

NUTRITION ANALYSIS

Dr Konstantinos N. Pavlou Sc.D., FAAKPE

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Introduction to "NUTRITION"

The daily trophic needs are covered with a flexible composition diet, adapted in the nutritional preferences of each individual, taking into consideration the **Hellenic nutritional habits and way of life**. The composition of meals is determined according to the **caloric needs**, but also by the requirements in **proteins, lipids, carbohydrates, trace elements, vitamins, and amino-acids**. For the composition of meals analysis, the application "**NUTRITION**" is used.

The designation of the daily needs of diet is obtained with the program "**HARMONY**", with which the **ideal bodily weight** is determined, based on the **gender**, the **age** and the **height**. The **ideal bodily weight** results from parameters that have relation with the **Body Mass Index (BMI)**. The daily caloric needs are determined by the **body type** and other parameters.

The adaptation in the **ideal bodily weight**, except of the **diet**, is combined essentially with the suitable **physical exercise and activity**, so that is **adapted** rightly, i.e. to be **decrease the fat and increase the muscular tissue**. In the case of muscular tissue reduction, **would be influenced negatively the metabolism**. For the determination of suitable individually **physical exercise and activity**, the program "**ACTIVITY**" is used.

The group of the above programs (**HARMONY, NUTRITION, ACTIVITY**), has resulted from documented researches of **Dr Konstantinos N. Pavlou Sc.D., FAAKPE**, in Medical schools of **HARVARD** and **BOSTON** in the U.S.A., in combination with all the current knowledge in the relative subjects.

The content of program "**NUTRITION**" it is:

[Generally about foods](#)

[Foods selection for analysis](#)

[Foods unit selection](#)

[Foods selection proposals](#)

[Foods pyramid](#)

[Foods categories](#)

[Foods category selection](#)

[Foods analysis](#)

[Food quantity selection](#)

[Foods analysis table](#)

[Foods analysis manual](#)

[Manual title](#)

[Manual creation](#)

[Manual retrieval](#)

Various operations

Language selection

Handbook printing

License of use registration

About the application

Termination of the application

General program description

Weight Control: Foods analysis

File Edit Manual Options Help

Manual title

Food description	Amount	Unit description	Weight
Butter, light, stick, without salt	1,000	cup	227,00
Butter, salted	1,000	tblsp	14,20
Butter, whipped, with salt	1,000	pat (1" sq, 1/3" h)	5,00
Butter, without salt	1,000	stick	113,00
Butterbur, (fuki), raw	1,000	base unit	1,00

Butter, salted

Group {All} Foods 7846 Quantity 1,5

No	Food description	Quantity	Weight (gr)	Amount	Common unit
1	Bread, whole-wheat, commercially prepared	2,	28	1	slice
>> 2	Butter, salted	1,5	14,2	1	tblsp
3	Cheese fondue	0,5	108	0,5	cup
4	Egg, whole, cooked, hard-boiled	1,	50	1	large
5	Oranges, raw, Florida	1,	141	1	fruit (2-5/8" dia)

Proximates	Energy	Water	Protein	Lipids	Carbohydrate	Ash	Fiber	Weight
Food No: 2	153	3,38	0,18	17,28	0,01	0,45	0,0	21
All the foods	558	218,43	22,39	32,03	42,00	4,71	7,2	322

Clear Foods Remove Food Update List Food Proposal Retrieve Manual Analyze Summary Analyze Complete

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The program "**Nutrition**" includes the following sections:

- [Generally about foods](#)
Foods and units of measurement, foods pyramid
- [Foods categories](#)
Foods category selection
- [Foods analysis](#)
Foods tables and preview of the basic analysis elements
- [Foods analysis manual](#)
Manual issue and preview, complete or summary
- [Various operations](#)
Language selection
Handbook printing
License of use registration
About the application
Finish of the application

Generally about foods

In the database they are included a lot of foods, from **Greece and other countries**, based mainly on the **USDA Nutrient Database for Standard Reference, Release 20 (September 2007)**.

The selection of foods for analysis becomes via the [table or the list of foods](#), while the unit of each food is selected by the [food units table](#). A general idea about the suggested diet can be given by the [foods pyramid](#).

Foods selection for analysis

Food description	Amount	Unit description	Weight
Butter, light, stick, without salt	1,000	cup	227,00
Butter, salted	1,000	tblsp	14,20
Butter, whipped, with salt	1,000	pat (1" sq, 1/3" h	5,00
Butter, without salt	1,000	stick	113,00
Butterbur, (fuki), raw	1,000	base unit	1,00
Butter, salted			

The choice of foods for analysis becomes basically by the selection table, in which are included all the foods of the selected [foods category](#).

Alternatively the choice can become via the list of foods (**yellow**, below the foods selection table).


The selected food is marked with the food ▼ indicator.

Food description	Amount	Unit description	Weight
WEIGHT WATCHERS SMART ONES, Chicken Enchiladas Suiza, Sour C	1,000	package	255,00
WEIGHT WATCHERS SMART ONES, Roast Turkey Medallions, Mush	1,000	base unit	1,00
WELCH'S ORCHARD TROPICALS Passion Fruit Drink, frozen concentra			
WENDY'S, CLASSIC DOUBLE, with cheese			
WEIGHT WATCHERS SMART ONES, Roast Turkey Medallions, Mushrooms in Sauce w/Rice and Vegetables, frozen r			

In the case of a long description, the full text for the selected food is displayed automatically in a helpful window when the mouse pointer is over the selection table, while for the other foods is displayed as long as the right mouse button is pressed on a food.

The choice can become also via the process [suggested foods](#) by the button:



Fast selection can be done also with the  **food search button**, or by the menu choice **Edit → Find food**, or by the keys {Ctrl+F}. By the same way the procedure [Foods proposal](#) can be chosen.



The food search can become with the **initial letters of food (one or more)**, and it is limited in the foods of the selected [foods category](#).

In each food of table **one or more units of measurement** correspond, which are automatically displayed on the **units of measurement table**. The selected unit is marked by the unit ▼ indicator.

Selection of food unit

Food description	Amount	Unit description	Weight
Butter, light, stick, without salt	1,000	cup	227,00
Butter, salted	1,000	tblsp	14,20
Butter, whipped, with salt	1,000	pat (1" sq, 1/3" h	5,00
Butter, without salt	1,000	stick	113,00
Butterbur, (fuki), raw	1,000	base unit	1,00

Butter, salted

For each food that is presented in the [Foods table](#), one or more units of measurement correspond. In the unit of measurement are included the *description*, the *weight (gr)*, and the *basic quantity* that is commonly used. The selected unit is marked with the ▼ indicator of unit.

Amount	Unit description	Weight
1,000	fl oz	30,40
1,000	portion (2 oz mix + ▼	106,00
1,000	base unit	1,00

portion (2 oz mix + 1.5 oz whiskey)

In the case of a long description, the full text for the selected unit is displayed automatically in a helpful window when the mouse pointer is over the selection table, while for the other units is displayed as long as the right mouse button is pressed on a unit.

Foods selection proposals

Suggested foods based on restrictions

Group **Greek Foods** Foods **329**

Food description

- Amigdalota (marzipan/macaroons)
- Amigdalota ala spetsiota
- Apple pastry
- Apple, roasted, with walnuts
- Artichokes ala polita**
- Artichokes stuffed with minced meat
- Artichokes with potatoes and carrots
- Asparagus dip
- Baklavas (pastry with almonds and syrup)
- Baklavas (pastry with walnuts, almonds and syrup)

Nutrient	Minimum	Maximum	100 gr	Nutrient	Minimum	Maximum	100 gr
Energy	0	910	Kcal	Sodium	0	38760	mg
Protein	0	90	gr	Vitamin C	0	2400	mg
Total lipid	0	100	gr	Vitamin B-6	0	20	mg
Carbohydrate	0	100	gr	Vitamin B-12	0	130	mcg
Fiber	0	80	gr	Vitamin A, IU	0	100000	IU
Calcium	0	7370	mg	Cholesterol	0	3100	mg
Iron	0	130	mg	Fatty acids total polyunsaturated	0	80	g

To build the proposed foods table, the choice of the **group** of foods is required, as well as the **minimum** and **maximum** values for each one of the shown criteria. For any criterion that no value is given, are automatically applied the zero as minimal and the biggest allowed as maximal. Does not is acceptable any value bigger than the biggest allowed. It is acceptable any combination of parameters values between the limits of each criterion.

The **group** of foods is selected by the displayed categories of foods in the list of choices.

By the **Catalog** button the table is build. The foods number appears in the above right corner of the table.

By the **Accept** button the selected food (**Food description**) is automatically transferred to the main application.

By the **Finish** button the process is terminated (the selected food is ignored).

Because of the large parameters number, some time is required for the creation of the catalog. The message: **Finding foods in progress. Please wait . . .** is shown in the lower left corner of the application.

Finding foods in progress. Please wait . . .

Foods pyramid

According to the prevailing belief, the quantities that consumes each person, depending on the category of foods, should follow the rule of pyramid, that is must be decreased as long as are increased the unfavorable consequences from their consumption.



The above picture gives a general approach of quantity of foods that it should consumes a person with regular bodily operation. Depending on the case, adapted and suitable for each individual diet should determine the expert on the diet scientist

Foods categories

The foods are **grouped in categories**, so that is easier the selection of foods **to make meals** for analysis.

The foods categories are:

{All}

Baby Foods

Baked Products

Beef Products

Beverages

Breakfast Cereals

Cereal Grains and Pasta

Dairy and Egg Products

Ethnic Foods

Fast Foods

Fats and Oils

Finfish and Shellfish Products

Fruits and Fruit Juices

Greek Foods

Lamb, Veal, and Game Products

Legumes and Legume Products

Meals, Entrees, and Sidedishes

Mediterranean Foods

Nut and Seed Products

Pork Products

Poultry Products

Sausages and Luncheon Meats

Snacks

Soups, Sauces, and Gravies

Spices and Herbs

Sweets

Vegetables and Vegetable Products

The [category selection](#) becomes through the categories list.

Foods category selection



The screenshot shows a horizontal bar with a grey background. On the left, the word "Group" is written in blue. To its right is a white dropdown menu with a small downward arrow on the right side, containing the text "Dairy and Egg Products". Further to the right, the word "Foods" is written in blue, followed by a white box containing the number "221".

The selection of category of foods becomes easily through the **categories catalogue**. For the selected category, appears the number of foods that are included.

In the category **{All}** all the foods of the database are included.

Analysis of foods

The analysis of foods concerns in the determination of composition of a group of foods in their basic elements, as *energy, proteins, lipids, carbohydrates, trace elements, vitamins, and amino-acids*.

The analysis becomes via the [analysis table](#), while the quantity of each food that will be analyzed is imported in the place [quantity of food](#).

Primitive analysis of basic ingredients of selected foods becomes immediately with the [table of information](#).

Food quantity for analysis

A screenshot of a software interface. On the left, there is a small icon of a person. To its right, the word "Quantity" is written in red. Further right is a white rectangular input field with a thin border, containing the text "1,5".

It determines the **quantity of food** that will be used in the [analysis table](#), and it is combined with the selected [unit of measurement](#) of the food.

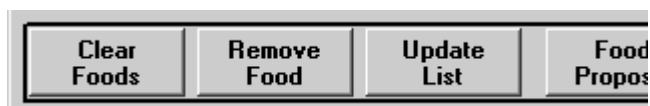
Foods analysis table

No	Food description	Quantity	Weight (gr)	Amount	Common unit			
1	Bread, whole-wheat, commercially prepared	2,	28	1	slice			
>>	2 Butter, salted	1,5	14,2	1	tbsp			
3	Cheese fondue	0,5	108	0,5	cup			
4	Egg, whole, cooked, hard-boiled	1,	50	1	large			
5	Oranges, raw, Florida	1,	141	1	fruit (2-5/8" dia)			
Proximates	Energy	Water	Protein	Lipids	Carbohydrate	Ash	Fiber	Weight
Food No: 2	153	3,38	0,18	17,28	0,01	0,45	0,0	21
All the foods	558	218,43	22,39	32,03	42,00	4,71	7,2	322

The foods table determines the composition of foods that will be analyzed. Depending on the type of manual, it can include **up to 43 foods for the complete** version, and **up to 13 foods for the concise** version.

For each food that is included in the **selection table**, becomes automatic analysis in the **information table** in the basic elements. In this preview table is included **analytically** the last food that was selected, as well as the **totals** of the selection table foods. The in detail analysis becomes with the [analysis manual](#).

The handling of foods of the table becomes by the following operation buttons:



By the press of **Clear Foods** button the table is cleared completely and the indicator **>>** is placed in the beginning. The information table is **cleared completely** also.

By the press of **Remove Food** button is removed the food that is the indicated by **>>**. The information table is **automatically synchronized**.

By the press of **Update List** button is updated the food that is the indicated by **>>**, or is imported a new food if the place is empty. The same result is achieved with the keyboard key (**Enter**). In the **information table** is presented the **analysis for the food** and is automatically updated the **analysis for all the foods** of the selection table.

Foods analysis manual

In the **analysis manual** all the information on the determination about the right diet is included.

The **manual title**, as well as its **proposed name** is defined by the selection [Manual title](#).

The manual issue is determined with the choices of the [Analysis manual creation](#).

By the selection [Manual retrieval](#), any Word document can be loaded.

Manual title

Manual title	<input type="text" value="Breakfast"/>
---------------------	--

The title of manual is **obligatory**.

It is used as **proposed name** for the manual.

Creation of analysis manual



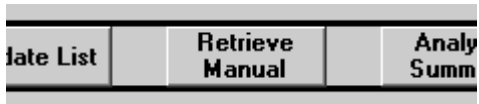
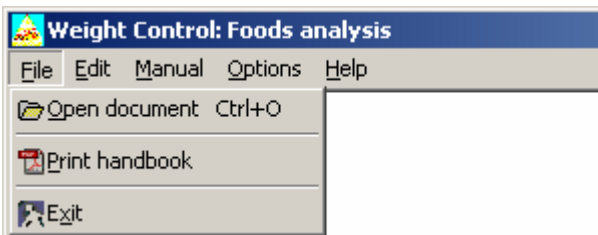
The manual of analysis of foods is produced in two versions, one **complete** with the button **Analyze Complete** and one **concise** with the button **Analyze Summary**.

The same operation is achieved by the menu item **Manual**, with the choices **Complete** and **Summary**.

The analysis can include **one or more foods**. In the complete version the maximum number is **43 foods**, while in the concise version it is limited in **13 foods**.

In the complete version is recommended to print only the pages that contain foods (usually the 4 first pages)

Manual retrieval



By the **Retrieve Manual** button or with the menu selection **File** → **Open document**, or the keys **{Ctrl+O}**, any **Word** document can be retrieved.

Various operations

The following operations are included:

- [Language selection](#)
- [Handbook printing](#)
- [License of use registration](#)
- [About the application](#)
- [Finish of the program "NUTRITION"](#)

Language selection



The languages that can be selected are the **Hellenic** and the **English**.

The active language changes each time the **language button** is pressed. The active language is shown by the **button flag**. It changes also with the usual way of Windows, provided that has already been activated the **√ Language synchronize** (menu: → **O**ptions).

The choice of language concerns in the **keyboard**, the **appearance of all labels and messages** of the application "**NUTRITION**", as well as in the content of **database fields**. It determines also the manual **printing language**.

It can be defined the start-up language of application from menu by the button **Options**.

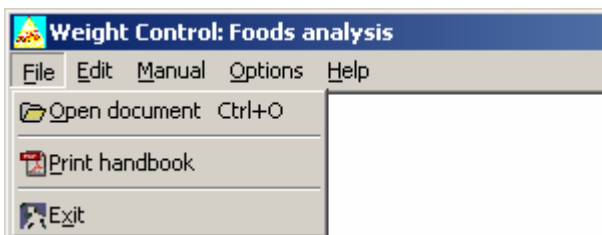



The **language cannot be changed**, while is not empty the **foods analysis table** (button **Clear Foods**).

With the selection **√ Language synchronize**, the language of application changes whenever the system language is changed. **Generally is not recommended the activation of this choice**, because **will not be possible the simultaneous typing Hellenic and English characters**. It is used only to avoid a mixed use of both the languages, as well as for **foods searching** in the alternative language. Anyway, only the **momentary** activation of language synchronization is suggested.

Handbook printing

The application **instructions handbook** contains all the information on the operation of foods analysis program.



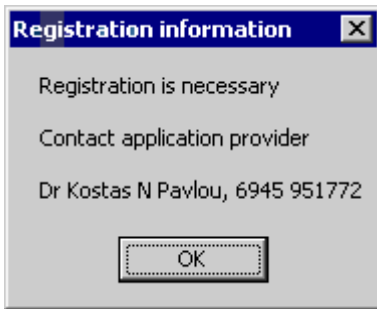
The book is in  **PDF** format and it can be recalled and printed out with the selection **File** → **Print handbook** of menu choices.

With the choice **Print handbook**, the guide handbook is recalled and it can be printed out freely.

You will need the [Adobe Reader](#)[®] viewer to print this handbook.

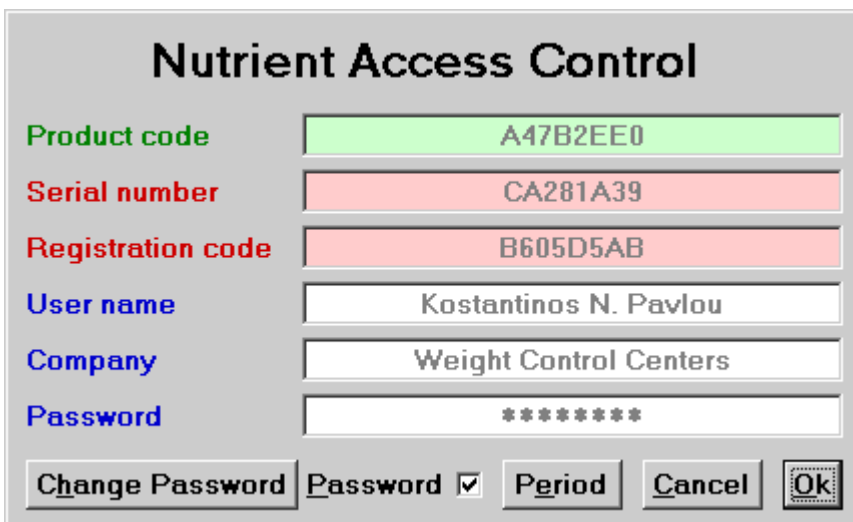
License of use registration

The legal use of the program presupposes the user registration.



For a user to be registered, it is required to ask by the owner of the application the **license of use**.

For the activation of registration, the user should be in contact by phone with **Dr Konstantinos Pavlou Sc.D., FAAKPE**, to the mobile **6945-951772**, with care of which will be installed the application in the user's system.

A registration form titled "Nutrient Access Control". It contains several input fields: "Product code" (A47B2EE0), "Serial number" (CA281A39), "Registration code" (B605D5AB), "User name" (Konstantinos N. Pavlou), "Company" (Weight Control Centers), and "Password" (masked with asterisks). At the bottom, there are buttons for "Change Password", "Password" (with a checked checkbox), "Period", "Cancel", and "Ok".

The elements of the registration are:

- **Product code**
It is granted at the installation and is unique.
- **Serial number**
It is produced by the system and is different each time it is attempted a registration.
- **Registration code**
It is connected with the **Product code** and the **Serial number**. It is granted from the owner of the application.

- **User name and Company**

They are determined by the user at the initial installation. They can be changed only from the owner of the application.

- **Password**

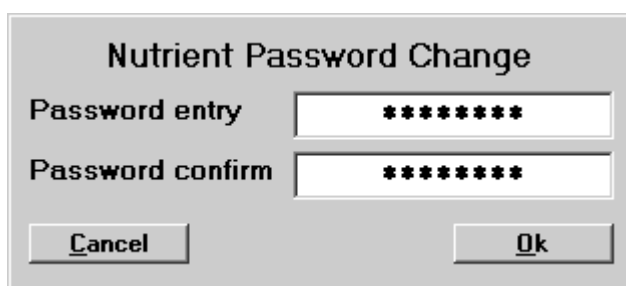
Concerns the user security from unauthorized use of the application.

Can be freely changed with the button **Change Password** (Initial: **1234**)

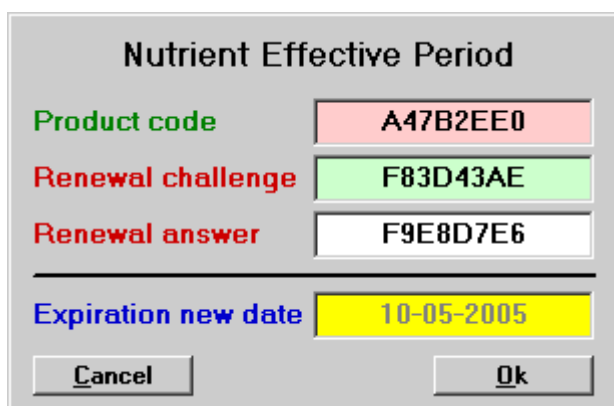
By the activation of choice **Password** ✓, it is necessary the entry of access code, each time the application is executed. The password deactivation **is not recommended**.

In order to be possible the change of **password (Change Password)**, as well as the **renewal of period of use (Period)**, should has been given the valid access code and then the key **Enter** of the keyboard, **not the button Ok** of the registration screen.


The initial keyboard language is English.



The use of application is granted for **certain period of time**. The renewal screen is displayed automatically afterwards the expiry of period of legal use, or by pressing the button **Period**.

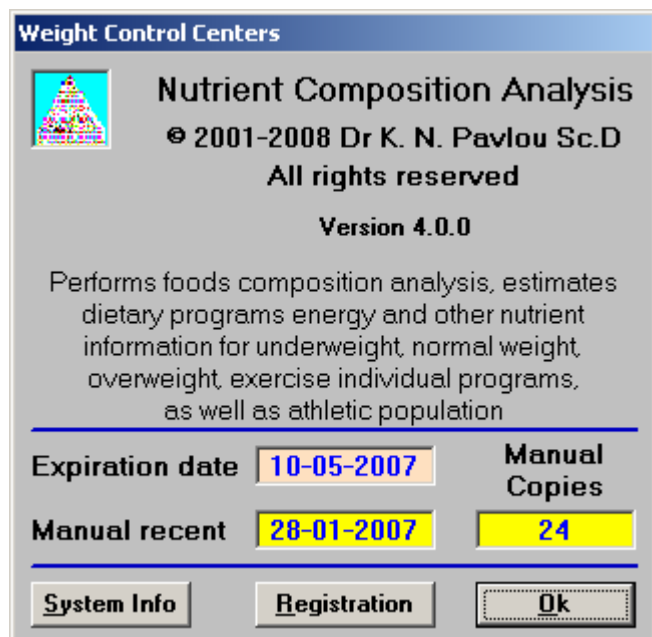


For the renewal, the user communicates with the owner of the application, it provides the **Product code** and the **Renewal challenge** and takes from him the **Renewal answer**). The renewal becomes automatically for one month (until 10 of the next month). It can be done for a longer time interval, by a special agreement, with the application owner.

Information about the license **Expiration date**, the **Manual copies** issued and the **Issue date** of the most recent manual, are shown by the **Help** menu selection  **About**.

About the application

Information is shown about the application and the system.



In the upper section presented the descriptive information on the application.

In the middle section the **expiration date** of the license of use, the **manual copies** that has been published, as well as the **issue date** of the last report are shown.

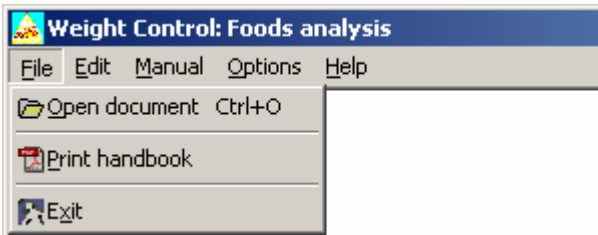
In the lower section there are the buttons:

System Info Information about the system is provided.




Registration Information for the [registration license](#) of use is given.

Ok Exit

End of program - Exit



The termination of the application **"NUTRITION"** can be done with the following ways:

- By the Exit button  at the status bar of the application.
- By the selection **File** → **Exit** on Menu.
- By the button **x Close** (or **{Alt+F4}**) at the picture  on the application's title bar.
- By the button  on the application's title bar.



Provided that the option **✓ Confirm termination** has been activated on the (**menu: → Options**), the exit must be verified by the user.

Foods composition analysis

Sample (complete)

In 100 grams of edible portion

Nutrient	Unit	Total Amount	Comments
Proximates			
Energy	kcal	184	energy, total metabolizable
Energy	kJ	768	1 kJ = 0.239 kcal
Water	g	69,20	moisture
Protein (N x 6.25)	g	6,97	total; calculated from total nitrogen
Protein adjusted ((N x 4.74)	g		for specific foods like chocolate and cocoa
Total lipid	g	14,43	fat; determined gravimetrically
Ash	g	2,14	minerals
Carbohydrate, by difference	g	7,25	100 - (Water+Protein+Fat+Ash+Alcohol)
Fiber, total dietary	g	1,0	determined gravimetrically (AOAC)
Sugars, total	g	5,83	sum of free mono-di-saccharides
Sucrose	g	0,87	crystalline disaccharide of fructose and glucose
Glucose (dextrose)	g	1,04	D-glucose only; free monosaccharide only
Fructose	g	2,46	D-fructose only; free monosaccharide only
Lactose	g	0,02	disaccharide milk sugar (glucose, galactose)
Maltose	g	0,02	disaccharide grain (malt) sugar of glucose
Galactose	g	0,02	free monosaccharide only
Starch	g	0,02	sum of polysaccharides (to glucose)
Minerals			
Calcium, Ca	mg	181	
Iron, Fe	mg	0,56	total, haem and non-haem iron
Magnesium, Mg	mg	11	
Phosphorus, P	mg	151	
Potassium, K	mg	88	
Sodium, Na	mg	446	
Zinc, Zn	mg	1,18	
Copper, Cu	mg	0,038	
Manganese, Mn	mg	0,030	
Selenium, Se	mcg	10,1	
Fluoride, F	mcg	2,4	
Vitamins			
Vitamin C, total ascorbic acid	mg	1,9	L-ascorbic plus L-dehydroascorbic acid
Thiamin	mg	0,071	vitamin B-1; aneurin; thiamine
Riboflavin	mg	0,376	vitamin B-2; riboflavine
Niacin	mg	0,391	preformed; nicotinic acid and nicotinamide
Pantothenic acid	mg	0,585	vitamin B-5; D-pantothenate
Vitamin B-6	mg	0,185	total; determined by analysis
Folate, total	mcg	20	conjugated and free folate
Folic acid	mcg		synthetic folic acid
Folate, food	mcg	20	naturally occurring food folates
Folate, DFE	mcg_DFE	20	total; food folate + (1.7 x folic acid)
Choline, total	mg	1,400	
Betaine	mg		
Vitamin B-12	mcg	0,79	all the active forms of food's vitamin B-12
Vitamin B-12, added	mcg		
Vitamin A, IU	IU	422	sum of retinol and the active carotenoids
Vitamin A, RAE	mcg_RAE	114	provitamin A carotenoids
Retinol	mcg	111	preformed vitamin A
Vitamin E (alpha-tocopherol)	mg_ATE	0,45	fat-soluble vitamins of tocopherols
Vitamin E, added	mcg		
Tocopherol, beta	mg		
Tocopherol, gamma	mg	0,08	in the lipid fraction of many seeds and nuts
Tocopherol, delta	mg		
Vitamin D	IU	9,000	sum of ergocalciferol and cholecalciferol
Vitamin K (phyloquinone)	mcg	2,8	vitamin K-1 plus K-2

Nutrient	Unit	Total Amount	Comments
Lipids			
Fatty acids, total saturated			
4:0	g	8,830	from animal sources mainly
6:0	g	0,459	butyric, tetraenoic, butanoic acids
8:0	g	0,317	caproic, hexanoic acids
10:0	g	0,259	caprylic acid, octanoic acids
12:0	g	0,829	capric acid, decanoic acids
13:0	g	0,553	lauric acid, dodecanoic acid
14:0	g		tridecanoic acid
15:0	g	1,399	myristic, tetradecanoic acids
16:0	g	0,001	pentadecylic, pentadecanoic acids
16:0	g	3,499	palmitic, hexadecanoic acids
17:0	g	0,036	margaric, heptadecanoic acids
18:0	g	1,289	stearic, octadecanoic acids
20:0	g	0,010	arachidic, eicosanoic acids
22:0	g	0,002	behenic, docosanoic acids
24:0	g	0,001	lignoceric, tetracosanoic acids
Fatty acids, total monounsaturated			
14:1	g	3,762	
15:1	g	0,001	myristoleic, tetradecenoic acids
16:1 undifferentiated	g		pentadecanoic acid
16:1 c	g	0,237	palmitoleic, hexadecenoic acids
16:1 t	g	0,058	cis 16:1
17:1	g		trans 16:1
18:1 undifferentiated	g		heptadecenoic acid
18:1 c	g	3,423	oleic, octadecenoic acids
18:1 t	g	1,020	cis 18:1
20:1	g	0,179	trans 18:1
22:1 undifferentiated	g	0,011	gadoleic, eicosenoic acids
22:1 c	g	0,001	erucic, cetoleic, docosenoic acids
22:1 t	g		cis 22:1
24:1 c	g		trans 22:1
	g		cis 24:1
Fatty acids, total polyunsaturated			
18:2 undifferentiated	g	0,790	
18:2 n-6 c,c	g	0,632	
18:2 CLAs	g	0,130	cis,cis 18:2 omega-6; linoleic acid
18:2 c,t	g	0,016	
18:2 t,c	g		cis, trans 18:2
18:2 t,t	g		trans,cis 18:2
18:2 i	g		trans, trans 18:2
18:2 t not further defined	g	0,018	
18:3 undifferentiated	g		trans 18:2
18:3 n-3 c,c,c	g	0,131	
18:3 n-6 c,c,c	g	0,019	cis, cis, cis 18:3 omega-3
18:3 i	g		cis, cis, cis 18:3 omega-6
18:4	g		parinaric, stearidonic acids
20:2 n-6 c,c	g		cis, cis 20:2 omega-6
20:3 undifferentiated	g		eicosatrienoic acid
20:3 n-3	g		20:3 omega-3
20:3 n-6	g		20:3 omega-6
20:4 undifferentiated	g	0,022	arachidonic acid
20:4 n-3	g		20:4 omega-3
20:4 n-6	g		20:4 omega-6
20:5 n-3	g	0,001	eicosapentaenoic; timnodonic acids; EPA
21:5	g		
22:4	g		
22:5 n-3	g		docosapentaenoic acid
22:6 n-3	g	0,006	docosahexaenoic acid; DHA
Other fatty acids			
Fatty acids, total trans	g		
Fatty acids, total trans-monoenoic	g		
Fatty acids, total trans-polyenoic	g		
Cholesterol	mg	108	by enzymatic or chromatographic
Phytosterols	mg	6	total plant sterols
Stigmasterol	mg		delta 7-stigmasterol
Campesterol	mg		delta 5-campestenol
Beta-sitosterol	mg		beta-sitosterol only

Nutrient	Unit	Total Amount	Comments
Amino Acids			
Tryptophan <!\>	g	0,095	<!\> basic essential L-tryptophan only
Threonine <!\>	g	0,308	L-threonine only
Isoleucine <!\>	g	0,384	L-isoleucine only
Leucine <!\>	g	0,656	L-leucine only
Lysine <!\>	g	0,567	L-lysine only
Methionine <!\>	g	0,186	L-methionine only
Cystine	g	0,071	L-cystine only
Phenylalanine <!\>	g	0,341	L-phenylalanine only
Tyrosine	g	0,308	L-tyrosine only
Valine <!\>	g	0,505	L-valine only
Arginine	g	0,292	L-arginine only
Histidine <!\>	g	0,187	L-histidine only
Alanine	g	0,338	L-alanine only
Aspartic acid	g	0,505	L-aspartic acid only
Glutamic acid	g	1,108	L-glutamic acid only
Glycine	g	0,105	L-glycine only
Proline	g	0,558	L-proline only
Serine	g	0,557	L-serine only
Hydroxyproline	g		L-hydroxyproline only
Others			
Alcohol, ethyl	g		ethanol; ethyl alcohol
Caffeine	mg		bitter crystalline alkaloid (coffee, tea, kola nuts)
Theobromine	mg		bitter colorless alkaloid of cacao bean
Carotenoids			
Carotene, beta	mcg	28	all-trans beta-carotene only
Carotene, alpha	mcg		all-trans alpha-carotene only
Cryptoxanthin, beta	mcg	6	
Lycopene	mcg		red carotenoid pigment in tomatoes & palm oils
Lutein + zeaxanthin	mcg	63	carotenoids in dark green, leafy vegetables

Foods composition synthesis

Sample (complete)

No	Food description	Food weight	Food Quantity	Unit Weight	Unit Amount	Unit description	Energy (kcal)	Water	Protein	Lipids	Carbohydrate	Ash	Fiber
333	Assortment total quantities												
612		230,45	23,21	48,04	24,15	7,12	3,3						
01	Butter, salted												
20		4,00	5,00	1,00	pat (1" sq, 1/3" high)								
143		3,17	0,17	16,22	0,01	0,42	0,0						
02	Cheese, feta												
114		3,00	38,00	1,00	wedge (1.33 oz)								
301		62,95	16,20	24,26	4,66	5,93	0,0						
03	Egg, whole, cooked, omelet												
61		1,00	61,00	1,00	large								
96		46,26	6,48	7,33	0,42	0,51	0,0						
04	Apples, raw, with skin												
138		1,00	138,00	1,00	medium (2-3/4" dia) (approx 3 per lb)								
72		118,07	0,36	0,23	19,06	0,26	3,3						

Weight Control

KENTPA ΕΛΕΓΧΟΥ ΒΑΡΟΥΣ

Foods composition analysis

Sample (summary)

In 100 grams of edible portion

Nutrient	Unit	Total Amount	Comments
Proximates			
Energy	kcal	184	energy, total metabolizable
Water	g	69,20	moisture
Protein (N x 6.25)	g	6,97	total; calculated from total nitrogen
Total lipid	g	14,43	fat; determined gravimetrically
Ash	g	2,14	minerals
Carbohydrate, by difference	g	7,25	100 - (Water+Protein+Fat+Ash+Alcohol)
Fiber, total dietary	g	1,0	determined gravimetrically (AOAC)
Sugars, total	g	5,83	sum of free mono-di-saccharides
Starch	g	0,02	sum of polysaccharides (to glucose)
Minerals			
Calcium, Ca	mg	181	
Iron, Fe	mg	0,56	total, haem and non-haem iron
Magnesium, Mg	mg	11	
Phosphorus, P	mg	151	
Potassium, K	mg	88	
Sodium, Na	mg	446	
Zinc, Zn	mg	1,18	
Manganese, Mn	mg	0,030	
Selenium, Se	mcg	10,1	
Fluoride, F	mcg	2,4	
Vitamins			
Vitamin C, total ascorbic acid	mg	1,9	L-ascorbic plus L-dehydroascorbic acid
Thiamin	mg	0,071	vitamin B-1; aneurin; thiamine
Riboflavin	mg	0,376	vitamin B-2; riboflavine
Niacin	mg	0,391	preformed; nicotinic acid and nicotinamide
Pantothenic acid	mg	0,585	vitamin B-5; D-pantothenate
Vitamin B-6	mg	0,185	total; determined by analysis
Folate, total	mcg	20	conjugated and free folate
Vitamin B-12	mcg	0,79	all the active forms of food's vitamin B-12
Vitamin A, IU	IU	422	sum of retinol and the active carotenoids
Vitamin A, RAE	mcg_RAE	114	provitamin A carotenoids
Vitamin E (alpha-tocopherol)	mg_ATE	0,45	fat-soluble vitamins of tocopherols
Vitamin D	IU	9,000	sum of ergocalciferol and cholecalciferol
Lipids			
Fatty acids, total saturated	g	8,830	from animal sources mainly
Fatty acids, total monounsaturated	g	3,762	
Fatty acids, total polyunsaturated	g	0,790	
Other fatty acids			
Fatty acids, total trans	g		
Cholesterol	mg	108	by enzymatic or chromatographic
Phytosterols	mg	6	total plant sterols
Amino Acids			
Tryptophan <!--	g	0,095	L-tryptophan only
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