YOGURT FOREVER : The Yogurt Encyclopaedia

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'Yogurt Forever' the homemade yogurt site on Internet's WWW! All the most up to date technical information on the world of acidulates made manifest in the simplest and clearest way using charts that can be easily consulted and understood. Yogurt, an invaluable aid for our health!

GENERAL CONTENTS

PREFACE

The information to be found in this hypertext does not claim to be a scientific paper on the biotechnological processes involved in the production of Yogurt and neither does it wish to damage the images of industries or dairies, which produce this foodstuff commercially. The sole aim of this modest piece of work is the propaganda and the spreading of the techniques for producing homemade Yogurt.

Welcome, therefore, to this site dedicated to Yogurt ! I'd like to ask you to take a look at the history, the contents, the benefits and the simple techniques for preparing this gift from nature. It is easy to make, has a low cost and can be prepared within your own four walls. A daily dose of this product will soon compensate you for the little time you have dedicated to it.

Since it is a fact that has been ascertained on numerous occasions, that not everyone thinks that Yogurt and dairy products in general are beneficial for our health, I have decided to include a new entry in the hypertext. In fact if you look under the section Against Yogurt you will be able to take note of the 'dissenting opinions' on the use of dairy products in the human diet.

Author's note

All the previous up-dates of the Yogurt Forever site have been possible thanks to its enormous success on Internet's WWW. Over 500,000 visitors have contacted these hypertext pages ; many of these have asked for further details or explanations about Yogurt, others have brought more news or sources from which it is possible to get new information. In little more than four years over 6,000 people have been in touch with me via Email: that's an incredible amount of messages! This is one of the aims of the Yogurt Forever site: to start up an active cooperation between 'writers' and 'readers'. On the threshold of the new century many people believe that the Web will soon turn into a giant hypermarket, full of beautiful, colourful and eye-catching windows. I, on the other hand, would like to think that Internet will continue to facilitate human relationships, as well as help us, every now and then, to believe that it can be a pleasure to do something for nothing, just to give others a hand, without worrying about the profit. At present the site is preparing to face the new millennium which coincides with its fifth year on the Net, in a new version that I have called 3.0, and once more all this has been possible thanks to the important contribution given by hundreds of visitors. I'd like to thank all these people from the bottom of my heart. Happy surfing to you all !

A special welcome to the ladies !

From a careful, meticulous and almost scientific, statistical analysis, it seems clear that over 70% of the visitors to this site are females. I, therefore, thought it was important to give them a special welcome to Yogurt Forever, with the hope that Internet's WWW does not become one of the typical chauvinistic domains which have come about in our weird and wonderful world.

Women have, for a long time, had to put up with a position of inferiority in comparison to men, this is not a novelty. Women have been traditionally relegated to certain, well-outlined and well-defined duties, such as motherhood, the home and the family. Nowadays these duties go hand in hand with a working position outside the domestic walls. Thus, we should not be very surprised that women seldom take part in the Net's projects. Their limited amount of free time and the massive, almost overwhelming presence of men on the Web, surely gives us the two most important, unbiased obstacles which prevent women from giving vent to their female creativity in cyber space. Anyone on the Net who tries, almost forcibly, to put aside spaces for women and their problems, will certainly not solve the relative situation by much: 'women's corners', 'female columns' and 'feminist collectives' will only lead to marginalizing the members of the 'fair sex' even further. Women have to, as they are already strenuously doing so, manage to conquer more and more areas in the social and political world of their countries, knowing full well that no man will ever unreservedly concede them the slightest advantage. It will take time, of course, but only at that point will they be able to approach the Net on the 'same level'. Let us hope that, in the not too distant future, women will cease to be the 'other half of heaven' and will finally take hold of their 50% of our distressed World.

YOGURT'S ORIGINS

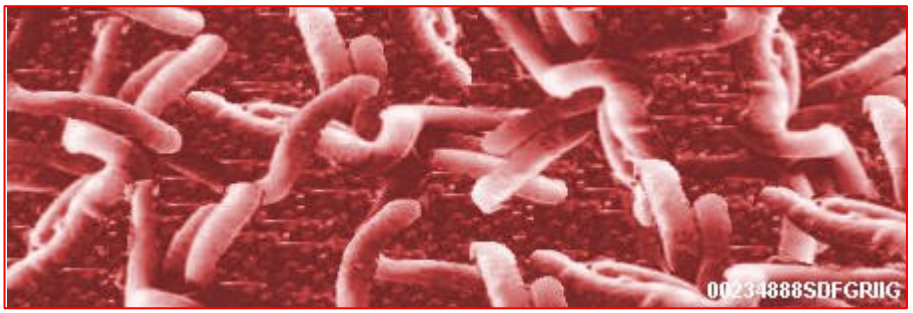
Nobody knows when Yogurt was discovered, its origins have been lost in the mists of time. What we do know for sure is that fermented milk was already being used in prehistoric times. The ancient Eastern tribes who were nomadic shepherds preserved their milk, from cows, sheep, goats, horses and camels, in containers made from these animals' skins or from their stomachs. Legend tells that Yogurt was discovered because a shepherd, forgetting some milk in one of these skins for a while, when he finally remembered it, found it transformed : into something denser and tastier. Apart from the legend, the most likely inventor of Yogurt was Yogurt itself. Reason tends to prove this theory, which anyone can check out, quite simply, in the following way : milk left to the open air, naturally transforms itself through the effects of germs, which make it coagulate and ferment. As far as Yogurt is concerned, it is easy to isolate the main cause of fermentation in the organisms present in the animal skins used as containers. The continuous migrations of the tribes from the East European Steppes brought about the spreading of Yogurt in the Mediterranean area. Later on, during the warring campaigns of the Phoenicians, the Egyptians, the Greeks and the Romans, Yogurt became common in the entire West. Its use in the kitchen is not a novelty. The first Arab recipe books describe its use in the preparation of various dishes, and even in the fables of The Arabian Nights we can find it served at marvellous banquets. In the Chronicles of the Crusades fermented milk appears once more and legend tells that Francis I of France owes his miraculous healing to treatment based on Yogurt and prescribed by a Jewish doctor from Constantinople. Further information on fermented milk starts to circulate in our area with the great travellers of the XIX century. We are amazed to find it used by tribes as far apart as the Zulus, the Russians, the Kalmucks and the Hindus. Western travellers were struck by the old age reached by both the desert Arabs and the Bulgarian shepherds, as well as other tribes from the Ottoman Empire who use Yogurt as a cure-all to purify the blood, to prevent tuberculosis, to solve intestinal problems and even to aid sleep. Even today, Yogurt is an essential part of the diet of hospital patients in Turkey. As we have already said the origins of Yogurt are lost in the mists of time. The most recent etymology of the word yogurt certainly comes from the Turkish language (meaning to knead or mix with a utensil). The product as we Westerners know it today has Armenian-Caucasian origins. However, in Central Europe the most diffused bacterial group is the Bulgarian one.

Ilya Ilyich Metchnikov

It is only at the beginning of the century that it becomes possible to study the secrets of Yogurt in a scientific way, above all, thanks to the studies carried out on bacterial flora and on intestinal problems by the Russian biologist Prof. Ilya Ilyich Metchnikov, a researcher at the Pasteur Institute in Paris. He reached the conclusion that birds live longer than mammals because the latter have a colon. Indeed, it is in this final tract of the intestine that a multitude of harmful bacteria can develop, which after a certain number of years cause serious illnesses that can dramatically shorten man's life span. According to Metchnikov, man's normal diet slowly poisons the body, weakening its defences; this poisoning process develops more rapidly if the person in question eats a lot of meat and does little exercise. Convinced of his ideas the Professor declared that the intestine can be kept free from harmful bacteria and in healthy conditions by the constant and regular use of Yogurt or other types of acid milk; he even claimed that someone who regularly eats Yogurt could quite happily live to 150 or over. Unfortunately the Professor, despite being a great scientist and a specialist in diets and geriatrics, did not know of the existence of vitamins and of the importance of mineral salts and of other components fundamental to the human diet. Metchnikov and his team managed to isolate, from a Yogurt sample, which had come from a Bulgarian tribe famous for their long life span, the bacillus responsible for its fermentation. Since then it has been known as the Bulgarian or more specifically Lactobacillus bulgaricus. From these discoveries, which earned the scientist the Nobel Prize, milk, powdered milk and tablets based on the bulgaricus bacillus become commercially available.

YOGURT'S CONTENTS

Yogurt is a product which is obtained from a biological type of food preservation (fermentation), or more precisely, from the spontaneous or controlled acidification of milk. The product's acidification happens when lactose, milk's sugar, is separated into two simpler components, glucose and galactose, with the production of lactic acid. This quality makes the product more suitable for anyone who suffers from milk intolerance, which is caused by the lack of an enzyme called lactase. The fermenting process is triggered by lactic cultures belonging to two main bacterial groups : Lactobacillus bulgaricus and Streptococcus thermophilus. The lactic cultures are mono-cellular organisms and there should be at least 2 million per gram consumed present, alive, in a quality Yogurt. The lipidic part of the fermented product remains almost identical to that of original milk, while the proteins (milk casein) are partially hydrolysed and therefore, become more digestible. In comparison with cheeses, the serum proteins in Yogurt (lacto albumin and lacto globulin) remain within the product and the simultaneous presence of lactose and lactic acid allows micro-components such as calcium and phosphorus, which can be found in abundance in both milk and Yogurt, to become more widely and immediately available. The fermented product's high level of acidity encourages the development of the intestine's bacterial flora, which is capable of successfully blocking the putrefactive phenomena within the human intestine. In conclusion, the fermented product considerably enriches the amount of vitamins inherited, especially vitamins from group B. Yogurt, therefore, is a product that puts together milk's nutritional characteristics, a product with an enormous biological value, with those of cheese, but which is more easily digested because it integrates the whole with a considerable amount of acidity, an excellent barrier against the proliferation of proteolithic, intestinal flora.



Food preservation techniques

The preservation of food, that is, the need to block those processes of adulteration that food inevitably undergoes, has always been a problem that long tormented our ancestors in times gone by. Many methods of preservation are known and each one of these is based on getting rid of the factors that cause the growth of micro-organisms, bringing about the organic decomposition of food products. Food's main adulterating factors can be divided into three groups :

a. *Microbiological factors* : mould, yeast and bacteria are micro-organisms present in the environment, which cause food adulteration. Some of these, known as pathogenic, can cause illnesses and intoxications.
b. *Physical factors* : Light encourages the formation of free radicals, which can trigger degenerating phenomena. Heat encourages the development of germs.
c. *Chemical factors* : Oxygen allows food substances to oxidise. Enzymes are animal and vegetable cells own substances, which after the death of their host cause the destruction of the existing cell structures.

The main food preservation techniques can be summed up in the following chart:

FOOD PRESERVATION TECHNIQUES		
Methods used	**Techniques**	**Means**
Heat	Pasteurisation	Temperatures lower than 100 ° C
	Sterilisation	Temperatures over 100 ° C
Cold	Refrigeration	Temperatures from 0 to 10° C
	Freezing	Temperatures at -15 ° C
	Deep freezing	Temperatures at -40 ° C
Water removal	Evaporation	Boiling
	Drying	Exposed to heat sources
	Lyophilisation	Removal of water
Radiation	Radiation	Exposed to wave beams
Biological	Fermentation	Active cultures
	Acidification	Active cultures
Chemical	In brine	Salt
	Smoking	Smoke
	In oil	Oil
	In vinegar	Vinegar
	Anti microbe additive	Addition of anti microbes
	Anti oxidising additive	Addition of anti oxidising agents
Air removal	In a vacuum	Removal of air
	Modified atmosphere	Pressure modification

Here below you can find a list of the most important steps in the history of food preservation techniques

HISTORY OF FOOD PRESERVATION TECHNIQUES	
When technique first introduced	**Technique**
Since ancient times…	Drying, In Brine, Smoking, Dehydration and Acidification
1800-1810	Sterilisation (first *tins*)
1850-1860	Forced drying
1900	Lyophilisation
1910	Industrial thermal sterilisation
1920	Refrigeration (first *fridges*)
1930	Deep freezing
1940	Industrial drying
1960	Freshness preserved in a controlled atmosphere

How mass produced Yogurt is made

For the mass production of Yogurt in factories, bacteria cultures in specific amounts are added to milk and left for a period of incubation for 2 to 4 hours, at a constant temperature of around 40 – 44 °C. Bacteria need high temperatures in order to be able to separate the large lactose molecule into smaller molecules (glucose and galactose); the lactic cultures draw energy from the latter and generate lactic acid as a waste product. The main stages in the mass production of Yogurt are the following :

a. Milk pasteurisation
b. Correction of dry residues using a milk concentration obtained by evaporation
c. Heating the milk at temperatures of 40-44°C
d. Addition of selected bacteria cultures
e. Acidification of the product by incubation for 3-6 hours
f. Homogenisation of the milk, that is, the mechanical fragmenting of fat globules
g. Cooling at a temperature of 4°C
h. Possible addition of cooked fruit
i. Possible addition of aromas and/or potassium sorbate
j. Packing the Yogurt into sterile containers
k. Refrigerated preservation at a temperature from 4 to 10°C
l. Eating the product within and not after 40 days

The product must never be eaten after 40 days, in fact after this time limit the number of micro-organisms present in the product starts to decrease dramatically.

How to prepare homemade Yogurt

For the preparation of homemade Yogurt the acidification mechanism is much simpler ; a small quantity of industrial or homemade Yogurt is added to pasteurised milk, which provokes a spontaneous reaction. The main stages in the production of homemade Yogurt are the following :

a. Heating the milk to boiling point
b. Correction of dry residues using a milk concentration obtained by evaporation (boiling)
c. Stabilisation of the milk's temperature at 40-44°C
d. Addition of bacteria culture (or of a small amount of Yogurt)
e. Acidification of the product by incubation for 12-24 hours
f. Progressive cooling (up to about 4°C)
g. Pouring the Yogurt into sterile, glass, airtight containers
h. Refrigerated preservation at a temperature from 4 to 10°C
i. Eating the product within a week

Here below you will find a chart with all the fundamental components of a homemade Yogurt made with cow's whole milk given in percentages.

HOME-MADE YOGURT MADE FROM COW'S WHOLE MILK	
Contents	**Values (%)**
Water	87
Proteins	3,5
Lipids	3,9
Glucides	3,6
Organic acids	1,15
Ashes	0,7
Alimentary fibres	0
Amount of product digested after an hour	91
Live lactic cultures=2 million per gram of product (minimum value)	
Energetic content for 100 grams=63 kcal	

The percentages given can be varied if referred to Yogurts derived from whole milk which comes from sheep, goats, horses or other animals; moreover these percentages vary according to their skimming or to any additions of fruit, as can be noted in the following chart:

VARIOUS TYPES OF YOGURT				
Contents	**Yogurt gained from cow milk**			**Yogurt with fruit (%)**
	Whole (%)	**Partially skimmed milk (%)**	**Skimmed (%)**	
Water	87	89	8	81
Proteins	3,5	3,4	3,3	2,8
Lipids	3,9	1,7	0,9	3,3
Glucides	3,6	3,8	4	12,6
Lactic acid	1,2	1,2	1,2	1,2
Ashes	0,7	0,72	0,75	0,7
Alimentary fibres	0	0	0	-
Energetic content per 100 grams	63 kcal	43 kcal	36 kcal	88 kcal

Fermented milk can be divided into two main categories : Acid milk and acid-alcohol milk, depending on whether the main product transformed is solely lactic acid or lactic acid together with a considerable amount of ethyl alcohol. Kefir is one of the most interesting types of acid-alcohol fermented milk, from the Caucasian area, also to be included Kumys or Kummiss from Russia. In this compendium we will only be taking a look at acid milk.

Yogurt's energetic contents

In the last column of the previous chart you can see Yogurt's energetic contents, which highlight the low number of calories of this product; in fact, in this product proteins, lipids and glucides are perfectly balanced. While, its contribution of vitamins and mineral salts is excellent and essential for our organism to function well. Here below you will find the average energetic contents of various food based on proteins, lipids and glucides compared to Yogurt.

AVERAGE ENERGETIC CONTENTS	
Food based on	**Values (kcal/gram)**
Lipids	9
Proteins	4
Glucides	4
Yogurt	1,6

Please note that the kilo calorie (kcal) refers to the amount of heat needed to raise the temperature of 1 kg of water by 1°C. The following chart highlights how many calories amateurs burn during certain sports activities for periods of time not longer than 60 minutes:

CALORIES BURNED DURING 60 MINUTES OF NON COMPETITIVE PHYSICAL ACTIVITY	
Sport	**Calories burned (kcal)**
Golf	250
Volleyball	250
Back stroke (swimming)	250
Free style (swimming)	300
Basketball	450
Singles tennis	600
Doubles tennis	350
Cycling races on the road	360
Cycling races on track	700
Canoeing	500
Football	600
Squash	650
Cross country skiing	750
Downhill skiing	650
Water skiing	460
Figure skating	600
Speed skating	720
Running	800

Yogurt in Italy

Unfortunately in Italy little Yogurt is eaten. However, it is important to note that all the statistics are based on mass produced products bought from national retail outlets; many people prefer to make their own Yogurt at home, thus obtaining an excellent homemade Yogurt. Here below you will find a summarising chart on the amount of Yogurt consumed per person in some European countries.

CONSUMPTION OF YOGURT IN EUROPE	
European countries	**Annual consumption per person (kg)**
Holland	15
Switzerland	13
France	9,3
Austria	8,2
Spain	7,1
Italy	6,5

In Italy most Yogurt is eaten by women and therefore, this site's success with women is certainly not accidental. Italians love to eat it at home (90%) as a snack. Children, on the other hand, prefer to eat it outside the home. The habit of eating Yogurt is more widespread in the West in heavily industrialised areas and even in Italy we can find the same trend: in fact, over 50% of the national share of this product is eaten in the North, 30% in the Centre, while in the South eating Yogurt is only an occasional habit.

YOGURT'S CONTENTS

From an alimentary point of view, milk's main characteristics consist in proteins, lipids and a considerable contribution of calcium and phosphorus. Some elements come directly from the animal's udder, others directly form the blood; harmful germs and undesired chemical substances could be transferred from these very sources. A healthy and natural breeding of the animal is, therefore, of extreme importance in order to produce high quality milk. The pasteurisation of milk practically eliminates all the possible sources of risk, which could come from the harmful germs present, but it does not eliminate the possibility of transferring dangerous chemical substances to the human organism, which are sometimes used in the breeding of these animals. Here below you will find a chart, which contains the fundamental values of the contents of cow's whole milk and its details.

COW'S WHOLE MILK		
Contents	**Details of the contents**	**Values (%)**
Water		87,3
Proteins	Casein	3,18
	Seroproteins	
	Enzymes	
Lipids	Tri-glycerides	3,64
	di-mono-glycerides	
	Fat free acids	
	Sterol (cholesterol etc.)	
Glucides	Lactose	4,72
	Amino sugars	
Mineral substances	Calcium, magnesium, potassium, phosphorus, sodium	0,56
	Phosphates, chlorides, sulphates, bicarbonates	
Organic acids	Citrates, lactates	0,18
Non-proteinous nitrogenous substances	Free amino-acids	0,4
	Urea and ammonia	
	Creatine and nucleotides	
Vitamins	Liposolubles (A, D, E and K)	-
	Water soluble B1, B2, B12, PP, C, pantothenic acid	
Gas	Oxygen and nitrogen	-
Microelements	Zinc, iron, copper, selenium, iodine, silicon, chromium	-
Alimentary fibres		0
Amount of product digested after an hour		32
Energetic content of 100 grams = 61 kcal		
Weight of 1 litre of product = 1030 g		

The percentages reported could vary, depending on whether they refer to sheep, goats, horses, or other animals. Milk's nutritional principles, as you can see, are contained in a minimum amount since it is mostly made up of water.

Water
60% of the human body is composed of water, therefore, it is essential for the survival of our organism. It is possible to fast for very long periods without running the risk of irreversible complications. However it only takes 48 hours without water to cause serious metabolic alterations. Our average, daily need for water is around 2.5 litres, 50% of which is absorbed through the food we eat in a normal, balanced diet and the rest by directly drinking liquids. Water does not contribute any calories, therefore, it does not make you put on weight, on the contrary, a lot of water should be drunk during slimming diets so as to eliminate all the toxins. It is particularly important to drink water in the morning and at night before going to bed so as to stimulate the activity of the kidneys. It is advisable to drink with moderation during meals and in larger quantities at the end of digestive periods in order to improve the general efficiency of the stomach's digestion. Water is present in milk at a ratio of over 80%.

Proteins
They actively contribute to the renewal of our organism's tissues and cells. In some extreme cases (prolonged fasting) they can even become a source of reserve energy and can supply up to 4 kcal per gram of proteins. Our average daily need is around 1 gram for every kilo of body weight. They can be classified in two main groups :

a. *Proteins from animals* : they are considered to be of high biological value and can be found in meat, eggs, milk and all its by-products.
b. *Proteins from vegetables* : they can be found in pulses and cereals.

It is advisable to have a daily dose of both of these proteins in equal quantities. Milk is rich in proteins with a high biological value.

Lipids
Lipids or fats are nutrients with a high number of calories, in fact, one gram of fat supplies around 9 kcal. Fats, which enter the human body, collect within the fat tissues, ready to be used for all the energetic needs of the cells. They also act as the body's thermo regulator and keep up the aggregation of liposoluble vitamins. They can be classified in two main groups:

a. *Saturated fats* : they can be found, in particular, in food gained from animals (meat, cooked meats, butter, cheese and milk)
b. *Unsaturated fats* : found in vegetables (seed oil, olive oil and fish)

A daily intake of fats equal to 30% of the total number of calories necessary is recommended. It is a good idea not to exaggerate with the use of lipids and when possible to go for the vegetable type. The percentage of saturated fats present in milk is variable and depends on the type of product (skimmed milk, powdered, etc.).

Glucides
They are also known as carbohydrates or sugar and represent our main energy source, which is immediately available for our body's energetic needs. In a balanced diet, glucides represent 55% of our daily calorie intake. They have calorie power equal to 4 kcal/g. They can be classified in two main groups :

a. *Simple glucides* : found in sugar, fruit, sweets, honey, soft drinks and milk (glucose, fructose and galactose)
b. *Complex glucides* : found in flour, bread, pulses, pasta, potatoes and rice (starch)

There should be a daily intake of 90% of complex glucides and the remaining 10% of simple glucides. Milk contains a good percentage of simple glucides.

Mineral salts

Mineral salts have an extremely important role, working to support, to regulate the water-saline and osmotic balance and to catalyse metabolic processes. They are, therefore, essential for our organism to work well. There must be a daily intake of mineral salts (mineral substances and micro-components), even if only very small amounts are required. If we have a varied and rational diet we certainly satisfy our daily need for mineral salts. Mineral salts can be damaged by heat and light, therefore, they are partially destroyed when food is cooked. Here below you will find a simple guide to minerals:

GUIDE TO MINERALS		
Minerals	**Symbol**	**Symptoms from a lack of**
Calcium	Ca	No growth, rickets, osteomalacia and convulsions
Phosphorus	P	Weakness, bone demineralisation and loss of calcium
Magnesium	Mg	Growth blocked, behavioural problems and spasms
Sodium	Na	Muscular cramps, mental apathy and reduced appetite
Potassium	K	Muscular weakness and paralysis
Chloride	Cl	Muscular cramps, mental apathy and reduced appetite
Sulphur	S	Concerning the lack of sulphurated amino-acids
Iron	Fe	Anaemia from lack of iron (hypochromia)
Zinc	Zn	No growth and hypogonadism
Iodine	I	Hypothyroidism (decrease in metabolism)
Copper	Cu	Anaemia
Fluoride	F	Bad teeth
Manganese	Mn	Not verified
Chromium	Cr	Reduced capacity in metabolising glucose
Selenium	Se	Not verified
Molybdenum	Mo	Not verified

Nearly all the minerals listed can be found in variable and different amounts in milk.

Vitamins

Vitamins are essential in order for our body to function normally, since they take part in all the reactions which take place in our bodies. Our organism is not capable of synthesizing vitamins (except in some exceptional cases) and therefore, with our food we need an intake of them. They are divided into water soluble ones and liposoluble ones ; the former can be dissolved in water and therefore, easily eliminated, while this is not possible for the latter, which if taken in excessive doses can lead to hypervitaminosis (an excess of vitamins). The lack of vitamins is very common even in rich, Western countries, in fact it can be caused by diets which are too monotonous, by unbalanced slimming diets, by a decrease in intestinal absorption, by a sudden increase in our need (growth, pregnancy, breast feeding, etc.), by the use and abuse of medicines and by pathological factors (alcoholism, infectious diseases, cancer, etc.). Some types of vitamins can be damaged by prolonged cooking or by their prolonged exposure to sunlight. Here below you can find a simple guide on vitamins:

GUIDE TO VITAMINS		
Vitamins		**Symptoms from a lack of**
Water soluble	C (Ascorbic acid)	Scurvy, loss of teeth, dry and rough skin, sores and haemorrhages
	B1 (Thiamine)	Beriberi, mental confusion, cramps, muscular weakness and heart dilatation
	B2 (Riboflavin)	Damage to the skin and light sensitivity
	PP (Niacin)	Damage to the skin, light sensitivity, pellagra, dementia, furred tongue, diarrhoea, mental confusion and irritability
	B6 (Pyridoxine)	Damage to the skin, furred tongue, convulsions, dizziness, anaemia and kidney stones
	Folacin (Folic acid)	Megaloblastic anaemia, furred tongue and diarrhoea
	B12 (Cobalamin)	Hyper chronic, megaloblastic anaemia, pernicious anaemia, degeneration of the peripheral nerves
	Pantothenic acid	Not verified (vomit, abdominal pains, tiredness and insomnia)
	Biotin	Not verified (tiredness, depression, nausea, loss of appetite and pains)
Liposoluble	A (Retinol)	Night blindness, wrinkly skin, reduced growth, loss of teeth and cornea ulceration
	D (Calcium and iron)	Rickets, slow growth, bow legs, bulging abdomen, osteomalacia and muscular spasms
	E (Tocopherol)	Damage to red globules
	K	Haemorrhages

Nearly all the vitamins listed can be found in milk in variable and different amounts.

Alimentary fibres

When using the vague term of alimentary fibres we refer to a mixture of substances such as gum, lignin, hemi-cellulose and cellulose, which make up the cell walls of vegetables. Fibres are neither digested nor absorbed by the human body, but still have a very important role. There are two types of alimentary fibres : soluble fibres and insoluble fibres; the former (found primarily in non refined cereals and in pulses) expand in contact with the intestinal liquids, thus considerably increasing their volume and activating significant intestinal movements. Eating around 30-40 grams of alimentary fibres a day should be perfect to help the intestine to function well. Milk, and therefore Yogurt, does not have alimentary fibres, but both can be eaten with cereals which have a high fibre content, such as porridge oats, whose taste and consistency are well suited to Yogurt.

Milk and some of its by-products, which can be found in Italy
The following chart compares different types of milk available on the Italian market:

MILK FOUND IN ITALY					
Types of milk	**Contents (%)**				**Energy (kcal x 100 g)**
	Water	**Proteins**	**Lipids**	**Glucides**	
Goat	86,3	3,9	4,3	4,7	72
Sheep	82,7	5,3	6,9	5,2	103
Whole *	87,3	3,18	3,64	4,72	61
Partially skimmed *	88,5	3,5	1,8	5	49
Skimmed *	90,5	3,6	0,2	5,3	36
Condensed **	26,5	8,7	9	56,5	327
Evaporated	74	7	8,2	8,6	134
Whole Powdered	3,2	25,7	24,9	42	484
Semi-skimmed powdered	4,2	28,8	12,7	50,2	418
Skimmed powdered	5	33,1	0,9	56,2	351
* = Cow ** = sugared					

The following chart compares the contents of some of milk's by-products sold in Italy:

SOME MILK BY-PRODUCTS FOUND IN ITALY					
By-products	**Contents (%)**				**Energy (kcal x 100 g)**
	Water	**Proteins**	**Lipids**	**Glucides**	
Yogurt*	87	3,5	3,9	3,6	63
Caciocavallo	30	37,1	31,1	-	431
Caciotta**	37	25	28,3	2,1	364
Gorgonzola	42,4	19,4	31,2	-	358
Grana	30,5	35,3	25	3,7	381
Gruyere	32,1	30,6	29	1,5	388
Mascarpone	44,4	7,6	47	-	453
Mozzarella	60,1	19,9	16,1	4,9	243
Parmesan cheese	29,5	36	25,6	-	374
Aosta cheese	41,1	24,5	26,9	0,8	343
Emmenthal	34,6	28,5	30,6	3,6	403
Pecorino	32,3	28,5	28	-	366
Provolone	39,6	26,3	28,9	-	365
Cottage cheese**	75	9,5	15	4	188
Scamorza	58,7	22,7	10,1	7,2	209
Stracchino	53,5	18,5	25,1	-	300
Processed cheese***	52,6	11,2	26,9	6	309
* = home-made from cow's whole milk **= from sheep milk *** = fat					

Pasteurisation
Most milk undergoes the pasteurisation process, that is, it is heated to a temperature of at least 72°C for 15 seconds and not more, then suddenly cooled to 7-10°C and poured into sterile containers. The process destroys all harmful germs, but also some of the vitamins and calcium contained in the product.

WARNING ! New unpasteurised milk is a receptacle for harmful bacteria, such as typhus, tuberculosis, diphtheria, scarlet fever, diarrhoea and other serious illnesses. ABSOLUTELY AVOID DRINKING IT !

A curious fact : five litres of milk a day would be enough to satisfy anybody's calorie needs, but since our organism does not only need calories, it would lead to organic dysfunctions due to a lack of essential products.

YOGURT IN THE WORLD

Given that Yogurt is known all over the world, it can have different names depending on where it originates from or where it is produced. All Yogurts are based on a similar fermentation process, the variations depend on the type of milk used and/or the cultures used to trigger off the catalytic process.

THE NAMES GIVEN TO YOGURT IN THE WORLD			
Region	**Name**	**Region**	**Name**
Armenia	*Mazun, Matsoon*	Sardinia	*Gioddu, Miciuratu*
East Carpathians	*Huslanka*	Iceland	*Skyr*
Balkans	*Tarho*	Asia Minor	*Leben, Laben*
Sicily	*Mezzoradu*	Scandinavia	*Taette*
Finland	*Plimae*	Caucasus	*Kuban*
Jugoslavia	*Kysla Gravenica*	Siberia	*Koumiss*
Egypt	*Leben, Laban*	Norway	*Kaelder-milk*
West Carpathians	*Urda*	Chile	*Skuta*
Turkistan	*Busa*	India	*Dahi, Lassi*
Bruma	*Tyre*	South Russia	*Kefir, Kuban*
Central Asia	*Koumiss*	Angola	*Kaffirs*
Far East	*Saya*	Laponia	*Taetioc*
Arab countries	*Leben*	Albania	*Koss*
Montenegro	*Skorup*	Hungary	*Tarhò*
Greece	*Kajmak*	Italy	*Yogurt*
Macedonia	*Kysla Grusavina*	The West	*Yogurt, Yoghurt*
Caucasus	*Kefir*	Russia	*Kumys, Kummiss*

Animals

Yogurt can be obtained from milk from various female animals. The characteristics of various types of acid milk can be very different from each other since the various animals can be fed and bred differently, as well as having very different internal metabolisms. It is possible to obtain excellent acidulates from the following animals : cows, buffaloes, sheep, goats, donkeys, horses, dromedaries, lamas, alpacas, camels, wild sheep and impalas.

YOGURT AND YOUR HEALTH

The particular combination of its components makes Yogurt irreplaceable and indispensable for our digestive organs to work well. Live lactic cultures and its essentially acid basis, as well as the presence of the vitamin B complex, allows Yogurt to carry out an important regulating action on the intestine, working successfully against the putrefactive and anomalous fermenting factors of the bilious system. Yogurt is a direct by-product from milk maintaining its components in their entirety and richness, but it is much more digestible. This is because the acidification process causes the separation of complex protein chains and the fine flocculation of proteins, something that happens spontaneously and naturally in the human mother's milk. When cow milk or other animals' milk comes in contact with our gastric juices it coagulates in a block, heavily overloading our stomach. Milk is digested by our organism using an enzyme, lactose, whose amount of secretion decreases with the changes of food patterns during weaning. Therefore, milk is more digestible for a child than for an adult. The presence of the PP vitamin in Yogurt and of pantothenic acid protects our organism from digestive problems as well as nervous ones. Yogurt is rich in mineral salts, particularly in calcium, which in the shape of calcium lactate remains for a long time in our intestine, notably increasing our capability of assimilating our food. This characteristic makes Yogurt particularly suitable for children, elderly people, convalescents and anyone who suffers from digestive problems. Yogurt, if it is in a rather liquid form, can be put into the final tract of the human intestine using an enema, here it acts as a mild laxative and at the same time sees to regenerating the colon's bacterial flora. The lactic bacilli carry out some important and sometimes indispensable functions inside the intestinal bacterial flora such as :

a. Activating the digestion of glucides and proteins
b. The synthesis of group B (nervous balance and hepatic function) and group K (blood coagulation) vitamins
c. Acidification of the intestinal tract thus preventing the development of pathogenic germs
d. Synthesis of antibiotic substances
e. Suppression of certain cancer cells

Some medical uses of Yogurt, from its wonderful antibacterial properties in the lactic cultures, have been clinically tested. Acidulates can be used successfully for :

a. Stopping dysentery caused by bacteria or by an unbalanced diet
b. Regenerating the intestinal bacterial flora during and following antibiotic treatment
c. Healing oral or skin infections such as eczema, ulcers and abrasions
d. Soothing chronic constipation
e. Helping gastro-intestinal problems
f. Making up for a lack of vitamins
g. Feeding people with serious digestive problems
h. Substituting milk in cases of digestive or allergy problems
i. Alleviating states of anxiety

According to some doctors and researchers Yogurt helps to alleviate some problems and reduce infections from viruses of dangerous bacilli. Yogurt can be used against :

a. Epilepsy and convulsions
b. Problems of anxiety
c. Typhus and Para-typhus
d. Tuberculosis
e. Diphtheria
f. Measles
g. Scarlet fever
h. Small pox
i. Viral hepatitis
j. Cholera
k. Influenza fevers

Food allergies

An important and serious problem exists as far as allergies to milk are concerned. Using the term allergy we mean that besides the allergy itself there is intolerance towards a certain product. Even if the two pathologies are similar, they are different in that the former is of an immunology type, while the latter is not. Milk is one of the food products that causes the highest frequency of food allergies, in fact more than 13% of western populations are allergic to this important food product (source Moneret-Vautrin, 1982, France). On the other hand Yogurt drastically reduces this figure, as can be seen in the following chart :

FREQUENCY OF FOOD ALLERGIES (Populations in the West with this allergy)	
Food	**Frequency (%)**
Fish	16,3
Eggs	14,9
Milk	13,8
Shell fish	13,8
Celery	6,9
Flour	4,8
Nuts	4,7
Apples	4,4
Peaches	4,3
Pulses	3,8
Potatoes	2,5
Pork	1,3
Bananas	1,2
Strawberries	1,2
Grapes	1,1
Yogurt	1,0
Chicken	0,9
Aubergines	0,9
Oranges	0,9
Artichokes	0,9

Food additives

Food additives are substances without nutritional power or used for non-nutritional reasons, which when added at any stage of the food process, do not allow any physical/chemical alterations in the food, thus preserving it for long periods of time. Some additives are used to highlight certain characteristics of the product, such as appearance, taste, smell or consistency. The laws in force allow the use of certain food additives in specific doses and oblige the companies who make use of these additives to point out their use and print their name or symbol on the packaging of the product. The maximum daily intake of a food additive for a person is standardised by a law drawn up by world food experts (FAO/WHO). It is known as DGA, that is, Dose Giornaliera Ammissibile (daily acceptable dose). There are as many DGAs as authorised food additives. The use of food additives in order to preserve food products is based on the principle of the ratio between Risk/Benefit, that is, the possibility of improving the preservation of a product for a certain period of time without running any risks for our health. The risk could even be acceptable, but unfortunately nowadays, hundreds of additives are used and often only to make products more appetising, not to improve the standards of preservation. All food additives are catalogued with a number preceded by the letter E. Food additives can be divided into the following groups :

a. *Antioxidants* : Prevent the product's oxidisation, triggered by oxygen present.
b. *Antimicrobes* : Prevent the growth of bacteria, mould and yeast inside or on the surface of the product.
c. *Flavouring* : They add particular smells and tastes to a product.
d. *Jellying* : They give the product a jellied appearance.
e. *Thickeners* : They give the product more consistency.
f. *Emulsifiers* : They encourage emulsion and add softness to the product.
g. *Colouring* : They add colour to the product or just to its surface.

WARNING ! Nearly every day researchers are discovering how toxic certain food additives are, which had been previously authorised. It is a good idea to limit their use as much as possible.

Unfortunately, all these food additives can be used successfully in the mass production of Yogurt, in particular they are often used in flavouring or emulsifying products. Only by eating homemade Yogurt can we be sure that we will not be introducing potentially harmful products into our organism because of the use of food additives. The following chart highlights some food additives for which the Risk/Benefit principle is applied.

FOOD ADDITIVES (Risk/Benefit principle)				
Types	**Symbols**	**Maximum consented doses**	**Treated food products**	**Damage caused by excessive doses**
Sodium Nitrate	E251	250 mg/kg	Meat, sausages, cooked meats and meat in tins	Metemoglobinemia Cancer causing effects
Potassium Nitrate	E252			
Potassium Nitrite	E249	150 mg/kg		
Sodium Nitrite	E250			
Butilidroxianisol	E320	0,1%	Chewing-gum	Serious kidney problems
		0,003%	Flour and dehydrated mash potato	
Butilidroxitoluol	E321	0,03%	Chips	
Octyl gallic salt	E311	0,1%	Chewing-gum	Sterility (detected in rats and guinea pigs)
		0,003%	Potato flakes	
Dodecile	E312	0,01%	Fats and oils (excluding olive oil)	
Propyl	E313	0,01%	Ready made dishes prepared with dehydrated mash potato	
Sulphurous anhydride	E220	various	Wine, jam, fruit juices, soft drinks, flour, dehydrated mash potato and vinegar.	Suffocation Irritation Vitamin B1 destruction

Interaction between pharmaceutical products and nutrients

Many medicines can interact with food and vice versa. In these cases we usually notice a decrease in the absorption of the product, a modification in our metabolism or a blocking of the therapy. The following chart, just as an example, highlights some possible interactions between medicines and nutrients.

INTERACTION OF MEDICINES/ABSORPTION OF NUTRIENTS			
Medicine	**Indications**	**Nutrients affected**	**Mechanism**
Colestiramin	Hypo-cholesterolysation	Vitamins Liposolubles Vitamin B12	Connected to bilious salts
Antibiotics, Kanamicin, Tetracicline, Cloramphenicol, Sulphonamides, Neomicin	Intestinal infections	Vitamin K, B12, Fats, Disaccharides	Modification of the intestine's flora and micro flora. Connected to bilious salts. Alteration of the absorbing structure
Antiacids		Vitamins A, B	Decreased absorption
Laxatives		Vitamins Liposolubles	Decreased absorption
Biguanides	Hypo-glycaemia	Vitamin B12	Decreased absorption
Anti-inflammatory		Vitamin K, Folic acid	Decreased absorption
Contraceptives		Vitamin B6, folic acid	Decreased absorption

Labels on foodstuff

The relationship between shop keeper and buyer has greatly changed in the last few years : small shops in which the owner or a shop assistant had direct contact with the client have been replaced by huge shopping malls based on a self-service system, where the customers have to learn to move independently. In order not to fall victim to the impressive and colourful wrappings, which could possibly hide a product of dubious quality, the Italian legislator has given the consumer a means to check the nature and content of packages which contain foodstuff : the label. In fact a 1992 Legislative Decree regulates the laws in Italy, which concern labels on food products. The label thus becomes the only concise and informative instrument through which the consumer can obtain a minimum amount of information about the contents of the product. According to Italian law, labels on food products should include the following :

a. *Sales name :* as for example, butter, cheese, Yogurt, etc.; not to be confused with the invented name of the product.
b. *Net amount :* that is, the product's net weight, if possible drained, expressed in volume units (l, cl, ml) or weight (kg, g).
c. *List of ingredients :* including any additives, listed according to their class. The list must be in increasing order depending on the amount of ingredients in the product.
d. *Best by date :* the date before which the product should be eaten, if kept, as it should be. The caption should read 'Best by ….'.
e. *Preservation expiry date :* up to this date the producer guarantees the quality and genuineness of the product, always if kept, as it should be. Yogurt usually has a life span of about 40 days.
f. *How to use :* it is compulsory for all those products, which could become dangerous for the consumer if not used in the correct way (for example, lyophilised or frozen products, etc.).
g. *How to preserve* : it is compulsory for fresh or perishable foodstuffs such as Yogurt.
h. *Company name or trade mark :*
i. *Producer's headquarters or processor's:*
j. *Production factory or processor's factory address :*.
k. *Lot number :* identified by the letter L followed by a serial number.

All this information allows the controlling Organizations to be able to easily identify any producer/processor of a particular food product. In every day life it helps all of us to understand, even if only approximately, the contents of the food that we eat. Therefore :

ALWYS READ THE LABELS CAREFULLY !

The question of living to an old age

Since ancient times there have been legends, about single persons or even whole populations in certain regions of the world, which narrate of the long life span of these men and women. A longevity mainly due to a healthy and moderate life style together with, in most cases, the daily and intensive use of acidulous milk by-products, from a variety of animals. Stories about Tibetan monks well over a hundred years old have become myths, as well as entire Bulgarian populations where funerals were remembered as historical events, followed by infinite legends about the enviable age reached by Caucasian and Russian tribes in the past century. We could carry on for hours and hours talking about this fascinating topic ! It cannot be denied that these are only stories and cannot be proved in events that have really taken place. However, there are cases of old ages reached for which there is almost certain proof, and in all of these we can note the presence of Yogurt or acidulates in these persons' daily diet. The latter has allowed these people to keep their bodies healthy and unscathed to well over a hundred years of age. Here are some of the ultra centenarians :

a. Chang Yung 256 years old
b. Henry Jenkins 169 years old
c. Zaro Agha 162 years old
d. Thomas Parr 152 years old
e. Inge Zimmerman 112 years old
f. Luigi Cornaro 103 years old

Death is a common denominator for all living beings and men, who are the most intellectually gifted beings on this planet, must try to live their lives in the best way and as long as possible. Yogurt used daily and in the right quantities can give us a hand in all this, helping us to eliminate various harmful substances from our bodies, which are generated in our intestine.

YOGURT IN A CORRECT DIET

Food can be divided into 7 different groups characterised by the presence of various nutritional principles. For a balanced diet it is important that every day one food product from each group be present. The following chart summarises the main food principles which make up the seven groups :

FOOD DIVIDED INTO GROUPS		
Groups	**Foodstuff**	**Contribution**
1	Meat, Fish and Eggs	Quality proteins, Iron and Vitamins from Group B
2	Milk and its By-products (Yogurt)	Calcium, Quality Proteins and Vitamins from Group B
3	Cereals and Root vegetables	Carbohydrates, Low Quality Proteins and Vitamins from Group B
4	Pulses	Medium Quality Proteins, Iron and Vitamins from Group B
5	Fats for flavouring	Fats and linolein acid
6	Vegetables and Fruit (sources of Vitamin A)	Pro-vitamin A, Vitamins, Minerals and Fibres
7	Vegetables and Fruit (sources of Vitamin C)	Vitamin C, Vitamins, Minerals and Fibres

There are three rules that should be applied daily in order to provide our organism with a correct diet :

a. *PROPORTIONS* : Concerning how much food should be chosen from the main food groups.
b. *MODERATION* : In the consumption of fats, oils and sugars.
c. *VARIETY* : The importance of our daily intake of food, choosing from each of the 7 food groups.

The food pyramid

Another more schematic way of classifying food is using a pyramid where at the base we find products derived from cereals (bread, pasta and rice); fruit, vegetables and pulses are on the next level; meat, fish, milk and its by-products are on the third level; sugars, oils and fats are at the top of the imaginary structure. In this interpretation the food products, which are on the highest level, must be used with more moderation than those which are at the base.

THE FOOD PYRAMID	
Levels	**Food**
Top	Sugars, Oils and Fats
Second level	Meat, Fish and Milk (Yogurt)
First level	Fruit, Vegetables and Pulses
Base	Bread, Pasta and Rice

As can be noted in the two preceding charts Yogurt (as a by-product of milk) has an extremely important position in the food chain and is practically irreplaceable, unless by milk itself, in order to give our organism the daily contribution of calcium that is indispensable. The high and proficient protein value of Yogurt suggests that we should not exaggerate in the amounts of its daily consumption. In comparison to milk, Yogurt is more digestible and has drastically fewer cases of food allergies connected to it. It is a good idea to remember a few important rules if you wish to have a correct diet together with eating Yogurt :

a. Never leave fresh fruit in Yogurt for longer than half an hour. If you wish to make 'Fruit Yogurt' cook the fruit before adding it to the Yogurt.
b. Spread the food to be eaten over a whole day. Do not eat Yogurt after heavy meals. The best time to eat Yogurt is at breakfast, tea or as a snack.
c. Bread, pasta or rice should always be present in our daily diet to cover our need for complex sugars. In no way, can Yogurt make up for the aforementioned food products in any case.
d. Eat Yogurt, even if it is extremely digestible, keeping the 3 fundamental, alimentary rules in mind : Proportion, Moderation and Variety.
e. Remember that 'miraculous pills' for slimming do not exist and it is not even possible to drastically or suddenly reduce the amount of food we eat, perhaps by substituting them by large quantities of Yogurt.
f. Keep in mind that every dietary programme should be individual and personalised. Only a specialist is capable of advising us on which diet is most suited to our particular case.

Nutritional requirements

Food is the basis for keeping our bodies in the best physical and psychic conditions. This "maintenance" must be carried out in the correct way. Our organism has certain needs, which have to be satisfied by the food we eat:

a. *Need for water* : 1.5-2 litres of water a day are necessary either by drinking or in the food we eat. It is important to maintain a balance between the water we drink and that which we eliminate from our body.
b. *Basic energetic need* : to carry out all our organic functions the human body needs energy, which is supplied by glucides, lipids and in a smaller percentage by proteins. Our basic energetic needs can also be defined as basal metabolism (M.B.); it is defined by some parameters such as bodily mass, sex, age, climate, diet, race and any other relevant events (pregnancy, breast feeding, the presence of particular hormones, etc.). M.B. expresses how many calories an individual at rest, or who has been fasting for 12 hours, needs.
c. *Active energetic need* : it is substantially determined by the work that our voluntary muscles carry out and therefore by the physical activity which each individual does.
d. *Plastic need* : it is made up of proteins and some fundamental lipids for the renewal of the human body's tissues and cells. It is very high during adolescence and decreases as you grow up.
e. *Bio-regulating need* : it is satisfied by mineral salts and vitamins, which control all the metabolic processes and synthesis in our body.

Our diet, that is, the correct way for each individual to feed himself, in order to be balanced, must satisfy all the previously listed parameters and therefore, must absolutely be prescribed by a doctor who is a specialist in this field.

YOGURT AS SEEN BY THE EXPERT

Definition

Fermented acid milk, in which lactose has been transformed into lactic acid, using a microbiological system. A product with purified milk (sterilised or pasteurised) with a variable amount of fat (whole milk, partially skimmed milk, skimmed milk), which is inoculated with selected cultures of Lactobacillus bulgaricus and Streptococcus thermophilus, left to ferment at a temperature of about 44°C until it coagulates and then cooled (4°C) and preserved at low temperatures.

Nutritional value

Yogurt is a complete food substance equal to milk, of which it is a by-product, and it possesses some biochemical and bacteriological characteristics, which make it extremely useful both in the diet of a healthy person as well as in that of a sick person. The proteins (3-3.4%) have a finer flocculation and are partially pre-digested, thus freeing essential amino acids and therefore, capable of being assimilated more than those in milk. When present, lipids are more easily absorbed by homogenisation. Among the sugars (about 5%), lactose is mostly transformed into lactic acid ; lactic acid favours the formation of autochthonous flora in the intestine, acts as a buffer both for hypochlorydrin and hyperchlorydrin, aided by the absorption of calcium and phosphorus present in food in optimal quantities. Complex B vitamins, as well as pantothenic acid and the PP vitamin, become of vital importance for protein use and hepatic intestinal protection. In conclusion, live lactic bacteria taken with Yogurt form a real biological enemy against all the putrefactive germs and against any possible pathogenic germs in the intestine, thus reducing all putrefactive phenomena.

Sensory characteristics

Yogurt's sensory characteristics are mainly due to lactic acid which is present in the final product at the rate of 1% (pH=4) and to carbonyl compounds such as acetaldehyde and acetyl, which give the product its characteristic aroma. The changes in the sensory qualities and in the hygienic-nutritional value are connected to the contaminated micro-organisms' action, caused by milk, added fruit (mould and yeasts) or from various processing phases. These changes can be seen in the product's appearance, modifying the coagulation, which remains runny or lumpy or even with the formation of fungus, changing the taste, which can become weak or bitter from its lack or excessive fermentation with an abnormal development of gas and ethyl alcohol.

Use

Yogurt's use is precious in a normal diet and particularly efficient in diet therapies, states of fever, infections, general poisoning, gastritis, hypochlorydine and metabolic dysfunctions.

Additives allowed

At the moment in Italy, Yogurt can be mixed with saccharose, flavouring substances, natural colouring, honey, pieces of fruit and fruit juices (fruit Yogurt).

Preservation

If Yogurt is kept for a long time and not at low temperatures, it means that the lactic bacteria are killed off and when they spread, they free enzymes with proteolitic activity. Therefore, this foodstuff, as well as being subject to alteration, remains without the beneficial properties connected to eating live lactic bacteria.

HOMEMADE YOGURT

This recipe will allow you to prepare at home some delicious whole milk Yogurt, which will be fresh, creamy and genuine. It has been handed down within my family from generation to generation and has always given good health and long life to all those who have constantly used it over a prolonged period of time. Make good use of it and tell your relatives, friends and acquaintances about it. I advise you to be particularly careful about the hygiene of all the equipment used and the place where you will leave the Yogurt to ferment.

The official Yogurt Forever recipe

Ingredients and equipment

1. 3/4 of a litre of cow's fresh and pasteurised whole milk
2. 1 tablespoon of whole Yogurt, thick and natural
3. A litre glass jar with airtight lid
4. 1 small saucepan with a capacity of about 1.5 litres (aluminium is best)
5. 1 cloth (wool is best)
6. 1 wicker basket (not indispensable)

How to prepare it

a. Pour the milk into the saucepan and bring it to boiling temperature.
b. Continue simmering on a low gas for about 5 – 10 minutes.
c. Pour the milk into the glass jar.
d. Wait for a few minutes until a thin layer of cream forms on the milk's surface, which is now cooler.
e. Add a tablespoon of natural Yogurt to the milk in the jar, taking care not to break the cream layer on the surface too much (we suggest adding the Yogurt near the edge of the container).
f. Wrap the cloth around the jar covering it completely (do not use the lid).
g. Put the jar, wrapped in this way, near a source of constant heat (for example, a wicker basket placed on or near a radiator).
h. Leave it to ferment for about 12 to 24 hours (depending on how thick you wish the Yogurt to be).
i. Put the lid on the jar and place it in the fridge at a temperature of 4-10°C.
j. Eat the final product within and not after one week.

Fermentation time must be at least 12 hours with a constant, but not excessive source of heat. Once this minimum amount of time has passed the Yogurt will already have become active, but will have maintained a certain amount of fluidity. To obtain a more compact product you need to lengthen the fermentation period to a maximum of 24 hours. In conditions where the heat source is weak or unstable, the fermenting process can be prolonged to a maximum of 24-36 hours. Once fermentation has been completed, put the lid on the jar and place it in the fridge at a temperature of 4-10°C. Wash all the equipment carefully, if possible using an antibacterial.

Timing and temperature

In the chart here below you will see how the compactness of the final product is effected by how long the milk is boiled, by the temperatures and by the fermentation time. It is always better to have relatively brief fermentation periods (12-24 hours) since by prolonging these periods there is a greater risk of bacterial contamination of the product prepared. The results listed in the chart below are experimental and therefore, purely indicative.

THE EFFECT OF FERMENTATION PARAMETERS ON YOGURT'S COMPACTNESS				
Boiling time (minutes)	**Fermentation temperature (degrees C)**	**Fermentation timing (hours)**	**Degree of compactness *1=fluid 5=compact***	**Recommended parameters**
5	35-40	12	0,5	
10	35-40	12	1	**X**
20	35-40	12	1,5	
5	35-40	18	1	
10	35-40	18	1,5	**X**
20	35-40	18	2	
5	35-40	24	1,5	
10	35-40	24	2	**X**
20	35-40	24	2,5	
5	35-40	36	2	
10	35-40	36	2,5	
20	35-40	36	3	
5	35-40	48	2,5	
10	35-40	48	3	
20	35-40	48	3,5	
5	40-44	12	2,5	
10	40-44	12	3	**X**
20	40-44	12	3,5	
5	40-44	24	3	
10	40-44	24	3,5	**X**
20	40-44	24	4	
5	40-44	36	3,5	
10	40-44	36	4	
20	40-44	36	4,5	
5	40-44	48	4	
10	40-44	48	4,5	
20	40-44	48	5	
5	44	16	5	
10	44	14	5	**X**
20	44	12	5	
5	43	18	4,5	
10	43	16	4,5	**X**
20	43	14	4,5	
5	42	20	4	
10	42	18	4	**X**
20	42	16	4	
5	41	22	3,5	
10	41	20	3,5	**X**
20	41	18	3,5	
5	40	24	3	
10	40	22	3	**X**
20	40	20	3	

The data reported are only valid for Yogurt made in the home using ¾ of a litre of cow's whole milk and with the addition of one full tablespoon of natural Yogurt.

The traditional method

Ingredients and equipment

1. ¾ of a litre of cow's fresh and pasteurised whole milk
2. 3 tablespoons of live lactic cultures
3. A litre glass jar with airtight lid
4. 1 strainer with medium meshes
5. 1 cloth (preferably wool)

How to prepare

Fill the glass jar with ¾ of a litre of cow's fresh and pasteurised whole milk at a temperature of 20-25°C. Add 3 tablespoons of live lactic cultures and wrap the cloth around the jar completely covering it (do not use the lid). Put the jar in a place, which is not damp, and at a temperature of around 35 – 44°C. Leave it to ferment 18-36 hours and separate the cultures from the Yogurt using the strainer : this operation could be quite difficult. Skim part of the whey that rises to the surface of the Yogurt. Do not eliminate it completely because it is very useful for our intestine. Put the lid on the jar and put it in the fridge at a temperature between 4-10°C. Eat the product within and not later than a week. Wash all the cultures carefully and delicately with water, which is not too cold so as to be able to use them again.

The fermentation works in an excellent way at temperatures above the environmental ones therefore it is a good idea to raise the temperature a little and reduce the incubation time. In fact milk, (even if covered by a cloth) can be attacked in the air by harmful bacteria and therefore, the less it remains exposed to the air the better it is for our health!

The quality and the quantity of cultures are also of great importance. They can be used more than once, but it is a good idea not to exaggerate : after being used for about thirty consecutive times, they need to be replaced since the bacteria that form them are alive and their cells can alter and clone cells infected by other bacteria. Be very careful!

The official Yogurt Forever recipe is much easier to carry out than the traditional method and can be explained in the following points :

a. A slowed down biotechnological process and therefore easier to control both timing and temperatures
b. The possibility of carrying out a dry residue correction by concentrating the milk through evaporation (boiling)
c. The possibility of fermenting at higher temperatures with its relative reduction in timing
d. Obtaining a softer, more compact product which is less acid to the palate
e. The complete elimination of the stage where the cultures are separated from the Yogurt
f. The formation of very small amounts of whey
g. Greater safety as far as the product's preservation is concerned
h. Reduced costs (you do not need to buy any live lactic cultures)

DELICIOUS RECIPES USING YOGURT

A non-fattening dressing for salads

Mix together :
A jar of homemade natural Yogurt,
1/4 of a tablespoon of sugar,
A pinch of salt,
1 teaspoon of organic lemon juice,
the grated rind of ¼ lemon (organic product).

Pineapple dessert

Mix together :
A jar of homemade natural Yogurt,
2 slices of tinned pineapple cut into pieces,
2 tablespoons of juice,
a little pasteurised, fresh, whole milk.

Snack with jam

Mix together :
A jar of homemade natural Yogurt,
2 tablespoons of natural jam,
1 tablespoon of brown sugar,
a little pasteurised, fresh, whole milk.

Coffee break

Mix together :
A jar of homemade natural Yogurt,
2-3 tablespoons of 'espresso' coffee
1 tablespoon of sugar.

Almond and walnut delight

Mix together :
A jar of homemade natural Yogurt,
5-10 grams of ground almonds,
1 tablespoon of natural honey.
Decorate with pieces of walnut.

Honeyed Yogurt with propolis

Mix together :
A jar of homemade natural Yogurt,
4 tablespoons of natural honey,
add 10-20 drops of propolis.
Eat immediately.

Breakfast with cereals

Mix together :
A jar of homemade natural Yogurt,
1 tablespoon of natural honey,
1 tablespoon of brown sugar.
Add any cereals that you like.

Yogurt with apples

Mix together :
A jar of homemade natural Yogurt,
1 natural apple cut into pieces,
1/2 tablespoon of sugar,
a little pasteurised, fresh whole milk.
Eat immediately.

Yogurt with fruit

Mix together :
A jar of homemade natural Yogurt,
A little cooked fruit cut into pieces,
1/2 tablespoon of sugar.

Non-fattening open sandwich

Mix together :
A jar of homemade natural Yogurt,
A pinch of salt,
1/2 teaspoon of natural lemon,
25-50 grams of finely cut salad.
Serve on slices of bread and eat immediately.

Tropical Yogurt

Mix together :
A jar of homemade natural Yogurt,
1 tablespoon of sugar,
1 tablespoon of Rum.
Pour over tropical fruit cut into pieces,
Then sprinkle with lots of icing sugar.
Serve cold.

Yogurt with brandy

Mix together :
A jar of homemade natural Yogurt,
1 tablespoon of sugar,
4 tinned cherries cut into four,
2-3 tablespoons of brandy
Eat immediately sipping a boiling hot ‘espresso’ coffee.
(* only for adults, not to be eaten before driving)

Valeria's Yogurt cake

Ingredients:

1. A 125 cc pot of homemade Yogurt
2. (the pot is used to measure out the remaining ingredients)
3. 1 egg
4. 1.5 pots of sugar
5. 2.5 pots of self-raising flour
6. 1/2 pot of seed oil (not olive oil)
7. the grated rind of a lemon (or orange)
8. a pinch of salt

Recipe:

In a bowl mix the sugar, Yogurt and the egg. Add the grated rind of a lemon/orange, a pinch of salt and mix together with the flour and oil. Put all the mixture into a buttered and floured tin and cook in the oven at 180°C for about 40 minutes. The cake is ready when it comes away easily from the sides of the tin. The doses given are for a small cake for about 4/5 people. (by Valeria Gatti).

Domenico's Yogurt cheese

Ingredients:

1. 1 litre of Yogurt
2. a clean cloth
3. a colander
4. a bowl
5. a glass jar
6. a pinch of salt
7. some potherbs (if liked)

Recipe:

Put the filtering cloth in the colander and pour the Yogurt into it. Tie the four corners of the cloth and put it into the bowl, where the whey will be collected. Once this operation is finished (the time it takes is directly proportional to the amount of whey present in the Yogurt), put it in the fridge for at least 6 hours. If you keep it there longer you will obtain a more consistent product. Then collect the cheese, which will go into the glass jar and then kept in the fridge. Eat the product adding a pinch of salt and if you like some potherbs. (by Domenico Ferrara).

Yogurt chicken breast by Clelia

Ingredients:

1. 40 gr onions
2. 40 gr stock
3. 10 gr potato starch
4. 20 gr shelled walnuts
5. 60 gr Yogurt
6. 500 gr chicken breasts
7. 2 lemons
8. salt, pepper, and chives

Recipe:

Peel 40 gr. onions, chop them finely and cook them lightly in 40 gr vegetable stock mixing well. Add 10 gr. potato starch, mix well to get rid of any lumps and dilute with about ½ dl of hot stock. Add salt, pepper and leave to absorb the flavour (add a little more stock if necessary). Grind the walnuts and add them to the mixture with 60 gr. Yogurt, mix, turn off the gas and sprinkle with chopped chives. Cut the 500 gr. chicken breasts into quite thin slices and cook them under a hot grill. Once cooked, spray them with lemon juice, add salt and pepper, put them on a serving plate and cover them with the walnut and Yogurt sauce. Garnish with slices of lemon and chopped chives (by Clelia).

Cold courgette (or cauliflower) and Yogurt soup by Marco

Ingredients:

1. 6 medium sized courgettes
2. 1 leek
3. 1 litre of water
4. 250 grams Yogurt
5. 1 jar pesto sauce (about 100 gr.)
6. 3 teaspoons of lemon juice
7. salt

Recipe:

Cook the courgettes and the leek, cut into rounds, in salted water for about 15 minutes. Let them cool, blend them and then add the Yogurt, lemon juice and pesto sauce. Mix well and serve cold, garnished with some basil leaves. This recipe is just as good with cauliflower instead of courgettes. It was adapted and varied from the book "12 months of monastery soups", by Father Victor-Antoine d'Avila-Latourette. (by Marco Lazzari).

NEW FRONTIERS

It has long been known that lactic cultures used in the production of Yogurt are different from those that colonise the human intestine. Now advanced biotechnological processes have allowed us to obtain Yogurt cultures not only using the traditional bacteria, but also by adding micro-organisms of intestinal origin, such as Lactobacillus acidophilus and Bifidobacterium. The latter's bacteria are not lactic and use fructose, they make up the greater part of the micro-flora of the intestine in babies who are breast-fed. The Bifidobacterium prevents the growth of other bacteria such as those responsible for the intestinal putrefactive processes. Scientists have reached the conclusion that it is not the type of bacteria that decides its capacity to reproduce itself in the intestine, but the selection of bacterial groups. In conclusion, therefore, we can claim that Yogurt in the future will be enriched by probiotic bacterial groups, capable of carrying out a well-aimed form of protection for the health of all human beings.

SMALL GLOSSARY

A

a. Amino acids : Units that make up proteins; their name derives from the fact that they all include an amino group (NH2) and an acid (COOH).
b. Absorption : A group of processes through which the intake of nutritional substances is reduced to its simplest components and therefore absorbed by the organism.

B

a. Bomb, calorimetric : A piece of equipment that defines food's caloric power. A small part of any type of food is burnt in oxygen; the amount of heat emitted during combustion is assumed to be the measurement of energetic value of the foodstuff tested.

C

b. Calorie (cal) : Amount of heat you need to supply to a gram of water to raise its temperature from 14.5 to 15.5 °C.
c. Carbohydrates, complex : They are made up of long monosaccharide chains; they are absorbed and used by our organism more slowly than disaccharides. They are commonly known as sugars.
d. Catalysis : A phenomenon in which the chemical reaction varies its speed because of an external substance which does not seem to take part in it.
e. Cellulose : A component of alimentary fibres present in vegetables.
f. Co-enzymes : Thermo stable, organic composite, which effects the activity of some enzymes.
g. Cholesterol : Complex lipid present in foodstuffs which come from animals. Many studies have highlighted that its excessive presence in the blood is a risk factor for cardio-vascular illnesses.
h. Constipation : Incomplete, insufficient or irregular evacuation of the bowels.

D

a. Disaccharides : Sugars like saccharose and lactose made up with two units of monosaccharides; they are absorbed and used very quickly by our organism.
b. Diverticulosis : Extroversion of different sizes of the intestinal walls.

E

a. Electrolytes : Substances which, in watery solutions form ions, that is, positively loaded particles (cations) and negatives ones (anions). Particularly important among these are sodium, calcium, chloride and potassium.
b. Enzymes : A proteic substance, through which transformation reactions are possible such as synthesis and degradation.
c. Essentials : Substances that our organism is not able to synthesise which therefore have to be added to our daily diet (e.g. Some amino acids, vitamins and fat acids).
d. Evacuation : Elimination of faeces.

F

a. Food and Drug Administration (USA). American governmental body which is in charge of national health. It controls the import/export of food and medicines.
b. Fibres, alimentary : Part of the foodstuffs from vegetables that remain unaltered during its journey through the digestive tract of any living being. It sets off stimuli in the intestine causing evacuation.
c. Food : Intake of chosen foodstuffs, prepared and eaten in various forms and ways, to satisfy our energetic and nutritional needs.
d. Fats : see Lipids

H

a. Huchard's disease : Arterial hypertension through arterial hyper tone caused by a spastic vasal state.
b. Hypertension : Increase in blood pressure.
c. Hormone : Substance capable of regulating an organ's activities.

I

a. Ischaemia : Interruption in the flow of blood to tissues or organs.

J

a. Joule (J) : Working and energy unit in the MKS system, defined as work carried out by a force of 1 Newton (N) when its point of application is moved by 1 metre (m) in the direction and towards the same force.

K

a. Kelvin, thermometric scale : Absolute thermometric scale based on centigrades, but at the temperature of melting ice (0°C) it shows 273.15 degrees Kelvin (K) and at boiling point (100°C) 373.15 degrees K. Its zero corresponds to the absolute zero.
b. Kilo calorie : Equal to a 1000 calories (cal)
c. Kidneys : Glands (two) in the shape of a bean on either side of the spine near the sacral area. Their function is to filter urine.

L

a. L.A.R.N. : Livelli di Assunzione Raccomandati di Nutrienti, recommended intake of nutrients; that is, the average amount of energy and single nutrients which healthy individuals should intake daily according to their age and sex. Most of the figures are elaborated by S.I.N.U.
b. Lipids : Ternary composites made up of carbon, hydrogen and oxygen, not soluble in water. They include visible fats (those added as dressings) and invisible fats (those usually present in foodstuffs). Fat foods represented above all by olive and seed oil, butter, lard and margarine.

M

a. Metabolism : A series of chemical and energetic transformations which take place inside our organism.
b. Metabolism, basal : Consumption of energy of someone at rest, in peace both physically and psychologically, between meals and at a comfortable temperature.

N

a. Nutrition : a group of processes thanks to which food is eaten, digested, absorbed and used by our organisms.

O

a. Obesity : An increase in bodily weight by over 20% of someone's normal weight.
b. Osmosis : Mutual passing of two liquids, differently rich in dissolved molecules.
c. Overweight : Increase between 10 and 20% of the normal weight of the person in question.

P

a. Polysaccharides : Substances which dissolve in water, but which do not have sweetening power. They are made up of many monosaccharide units. The most important of these are starch and cellulose.
b. Proteins : Several amino acids come into these composites, connected to each other by a particular tie known as peptides. The name comes form a Greek word that means 'to be number one', in fact the proteins are the basis of life.

Q

a. Quaternary : Made up of four elements.

S

a. Saccharose : Sugar normally used to sweeten drinks. It is made up of glucose and fructose.
b. Salts, bilious : Substances produced by the liver and stored in the gall bladder. They are necessary to digest fats in food.
c. S.I.N.U. : Società Italiana di Nutrizione Umana, Italian Society for Human Nutrition; an organisation which studies the average amounts of energy and of single nutrients that healthy individuals should eat daily according to their age and sex.
d. Sugars : Or rather complex carbohydrates; they are substances which have the power to sweeten and can be dissolved in water. They are made up of long monosaccharide chains; they are absorbed and used by the organism more slowly than the disaccharides.

T

a. Temperature, body : the temperature of a human body. Normally it is between 36 and 37 °C.

U

a. Urine : Liquid produced by the kidneys' secretion, deposited in the bladder and then expelled.
b. Underweight : A decrease of over 20% of the normal body weight of a person in question.

V

a. Vitamins : Substances which cannot be synthesised by our organisms; indispensable for numerous biological processes.

W

a. Weight, Ideal Body : Body weight classified by age and sex, for which there is a maximum life expectancy.

X

a. Xerophthalmia : Keratinisation and dryness of the conjunctiva and the cornea, caused by the blocking of the tear glands or by vitaminosis. It can lead to blindness.

Y

a. Y, chromosome : Chromosome which concurrently with the X chromosome decides the sex of the animal organism.

YOGURT FAQ

Q Is Yogurt Forever an Internet site prepared with the help of food experts and subsidised by the producers of Yogurt?

A Absolutely not. The Yogurt Forever site has been thought of and prepared by a private citizen who has transferred all his knowledge and practical experiences, as far as the field of ancient and archaic biotechnology is concerned, on to Html: the production of Yogurt. The aim of this Internet site is to spread the production and the processing of homemade Yogurt using simple and ancient techniques. The Author is not tied in any way to the world of Yogurt production and works in a completely different field from biotechnologies.

Q I'd like to start making my own Yogurt : what expenses do I have to expect? **A** By applying the modern techniques for processing Yogurt proposed by Yogurt Forever, the only expenses that you will have, are those for a litre of whole milk and a pot of supermarket Yogurt. All the in-depth explanations on the Yogurt Forever site are free. *'The official Yogurt Forever Recipe'* is much simpler than the traditional method and can be explained in the following points :

a. A slowed down biotechnological process and therefore easier to control both timing and temperatures
b. The possibility of carrying out a dry residue correction by concentrating the milk through evaporation (boiling)
c. The possibility of fermenting at higher temperatures with its relative reduction in timing
d. Obtaining a softer, more compact product which is less acid to the palate
e. The complete elimination of the stage where the cultures are separated from the Yogurt
f. The formation of very small amounts of whey
g. Greater safety as far as the product's preservation is concerned
h. Reduced costs (you do not need to buy any live lactic cultures)

Q Yogurt is very good, but has it been scientifically proved to help the human organism? **A** Yes, it has. The metabolism and support of the intestinal bacterial flora in humans has been scientifically proved. The *lactic bacilli* carry out some important and sometimes indispensable functions within the intestinal *bacterial flora*, such as:

a. Activating the digestion of glucides and proteins
b. The synthesis of group B (nervous balance and hepatic function) and group K (blood coagulation) vitamins
c. Acidification of the intestinal tract thus preventing the development of pathogenic germs
d. Synthesis of antibiotic substances
e. Suppression of certain cancer cells

Q How should whole milk, fresh from the cow be sterilised before being drunk. The farmer just told me to boil it for at least twenty minutes. Is that right? **A** Most milk undergoes the pasteurisation process, that is, where it is heated to a temperature of at least 72 °C for about 15 seconds, but not longer, then suddenly cooled to 7-10 °C and poured into sterile containers. The process kills off all harmful germs, but also some of the vitamins and calcium contained in the product. Of course all this is with reference to the factory process, carried out in sterile conditions and under constant medical control. At home the situation, unfortunately is quite different. However spick and span a kitchen can be, it will never be sterile and the container in which the pasteurised milk is poured even less; in fact industrial containers for the distribution of milk for home use (such as the tetra packs) are also sterilised using beams at a certain frequency. Therefore, absolutely avoid pasteurising milk at home.

Q I read somewhere that cultures should be frequently changed, is all this true? **A** The problem of the degradation-pollution of lactic cultures is certainly considerable. Fermentation within the domestic walls, even if all the hygienic precautions have been taken, is always critical since the surroundings are not at all ascetic. The bacterial colonies, which are formed of live individuals, can degrade and host micro-organism within them which are harmful for our health. In time, then, the bacteria become less resistant: in order to give us all their benefits (renewal of bacterial flora) they have to pass through our intestine's powerful gastric juices. It is therefore, more healthy to change the lactic cultures quite frequently to make our Yogurt using the traditional fermentation method.

Q I have difficulty obtaining a compact Yogurt. What can I do? **A** The greater or lesser compactness of the Yogurt depends on how long and at what temperature fermentation takes place. Before this operation, the milk should be boiled for a few minutes (dry residue correction) and then left to cool off. The results obtained by using equipment with a thermostat incorporated (yogurt machine) are nearly always quite disappointing, since it is difficult to regulate the fermentation temperature for small quantities of the product. It is much better to use a 500-700 g glass container and a heat source which already exists within the home walls. All the explanations, including an interesting and detailed chart concerning timing and temperatures can be found within the Yogurt Forever site.

Q Why is it that in the Yogurt Forever site there are no charts about minimum contents of mass produced Yogurt? **A** The aim of the Yogurt Forever site is not to be a critical and detailed analysis of commercially produced Yogurts, but about making the product and how to produce it at home, known, using simple and ancient techniques. It is not possible to publish technical information about commercial products without the written consent of the producing Companies.

Q Can I reproduce, even for commercial reasons, the material present on the Yogurt Forever site? **A** Anyone can feel free to reproduce parts or this entire site without owing anything to its Author. However, every time it is reproduced the following caption should accompany the text: **'Yogurt Forever' by Roberto Flora, 3.0 Version.** There are some limitations on its reproduction which are listed in the hypertext document called 'Copyright ©'.

Q I'm desperately trying to find some Kefir bacteria, where can I get hold of them? **A** Trying to get hold of Kefir bacteria is extremely difficult. Those, which had been brought into Italy a few years ago, were of Caucasian origin. At that time commercial exchanges between Italy and Caucasus were possible: now the situation has changed and the biggest problem, for all the inhabitants of the states that made up the ex Soviet Union, is managing to find enough food to satisfy their hunger. Generally speaking, kefir bacteria can be bought from importers of typical products from the areas around the Black Sea and Caspian Sea, and also from Turkish or Bulgarian food importers. Sometimes, large herbal shops can get hold of them on order. They are not at all expensive, but not widespread in the West.

Q I really cannot understand how Kefir cultures can double their own volume in about 24 hours incubation. **A** Kefir cultures are nothing but bacteria, which obviously are not harmful for our health and therefore, like all other bacterial forms, when they are in the right environmental conditions (heat, presence of sugars, etc,) start to reproduce themselves at an incredible rate. In conditions of environmental temperatures (18-25 °C) they double their number and therefore, their volume in about 24 hours. In this situation many of them die, but these are readily replaced by new micro-organisms. Like with all the bacterial cultures, there are serious contamination problems from other harmful bacteria present in the home, which however clean, is never ascetic. Therefore, it is a good idea to change the Kefir bacteria cultures quite frequently so as to prevent any serious bacterial degenerations or problems to our health.

Q Is everyone so favourable towards a regular consumption of Yogurt ? **A** Absolutely not. There are some people and even experts who do not believe in the benefits of milk and its by-products. Some of their ideas have been collected in the section in the site called 'Against Yogurt'.

MILK

(Edited by the Italian Ministry for Agricultural Policies – Central Inspectorate Office for the Repression of Frauds)

The term "MILK" should only refer to the product which comes exclusively from the milking of cows, the milk from other animals must be clearly indicated from which animal the milk has been supplied (for example, "sheep's milk", "goat's milk", etc.).

NUTRITIONAL CHARACTERISTICS

Milk is a complete food since it contains, in proportionally optimal amounts, all the main nutritional elements indispensable for the human organism:

a. glucides (4,8 %), mainly represented by lactose;
b. lipids (3,5 %), represented by tri-glycerides and other lipids (e.g. phospholipids);
c. proteins (3,5 %), represented by casein and seroproteins;
d. mineral salts (1%) in particular calcium and phosphorus
e. vitamins (groups B, C, A, K, D and PP).

Fats in milk are easily digestible since their particles are very small. Proteins contain, in optimal ratio, all the essential amino acids; the globulins have immunitary properties, protective against infections. Milk is an important source of calcium and phosphorus, this too in optimal ratio for its assimilation, useful for the growing period of children or in cases where it is necessary to increase the intake of these elements (osteoporosis in adults).

INTOLERANCE TO MILK

Lactose, milk's typical sugar, can provoke digestive and nutritional dysfunctions (intolerance to milk) if in the small intestine a specific enzyme (lactase) is not present which destroys it into simpler molecules. Nowadays "delactased" (milk without lactase) milk is available, which does not cause any intolerance phenomena.

TYPES OF MILK ON SALE

ALIMENTARY MILK, in order to be consumed by humans directly, it should have the following characteristics:

it must be packaged for retail sale in containers closed in such a way that once open cannot be re-used and therefore guarantee the protection of the milk's characteristics against any harmful external agents;

it must have undergone, by a company which deals in milk, thermal purification in order to eliminate any possible bacterial alterations, thus, improving the product's capacity of being preserved. The thermal treatment can be of different lengths or intensity: using temperatures lower than boiling (pasteurisation) or higher (sterilisation), without compromising its nutritional value.

DEPENDING ON THE THERMAL TREATMENT UNDERGONE

a. PASTEURISED MILK: with a pleasant taste but limited life (four days from when it was packaged) and to be kept in the fridge; to qualify for the term FRESH, it must arrive raw at the factory where it will be packaged and subjected to a single thermal treatment within 48 hours, maintaining a greater amount of soluble, not denatured seroproteins;
b. UHT MILK FOR LONG PRESERVATION (treated to "ultra high temperatures"): it is kept at room temperature up to three months.
c. STERILISED MILK: (treated in sealed containers): it can be kept for six months, it can have a cooked taste.

DEPENDING ON THE AMOUNT OF FAT PRESENT

a. WHOLE MILK: : with a natural amount of fats not less than 3.5% present (whole, not normalised milk) or rather whose contents of fats has been brought to at least 3.5% (whole, normalised milk);
b. PARTIALLY SKIMMED MILK: whose fat content has been brought from 1.5% to 1.8% by skimming:
c. SKIMMED MILK: whose fat content has been brought to a maximum of 0.3%. In comparison to whole milk, these two types supply fewer calories, fewer saturated fats and fewer liposoluble vitamins. They are particularly suitable for hypolipidic diets.

SPECIAL TYPES

a. DELACTOSED MILK – without lactose : for people who have an intolerance to lactose, since this sugar is already separated and so leaves the nutritional value of milk unaltered;
b. MILK WITHOUT SODIUM : with less sodium for hypo sodium diets;
c. VITAMINISED MILK: rich in vitamins (above all D);
d. HIGH QUALITY FRESH PASTEURISED MILK: produced in strictly controlled environments, it has particular hygienic, sanitary characteristics and contents (fats, proteins).

SUGGESTIONS ON BUYING

a. Check that the retailer keeps the pasteurised milk in the fridge
b. Check the date on the carton
c. Do not buy bigger cartons than you need

SUGGESTIONS ON USE

Without boiling if kept correctly in its unopened carton, and by boiling if the carton has been opened and not kept in suitable conditions.

THE MOST FREQUENT FRAUDS

a. Fat content different from that declared
b. Not consented purifying treatments carried out
c. Fresh milk obtained from previously pasteurised milk
d. Milk obtained from making up powdered milk

NOTES ON THE SITE

10 December 1995
-Preliminary draft

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15 December 1995
-00 Version on HOMELESS (15 kB)

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27 December 1995
-00 Version on HOMELESS (19 kB)

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15 January 1996
-00 Version on HOMELESS (24 kB)
-00 Version on AREACOM (24 kB)

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26 January 1996
-00 Version on AREACOM (35 kB)
-00 Version on LOOKUP (35 kB)

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28 March 1996
-00 Version on LOOKUP (45 kB)
-00 Version on GEOCITIES (45 kB)
-00 Version on AREACOM (45 kB)

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10 April 1996
-00 Version on GEOCITIES (65 kB / 5 files)
-00 Version on AREACOM (65 kB / 5 files)
-00 Version on LOOKUP (65 kB / 5 files)
-Service on HOMELESS ends

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10 May 1996
-GEOCITIES residence changes URL

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01 July 1996
-00 Version on GEOCITIES (104 kB / 21 files)
-00 Version on AREACOM (104 kB / 21 files)
-00 Version on LOOKUP (104 kB / 21 files)
-00 Version on VOL (104 kB / 21 files)
-LOOK UP site mirrored on VIDEO ON LINE

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09 July 1996
-VOL counter unified on all sites

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20 July 1996
-00 Version on I-2000NET (104 kB / 21 files)
-GEOCITIES site mirrored on I-2000NET

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01 October 1996
-00 Version on GEOCITIES (180 kB / 30 files)
-00 Version on AREACOM (180 kB / 30 files)
-00 Version on LOOKUP (180 kB / 30 files)
-00 Version on VOL (180 kB in / files)
-00 Version on I-2000NET (180 kB / 30 files)

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15 January 1997
-1.0 Version

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15 January 1998
-2.0 Version
-Opening of site's new residence on: TRIPOD, INTERNET THE CITY AND FORTUNE CITY
-Counter Web Tracker unified on all the sites
-Video On Line is bought by TIN and therefore closes VOL mirror which had considerable importance in spreading the Yogurt Forever site

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10 June 1998
-2.0 Version
-Opening of site's new residence on ALPHACOMM

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01 March 1999
-2.3 Version

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15 May 1999
-Opening of site's new residence on TISCALI FREE NET

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29 June 1999
-*Service on LOOKUP ends*

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29 February 2000
-2.5 Version

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10 September 2002
-3.0 Version

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46. United Nations System, *United Nations System Web Site*, http://www.unsystem.org/

Acronyms

LARN : Livelli di Assunzione Raccomandati di Nutrienti (Recommended Amounts of Nutrient Intake), SGML : Standard Generalized Markup Language, VTW : Voters Telecommunications Watch, FAO : Food and Agriculture Organization, ISO : International Standard Organization, HTML : HyperText Markup Language, FDA : Food and Drug Administration, EFF : Electronic Frontier Foundation, DGA : Dose Giornaliera Ammissibile (Daily Admissible Dose), SINU : Società Italiana di Nutrizione (Italian Nutritional Society), WHO : World Health Organization, IAB : Internet Architecture Board, IMC : Indice di Massa Corporea (Body Mass Index), RFC : Request for Comments, WWW : World Wide Web, VOL : Video On Line, CFC : Cloro Fluoro Carburi (Chloride, Fluoride, Carbides), MB : Metabolismo Basale(Basal Metabolism), FAQ : Frequently Asked Questions.

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SITE RESIDENCES

http://www.yogurtforever.org/
http://www.yogurtforever.it/

APPENDIX

The famous water Kefir

The inhabitants of the Caucasian areas have known for hundreds of years the beneficial effects of Kefir. From an extremely early age children make frequent and constant use of Kefir and they reach, when they are adults, an average age of around 110 years old. The Caucasian areas are extremely rare places where the inhabitants reach a fine old age in perfect health and in excellent physical conditions. Prof. Drasek, a German doctor, had scientifically confirmed the prodigious effects of Kefir, even before the Great War. Prof. Menkiv, a scientist of international fame, who dedicated his life to the study and research on the properties of Kefir, claims that the Caucasian inhabitants have never suffered form tuberculosis, cancer or intestinal dysfunctions. With Kefir you can be cured of catarrh in the respiratory tract, stomach cramps, chronic intestinal inflammations, liver inflammation, bilious ducts dysfunctions and bladder illnesses. Moreover, it is particularly suitable for regulating the menstrual cycle and during convalescence, after a long operation or after serious illnesses. In helping children, Kefir can be used as an extra suuport to mother's milk, also for babies' skin allergies; during pregnancy it alleviates female problems in the lower abdomen since it is strongly anti-inflammatory. It is also possible to use Kefir in curing states of anxiety, internal ulcers, bronchial catarrh, various types of sclerosis, myocardium attacks, biliousness, liver, kidney and stomach illnesses, jaundice, diarrhoea, constipation, anaemia, leukaemia, various allergies and eczema. The beneficial effect of Kefir is essentially that of preventing putrefaction in the intestine of the substances eaten and subsequently digested by the stomach. Kefir is essentially made up of:

1) Bulgarian lacto bacilli
2) Streptococcus thermophili
3) Yeasts
4) Propion-bacteria
5) Enzyimes
6) Carbon Dioxide
7) Alcohol (maximum 4 degrees)
8) Vitamins C, B, P and PP

The cultures double their volume in about 24 hours fermentation. It is important to drink Kefir every day, it does not upset the digestion since the blood assimilates it with extreme rapidity. Its taste is sparkling and sweet like must, slightly alcoholic and perfectly digestible. Water Kefir's regulating and therapeutic properties are even better than the Kefir form of milk, not so appreciated by Western tastes. Kefir fermented for 24 hours is a laxative, while over 48 hours of fermentation makes it astringent, ideal for diarrhoea. The maximum advisable fermentation for Kefir is 72 hours, since after this time there is the possibility that in certain conditions it can be polluted bacterially. In almost sterile conditions and working in almost ascetic environments it is possible to push the fermentation process to a maximum of 7-10 days. To prepare the product you need to have a glass jar with a lid of 1 to 2 litres, filled with natural water or mineral (still) water. For the above-mentioned vessel, here below you will find the ingredients and the correct doses:

2 natural dry figs (biological cultivation)
1/2 natural lemon (biological cultivation)
3-6 tablespoons of Kefir cultures
3-6 tablespoons of sugar (brown or white)

Mix all the ingredients together well for 24 hours and leave to ferment 24-72 hours before using. Once the fermentation is over, squeeze the lemon well, remove the figs and filter the drink using a metal strainer or paper filter. Wash the jar carefully and rinse the cultures well under running water. Carry on with the preparation of a new batch of product, eliminating the excess cultures, these can be used as a biological fertiliser for vegetables. The cultures cease to be active even if kept out of water for a short time. Only use products from organic cultivations without the use of fungicides.

'Yogurt Forever' the homemade yogurt site on Internet's WWW! All the most up to date technical information on the world of acidulates, highlighted in the simplest and clearest way using charts which are easy to consult and immediately comprehensible. Yogurt a priceless aid to our health!

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