note that what you enter here is what your body tends to do, not your current shape. You could be a skinny person by nature, but through years of dedicated weight lifting, you have built up mass. You should still enter Ectomorph. You may have beaten down obesity, and are now slim and svelte, but if your body has a tendency to hang on to calories, still enter Endomorph.

The choices are:

- **Ectomorph: lose weight easily**
  This is for people who get lean quite easily, but have a hard time building up muscle mass.

- **Average**
  Most people are average. (Think about that for a moment)

- **Endomorph: gain weight easily**
  This is for people who are naturally "big boned".

Selection: Activity Level

Choose your daily activity level, not counting your workouts. Workouts are accounted for in the Exercise section in the Day Plan. The selection here is for what you do as part of your job or lifestyle. The choices are:

- **None: Idle**
  Hopefully you don't need this selection. It would mean that you are immobilized, bedridden, in a coma.

- **Low: desk job**
  You spend most of the day seated. You may use the stairs occasionally, or walk to the drug store.

- **Medium: on your feet all day**
  You spend a considerable portion of the day walking around, you run after the kids, do the laundry, do groceries, wash the windows. By the end of the day your feet are killing you.

- **High: physical labor**
  You have a physical job, you carry lumber, deliver mail, you are constantly climbing and carrying.

- **Very high: heavy physical labor**
  You move pianos, you bail hay, you work the nets on a fishing boat.

Field: Body Fat

This field is for the percentage of body fat. This can be estimated with a caliper or measured accurately with specialized equipment. But DAX-pro can also make a fair guess based on the other measurements in this dialog.

Button: Body Fat – Auto

This button controls the automatic computation of body fat. Deactivate it to enter the value manually.

Field: Basic Energy Expenditure

This is the amount of calories you burn during your daily activities, not including workouts. This is not easy to measure without specialized medical equipment and a technician, so DAX-pro applies a formula to estimate it.

Button: Basic Energy Expenditure – Auto

This button controls the automatic computation of the resting metabolic rate. Deactivate it to enter the value manually.

Dialog: Meal Details

The Meal Details dialog allows you to change the name and time of a meal. Double click a meal name in the Day Plan to activate the dialog.

Field: Name

Type a new name for meal.

Field: Time

Specify the time of the meal.

Check Box: Post Workout Meal

Select this check box to mark the meal as post workout. After a workout it is a good idea to consume a small high glycemic meal, to replenish the lost glycogen stores in the muscle tissue. When a meal is marked as post workout, the "Glycemic Load: HIGH" warning is disabled for that meal.

Dialog: Manage Users

The Manage Users dialog allows you to create, select, delete, and rename users.

Note that you may more conveniently select a user directly from the User menu.

Selecting or creating a new user will clear the undo data.

- To select a user, highlight the name in the list and click the Select button.

- To create a user, type a new name in the Name box, and click the Create button

- To rename a user, highlight the name in the list, type a new name in the Name box, and click the Rename button.

- To delete a user, highlight the name in the list, and click the Delete button.

Designing a Program

Targets

The most important part of any weight loss or weight gain program is the balance between calories burned and calories consumed. If you burn more than you consume, you will lose weight. If you consume more than you burn, you will gain weight.

The only sources of calories in your food are carbohydrates, protein, and fat. The next important step is to determine the relative proportion of these three nutrients. Since the total amount of calories has already been decided, dividing this between the three nutrients is like cutting a pie. The size of the pie is known: it is the amount of calories. All you can do now is to decide how large each of the three pie wedges is going to be. A popular way to express this division is "% of calories." For example, 40% of calories from carbohydrates, 30% from protein, 30% from fat. The three have to add up to 100% of course.

Once you know the total calories, and the breakdown between the three nutrients, you can compute the gram amount. Or rather, DAX-pro will do this calculation for you.

Another diet rule, often used especially by bodybuilders, is the amount of protein per pound of body weight. DAX-pro can work with that rule, too.

DAX-pro allows you to specify the amount of carbohydrates and protein in four different ways:

- % of total calories
- grams per pound/kilogram of lean body mass
- grams per pound/kilogram of total body mass
- minimum gram amount

All four rules are evaluated by DAX-pro, and the largest number is used.

The fat target is simpler. It is based on the amount of calories left, once carbohydrates and protein have been computed.

The Glycemic Load is another popular aspect of modern diets. It is a way to express the amount of "bad carbs" that you consume.

Cycling

Some popular diet strategies require frequently changing targets. "To keep the body guessing" is the phrase often used. The phrase is a little unscientific, but people report good results with cyclic diets.

DAX-pro allows you to specify up to three variations of a program, and their sequence.

The Glycemic Index and Glycemic Load

The Glycemic Index

The Glycemic Index of a food is a number between 0 and 100 that says how quickly this food will raise your blood glucose levels. This glucose response is important, because in turn, the body will produce insulin, and insulin tells the body to store away glucose as fat. A sudden rise, and subsequent drop in insulin may also make you feel hungry. So eating food with a high Glycemic Index, such as most sugary foods, may make you feel hungry shortly after you eat.

The only time that a quick rise in insulin is desirable is after strenuous activity. In that case, it is needed to replenish glycogen in the muscle tissue.

Insulin response also plays a very important part in managing symptoms of diabetes.

The Glycemic Load

The Glycemic Index number only describes the type of food. But it does not take into account how much of that food you are eating. If you eat a very small amount of a food with a high Glycemic Index, the blood glucose levels will still rise only a little bit, whereas if you eat a lot of that food, the rise will be much greater. Two slices of white bread raises blood glucose more than only one slice, even though the Glycemic Index of two slices is the same as one slice.

That is where the Glycemic Load comes in. It takes the Glycemic Index, and multiplies it with the amount of food. Actually, it multiplies with the amount of carbohydrates, but it's the same idea. The amount of food counts.

Missing Data

The Glycemic Index of a food, and therefore of the Glycemic Load, is hard to calculate. It must be measured. It not only depends on the chemical composition of the food, it also depends on how quickly the food digests, and that depends on many factors. For example, raw foods in general digest slower than their cooked counterparts. Coarsely ground grains usually digest slower than finely ground grains.

Measuring of the Glycemic Index is done by feeding test subjects a food, and analyzing their blood at various intervals after consumption. This is not something that you can do at home.

This kind of measurement has been done for a few hundred foods.

But the USDA database, and therefore DAX-pro, contains more than 7,000 food items. That leaves the majority of those food items without a known Glycemic Index or Glycemic Load.

Filling the Gaps

To fill the gaps in the data, DAX-pro utilizes a technique from Computer Science known as a Neural Network. This is a technique that can recognize patterns in data, and predict values that are missing. By training the Neural Network in DAX-pro with the food items with a known Glycemic Index, it can make a guess at the Glycemic Index of the remaining foods. And with the Glycemic Index, it can

calculate the Glycemic Load.

DAX-pro uses this Neural Network not only to calculate the missing data values in the built-in library, but also to estimate a Glycemic Index of foods that you enter yourself. At the time of this writing, that feature is unique to DAX-pro.

For the Computer Science graduates among you: DAX-pro uses a Neural Network with six input nodes (net carbs, protein, fat, fiber, sugar, saturated fat), one hidden layer of nine nodes, and one output node.

If You Are Not Losing Weight

DAX-pro is not perfect, but it is adaptable. Every body is different. It is impossible for any piece of software to predict exactly how your body will respond to a diet and exercise program.

You should not expect to lose more than two pounds per week. Faster weight loss can have adverse health effects, and is not recommended.

If you are not losing weight, even though you are diligent with your diet and exercise program, and assuming that you have no medical condition that interferes with weight loss, you can try the following adjustments:

- In the Edit Measurements dialog, under Body Type, select "Endomorph: gain weight easily".

- If it already is, go to "Activity Level", and select a lower Activity Level.

- Alternatively, you can create your own adjusted program. In the Program Library, select the program that you normally use, and edit it. Adjust the Calories field, and make it about 300 calories lower.

Under no circumstances should your calorie target drop below 1200 calories (for women) or 1800 calories (for men). If it does, you are not eating enough. Food is not only a source of calories, it provides the body with nutrients that it needs to maintain health. If the calorie target drops below this minimum, add exercise to the day plan, until the calorie target is high enough.

If You Are Not Gaining Weight

If you are not gaining weight, even though you are weight training several times a week, use sufficient weight and correct form, follow the food plan and drink plenty of water, you can try the following:

- In the Edit Measurements dialog, under Body Type, select "Ectomorph: lose weight easily"

- If it already is, select a higher Activity Level.

- Alternatively, you can create your own program, and increase the calories by about 300.

Please note that low carb dieting interferes with muscle building. Make sure that you select a program with sufficient carbohydrates.