



all about **SOYFOODS**

Everyone has heard of soy products, consumes them or is interested in them...

In Europe, more than 30 million people have already tried soyfoods. Around 25% of the European population over 15 years old eat soyfoods due to the beans' many beneficial properties. Formerly considered health food products, soyfoods are now far more popular than we might imagine.

However, information on soybeans is sometimes contradictory. How can we understand it all if we are not specialists?

ENSA (European Natural Soyfoods Manufacturers Association) proposes compiling an inventory of the knowledge about this plant that has been cultivated and used as food for thousands of years:

- What is a traditional soyfood? How can it be consumed on a daily basis?
- What are the benefits of soyfoods?
- What are the differences between traditional soyfoods, dietary supplements and mixed products (milk and soy)?
- Do they have the same beneficial properties?

There are many questions that ENSA wanted to answer, providing clear information based on the latest available scientific studies, with the support of recognised experts.

Discovering soyfoods

| | |
|--|----|
| I. Soy as the Europeans see it | 3 |
| II. ENSA, the association that aims to provide information on soyfoods | 4 |
| III. Soy, over 5,000 years of history. | 5 |
| IV. How does the soybean become a foodstuff? | 6 |
| A. Let's get to the point, what is soy? | 6 |
| B. Soybean fields! | 6 |
| C. Totally traditional processing techniques! | 7 |
| V. 100% soyfoods | 8 |
| A. Soy products from all angles | 8 |
| 1. at the source of soyfoods | 8 |
| 2. Tofu, pleasure and benefits | 9 |
| VI. Soy – it's good for you! | 10 |
| A. Soyfoods for everyone | 10 |
| 1. An unrivalled source of vegetable protein | 10 |
| 2. Soy for a healthy cardiovascular system | 10 |
| 3. Soyfoods are good for your figure! | 10 |
| B. Soy for women | 11 |
| 1. Are phyto-oestrogens beneficial to women? | 11 |
| 2. Soy and breast cancer | 11 |
| C. At what age can children start to eat soy products? | 11 |
| VII. Soy as part of our daily diet... | 12 |
| A. How can we achieve a balanced diet? | 12 |
| B. Soyfoods every day! | 12 |

I. Soy as the Europeans see it



Who consumes soyfoods?

Approximately 18% of Europeans have already consumed soy products. This is nearly a fifth of the population of Europe, more than 30 million people! Formerly considered ‘health-foods’ (and thus a bit special), today soy products are far more popular than we might think.

Why do people consume soyfoods?

The first reason for eating soyfoods is that they are good for you. ‘Healthy’ food is not a myth. The fact that soybeans are easily digested and have beneficial properties in general are two of the most common reasons for choosing soy products given by those surveyed. Whilst in the past people ate soyfoods ‘because they had to’ (i.e. because it formed part of a healthy diet), today people choose soy products ‘because they want to eat them’: soyfoods are also known to be very tasty.

Those who admit that they do not eat soyfoods give reasons such as:

- They simply don’t form part of my usual diet
- I’ve never thought about it
- I’ve never dared to try them!

At a time when the majority of the population is concerned about its diet and when public health issues are at stake, it is important to inform the general public about the well-known benefits of eating soybeans. They have many nutritional properties, which those who do not eat soyfoods still know very little about.

Soyfoods leave no-one indifferent! Some people eat them regularly out of choice and others never eat them, mainly because they are not familiar with them. ENSA has thus decided to undertake different courses of action in order to teach people about soy. Doctors and healthcare professionals, journalists and even the general public will be able to access clear, objective information in order to learn all about soy and take advantage of the constant progress made by researchers in this area. Please visit the following website for more information: www.ensa-eu.org

II. ENSA, the association that aims to provide information on soyfoods

The European Natural Soyfoods Manufacturers Association (ENSA) was established over 3 years ago (created in 2003) and represents the main European soyfood manufacturers: Alpro, Liquats Vegetals, Natumi, Nutrition et Soja, Triballat, Valsoia Wild, DE-Vau-Ge, HAIN Europe and Tofutown.

It was formed to ensure the development of an appropriate and balanced regulatory framework for natural soy products in Europe.

ENSA is a centre of expertise for:

- Up-to-date, accurate and objective scientific information about soy products and their health benefits;
- Technical and product-related information on the product category of soyfood to assist national and international regulators in drafting the rules necessary to provide a clear legislative framework for soy products;
- Positions on policy and regulatory issues of importance to its members.

ENSA acts as a European point of reference, which can answer all sorts of questions on this food that has been consumed for thousands of years.

Looking after consumers

This is ENSA's main concern: the consumer is the focus of all the association's actions. On becoming

voluntary members, companies undertake to respect 3 essential rules, which aim to offer consumers the best soy products possible whilst at the same time respecting tradition.

- It's natural! Member companies only use whole soybeans, sorted during the harvest in order to respect the integrity of the bean as well as its nutritional qualities and its taste. They do not use soy protein isolates.
- It's traditional! Only traditional manufacturing processes are used. In other words, ENSA members only use water and mechanical operations (grinding, filtering, etc.). No artificial methods are involved in the manufacture of soyfoods.
- It's safe! Assuring consumers of the absence of genetically modified organisms (GMOs); all ENSA members have set up totally 'traceable' production channels, which can be monitored daily in order to avoid any contamination by GMOs, from the moment the beans are harvested until they reach our plate!

The association represents many of the soy 'milk' (which is used to make tofu, soy 'yoghurts' and a large number of soyfoods) producers in Europe. ENSA's guarantees are offered to the public and ensure constant quality in traditional soyfoods.

III. Soy, over 5,000 years of history.



Soy and longevity go hand in hand in more ways than one in the East. Soy appeared in the diet of the inhabitants of this area around 3000 BC or earlier.

Europeans discovered the soy plant during their journeys in Asia in the 16th and 17th centuries. In the 18th century it was introduced to England and then to the Jardin des Plantes in Paris.

Soy production in the West did not really start to spread until it arrived in Illinois (USA) in around 1850, and then continued to develop throughout the 20th century.

Today, the European Union produces almost 400,000 tonnes a year.

The 21st century – focused on plants

Plant par excellence, soy responds to rising demands for natural products. Europeans, who increasingly aspire to follow a healthy diet, naturally turn to plants. Most healthcare professionals agree that soyfoods form part of a balanced diet. They are rich in vegetable proteins and unsaturated fatty acids, which are found in insufficient quantities in our normal diet. Choosing to increase our consumption of vegetables is more than just a passing fashion; public awareness is evolving. The dietary trends of the 21st century are currently taking shape.

Today, Europeans are rediscovering the nutritional benefits of plants, and also how good they taste. Because far from being restricted to one particular use, soy products are frequently used by people whose diets combine health with innovation.

IV. How does the soybean become a foodstuff?

A. Let's get to the point, what is soy?

Everyone has heard about soybeans, but in reality they are not very well known. Let's take a close look!

Classed as a legume, like peas or haricot beans, the soy plant (*Glycine max*) reaches heights of around 80 cm. After the colourful flowers – going from red to mauve to white – have gone, the pods appear, each containing 2-5 beans. These beans are then used whole to produce soyfoods.

Soybeans should not be confused with 'bean sprouts'.

Soya beans and the products derived from them (e.g. drinks and tofu) should not be confused with soya 'sprouts' or 'bean sprouts'. The soya bean is rich in protein and low in water content, whereas soya bean sprouts are high in water content and low in protein; they belong to different families.

B. Soybean fields!

The soy plant reproduces on its own (autogamous), in other words a single isolated plant can fertilise itself – it does not need another plant in order to be pollinated, as is the case of many plants such as the kiwi or maize. Due to the fact that it is able to self-fertilise, the soy plant avoids being contaminated by GM crops, for example. A 'traditional' soybean field cannot be polluted by GMOs.

Once self-fertilised, soy plants grown in a field can reach heights of up to 1 m when fully mature.

red, white or mauve flowers, depending on the cultivar, small hairy pods appear, growing in clusters of 3 to 5, each containing 2 or 3 seeds. It is quite closely related to the garden pea!

In autumn, in other words from September to November in the Northern Hemisphere, the soybeans are harvested and then processed before finally reaching our plates!

Did you know?

Soy is an ecological plant. It is grown without nitrogenated fertilisers because it is able to make use of atmospheric nitrogen.

In cereal crops in particular, large amounts of nitrogenated fertilisers are used because they provide macronutrients the plant requires in order to grow. By using atmospheric nitrogen, the soy plant has no need for supplements. It is self-sufficient and thus helps keep soils fertile and underground waters pure.

C. Totally traditional processing techniques!

The manufacturing techniques used by ENSA members to process soybeans are derived from thousand-year-old traditions. They are all completely natural. The processes involve tried and tested techniques, which have been used since ancient times, and respect the nutritional properties and the taste of the soybeans.



Soybean harvest

Selecting / cleaning / dehulling the beans

Only the beans are processed in order to make traditional soyfoods. They are carefully selected and only whole beans are kept. The latter are then cleaned and dehulled.

Grinding / sieving in water

The processing principle is simple and natural and only involves water. The aim is to retain all the nutritional elements, in particular the protein contained in the beans.

Filtering the juice

The beans are therefore ground in water. This liquid is then filtered to produce soy 'milk'.

Obtaining soy 'milk'

Through ancient processes such as fermentation or curdling, soy 'milk' is used to create a wide range of traditional soyfoods: tofu, soy steak, soy 'yoghurt', soy cream etc.....

The process is simple and the possibilities enormous.

- Soy 'milk' can be drunk as it is or with flavouring or combined with fruit juices.
- After fermentation, soy 'milk' can be used to make special products such as soy 'yoghurts'.
- For true taste purists, these specialities are available unflavoured or delicately flavoured with added fruit.
- After it has gelled, the soy 'milk' turns into a creamy dessert, very popular with those who have a sweet tooth.
- Tofu is obtained by curdling the protein, which can then be used in a wide range of dishes. It can be prepared in many ways to suit all tastes.

V. 100% soyfoods

Traditional soyfoods are specialties created using whole soybeans and water, respecting the natural manufacturing techniques. ENSA members are committed to respecting all these criteria scrupulously in order to offer consumers the best possible products, following traditions that are thousands of years old.

Did you know?

Traditional soyfoods soy 'milk' is manufactured using soybeans alone, with nothing added. They are 100% soy. They are different to dietary supplements, which only contain certain molecules extracted from soy, and generally lack proteins and unsaturated fatty acids. 100% soyfoods are also different from dairy products containing soy protein isolates – the latter are above all dairy products with a different nutritional profile.

A. Soy products from all angles

1. At the source of soyfoods

The common denominator for the companies that are members of ENSA is 'soy milk'. This drink can be consumed plain or flavoured, for breakfast or any time of the day. It can also be used for cooking, just like cow's milk.

Many products can be made using this soy juice: ice cream, tofu, desserts, sauces, etc.

From a nutritional point of view, soy 'milk' has the advantage of being

particularly rich in vegetable protein, which is essential for a balanced diet. It also contains lipids, which are beneficial from a nutritional point of view, since they tend to be lacking in the modern diet: unsaturated fatty acids. And, of course, tonyu contains no cholesterol.

Since it does not contain lactose, soy 'milk' is particularly suitable for those who are lactose intolerant. For people who cannot digest cow's milk, soy 'milk' is ideal because it is easier to digest!

Many soyfoods are enriched with calcium. In fact, the European regulation, 'Fortification Proposal', authorises the enriching of soy products with calcium in order to ensure people consume sufficient calcium, irrespective of their dietary habits.

2. Tofu, pleasure and benefits

Tofu is made with soy 'milk' that has been coagulated and drained. It is white and smooth, and has a somewhat neutral taste, which means it can easily be used in a large number of recipes. With a little bit of imagination (see recipes on the website), tofu can create veritable miracles in the kitchen. It is ideal for both sweet and savoury dishes, and gives a creamy touch to salads, clafoutis (fruit baked in batter), tarts, etc.

Like all soyfoods, tofu contains no cholesterol and is particularly rich in vegetable proteins. It can thus play an important role in ensuring our diet is well balanced.



| <i>Nutritional labelling for 100g</i> | <i>Plain tofu</i> |
|---------------------------------------|-------------------|
| Calorific value (kcal) | 137 |
| Proteins (g) | 14.0 |
| Carbohydrates (g) | 0.6 |
| - including sugar | 0.5 |
| - including lactose | 0 |
| Fibers (g) | 1.4 |
| Lipids (g) | 8.7 |
| - including saturated fatty acid | 1.2 |
| - Including poly-saturated fatty acid | 4.1 |
| - including cholesterol | 0 |

Table II: Nutritional composition of tofu made from whole soybeans Souci-Fachman-Kraut

| <i>Composition</i> | <i>Soy 'milk', enriched in calcium</i> |
|---------------------------------------|--|
| Calorific value (kcal) | 44 |
| Proteins (g) | 3.3 |
| Carbohydrates (g) | 3.2 |
| - including sugar | 3.0 |
| - including lactose | 0 |
| Fibers (g) | 0.3 |
| Lipids (g) | 1.9 |
| - including saturated fatty acid | 0.3 |
| - including poly-saturated fatty acid | 1.0 |
| - including cholesterol | 0 |
| Calcium | 110 |

Table I: Nutritional composition of soy drinks manufactured using whole soybeans (ENSA)

VI. Soy – it's good for you!

A. Soyfoods for everyone

1. An unrivalled source of vegetable protein

This is the main nutritional advantage of soy products. Soy is particularly rich in protein. Of the 20 amino acids contained in animal and vegetable proteins, 8 are essential; in other words our body is unable to manufacture them. They must therefore be found in our food in order to avoid any deficiencies. Soy contains all 8 essential amino acids.

Moreover, soy proteins have a higher biological value than other vegetable proteins and are similar to animal proteins (milk or eggs for example). Consuming soyfoods is therefore a good way of attaining this balance.

2. Soy for a healthy cardiovascular system

Without doubt, cardiovascular diseases are a major concern for public health. One of the main risk factors with these diseases is hypercholesterolemia (high blood cholesterol). Today most of us know someone who has been affected by hypercholesterolemia.

Generally, people affected by this disease are advised to follow a special diet, low in total fats, saturated fatty acids and in cholesterol.

Soyfoods contain no cholesterol and their lipid profile ('fat' content) places great emphasis on unsaturated fatty acids. More specifically, consuming soyfoods can ensure a balanced diet and also lower blood cholesterol levels.

3. Soyfoods are good for your figure!

100% vegetable, rich in protein and low in fat, soyfoods are essential for anyone wanting to look after their figure.

When one is trying to lose weight, it is essential to maintain one's muscular mass and soyfoods provide part of the protein necessary to do that.

Soyfoods are low in fat and those they do contain are essentially unsaturated fatty acids, which are generally lacking in our diet these days. With soyfoods it is easier to limit one's fat consumption and consume the fatty acids essential for the body to function properly.

Finally, the carbohydrate content of soyfoods is moderate and carefully calculated in order to offer food products that are both tasty and nutritious.

B. Soy for women

1. Are phyto-oestrogens beneficial to women?

Soy contains molecules known as isoflavones or phyto-oestrogens. More specifically, these are molecules that are thought to 'mimic' the well-known female sex hormone, oestrogen, but their activity is much lower. Studies carried out to date are promising, in particular regarding the well-being of women going through the menopause. Research should continue in this line to learn more about these molecules and discover how they can help women at this stage in their life.



2. Soy and breast cancer

Soy consumption has been studied extensively with regard to the prevention of hormone-dependent cancer, and breast cancer in particular. Numerous studies of Asian women have shown that the phyto-oestrogens contained in soy can protect them from cancer. Data currently available from studies of Western women are encouraging, but still insufficient to allow the same protective effects to be concluded.

Did you know?

The total absence of lactose in soy 'milk' makes it easier to digest than cow's milk.

C. At what age can children start to eat soy products?

Members of ENSA produce above all soyfoods for general consumption from the age of one year onwards. No soyfoods manufactured by ENSA members are formulated to respond to the specific nutritional needs of young babies (under 1 year), because babies need adapted soy infant formula.

Like all foods, basic soy products can be introduced progressively into a child's diet when it begins to become more diverse, starting when the child is around 6-months-old.

For children with lactose intolerance, soy 'milk' is a good alternative, because 80% of children allergic to cow's milk tolerate soy 'milk'.

VII. Soy as part of our daily diet...

A. How can we achieve a balanced diet?

Nowadays we often worry about our diet... and so we should! Too much saturated fat, too much refined sugar, too much animal protein, too many empty calories, not enough variety, etc. STOP! This dismal picture is enough to depress anyone. A balanced diet does not have to be restrictive or involve deprivation or frustration. Quite the opposite!

A few simple rules suffice to ensure a good diet – one that is tasty, varied and perfectly healthy.

- **Variety:** in order to meet our body's very diverse requirements, we need to have a varied diet. By eating a little of everything in moderation, we ensure our body obtains all the elements it requires: protein, carbohydrates, vitamins, minerals, etc.
- **Moderation:** our body knows its own limits. We need to listen to it more carefully. The secret: we need to eat more slowly (and without the television!) so that the signals our body sends us telling us we are full arrive before we have eaten too much.

B. Soyfoods every day!

There is nothing unusual about consuming soyfoods on a daily basis! All we need to do is discover them. Nowadays, a wide variety of soy products to suit all tastes can be found in the shops.

For breakfast, we can have plain or chocolate-flavoured soy 'milk' with cereals, and so on. Soy products are enriched with calcium, so many can naturally replace dairy foods.

When you feel like something savoury, tofu can be used to make all sorts of simple dishes such as: courgettes stuffed with tofu, vegetable quiche with tofu, marinated tofu sautéed with shrimps, etc. The list is endless. All you need to do is start cooking! And when you are in a hurry, there are always soy steaks, sausages, dumplings and ready-made soy meals, which are easy to reheat. Or you could always opt for a soy-based takeaway.

As for desserts...there are hundreds of dishes to choose from. Ready-made products such as 'yoghurts' or soy cream desserts, recipes that can be rustled up in no time – dishes to satisfy all tastes. And for those who prefer – and take the time – to put on their apron: soy milkshake with fruit, semolina biscuits with honey and soy milk, crystallised ginger ice cream with cream and soy milk, etc. There are many recipes for you to discover and share on the ENSA members' websites.



For more information:

For more information on the companies that are members of ENSA, please visit the following website: www.ensa-eu.org

ENSA Press Office

ENSA Secretariat
118, Av de Cortenberg
1000 Brussels
Belgium
Tel.: +32 (0)2 741 62 15
Fax: +32 (0)2 737 95 01
E-mail: secretariat@ensa-eu.org
www.ensa-eu.org