A vertical composition featuring several bright green, circular Spirulina tablets floating in clear water. The water is splashing and bubbling, creating a dynamic and fresh appearance. The background is dark, making the green color of the tablets stand out prominently.

# **Unicelular Micro Algae Spirulina Platensis**

## **Characteristics And Properties**

**The Most Antique And Complete Super Food That Provided The Nature**

**[SpirulinaEco.com](http://SpirulinaEco.com)**

☀☀☀ Affiliate Program. We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE Click Here !!**

---

The Micro Algae Spirulina Platensis is a Super Food that covers any gaps that we have in our feeding. In the following pages we will see everything related to spirulina as: characteristics, properties and history of this wonderful miniature algae that grows in fresh water.



### What Is The Unicelular Micro-Algae Spirulina Platensis

The Unicellular Micro-Algae Spirulina platensis is a blue-green alga, under a microscope, it appears in the form of a cylindrical spiral-shaped spring.

This Micro-Alga is as old as the earth and grows naturally in the alkaline lakes of the

hot regions of the earth.

By measuring no more than 0.2 to 0.3 mm long, it is barely visible to the naked eye, but put in green color (green spinach) the water in which it develops, living of the photosynthesis like other plants. For develop, need water, light, heat, and the essential elements to the life of plants: carbon, sulfur, phosphorus, potassium, iron and magnesium. Since ancient times, the mens of coastal lakes where this alga develops naturally (aquatic birds bring their droppings, essential nutrients for the development of algae and their movements of agitation of the water) what they have done of the Spirulina, a nutritional supplement in your daily regime.

---

☀☀☀ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ Affiliate Program. We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE Click Here !!**

---

The Unicellular Micro-Algae *Spirulina Platensis* contains photosynthetic unicellular organisms and they lack of defined nucleus or other specialized cellular structures.

The blue-green algae contain the same kind of chlorophyll that higher plants, but this is not found in chloroplasts, but is distributed throughout the cell. In many species, other pigments mask the chlorophyll and imparts a bluish or reddish color to the cells.

In shallow tropical waters, the plants of these algae come to constitute a curved formations called stromatolites, whose fossils have been found in rocks formed during the Precambrian, more than 3,000 million years ago. This suggests the important role played by these organisms changing the primitive atmosphere rich in carbon dioxide, for the mixture rich in oxygen that currently exists.

There is controversy about whether they are algae or bacteria. Are considered Algae because they perform oxygenic photosynthesis, are 5 to 10 times larger than bacteria and also have special structures nonbacterial as filaments.

Are considered bacteria because their organization is prokaryotic cell, are cells without organelle.

With regard to the nutrition must say that are autotrophic photo (can be facultative heterotrophic in the dark) and fixing nitrogen unlike of the eukaryotic and likeness of bacteria when the amount of oxygen is low.

With regard to distribution are found throughout the world, can be seen with the naked eye as gelatinous masses and especially in fresh water

---

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ Affiliate Program. We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE Click Here !!**

---

and moist soil. They can form stromatolites, ie calcium carbonate formations.



## Unicellular Micro-Algae Spirulina

### Platensis History

Historically the Aztecs consumed the Spirulina as food, the appointed "tecuitlatl". This custom disappeared over time. Biologists and anthropologists argue that in pre-Hispanic times the inhabitants of Mexico consumed also "tamales" made from seaweed and of Freshwater.

The Mankind went back namely from the existence of spirulina, when in the 60 technicians of the French Petroleum Institute sought the precious fuel in central Africa. It is an arid, impoverished region, where nothing indicates that there is some kind of food easy to get. However, the natives of Kanem (Chad, Africa) appeared healthy and robust, this which was studied by French and Belgian ethnologists in late 1962, discovered that the native harvested and consumed the algae since ancient times.

The women of the tribe collect the spirulina in wicker baskets, allowed to drain water on clay pots and what remains in baskets put it to dry in the sun. The final product is a paste with which a sauce is made by adding fat beef, fried onions, peppers, wild grasses and cow tongue which is intended to accompany the millet dumplings.

---

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ Affiliate Program. We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE Click Here !!**

---

Even today, an ethnic group of Chad, harvest by frothing in some brackish ponds. The green mashed collected in this way is put to dry in the sun, then sold in the form of biscuits under the name of "dihé". In this way, they add a nutritional supplement in the preparation of sauces that usually accompany porridges or balls of cereals (millet) or cassava.

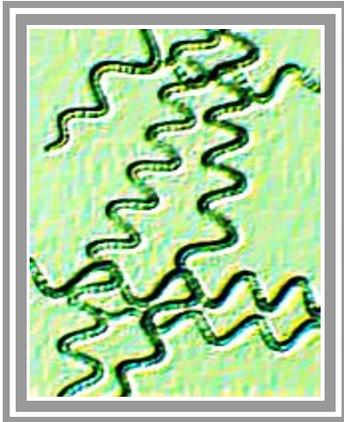
Re-discovered in Chad in 1940, and particularly since 1946, intrigued by ancient practices that have come to evoke and worried about finding cheaper food resources, scientists are discovering the remarkable benefits of Spirulina. However, the natives of Kanem (Chad, Africa) appeared healthy and robust, which was studied by French and Belgian ethnologists in late 1962, discovered that the native harvested and consumed algae since time immemorial.

This algae has also been harvested in Kenya, Ethiopia, Egypt, Zambia and Peru. In Mexico, since 1967 its cultivation began in the bodies of water that remain of the former Lake Texcoco and have managed to get 30 tons of seaweed per hectare per year, but a cultivation of spirulina carried out under optimum conditions, with constant water temperature to the indicated grades, 365 days a year, with constant care and maintenance, adding continuous, as hereinafter specified, culture solutions and nutrients, stand to reap 36 grams per liter of water per year, which is about 145 tonnes per hectare per year.

---

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ Affiliate Program. We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE [Click Here !!](#)**



## Unicellular Micro-Algae Spirulina Platensis

### Characteritics

The Spirulina Platensis contains up to an 70% of protein, against an 8% of the wheat, 7% of the rice and 2% of the potato. It is very easy to digest because it lacks cellulose, its essential unsaturated fatty acids are important factor known in the prevention and

amelioration of cardiovascular diseases. Its amino acid composition indicates that Spirulina has a similar to the egg yolk structure. It also has 24% carbohydrates, pigments, minerals and vitamins A, B1, B2, B6, C, E and the exceptional vitamin H among others.

It is one of the natural sources more protean (70% of the weight). Their proteins are complete and of high biological value: it has 21 of the 23 amino acids (all essential) in almost perfect proportion, highlighting the tryptophan (antidepressant par excellence) and phenylalanine (gives feeling of fullness) as the highest concentration. A lipid level, is rich in polyunsaturated fatty acids (linoleic, linolenic and gamma-linolenic acid). Among the carbohydrates is highlighted the presence of a rare natural sugar (rhamnose) which favors glucose metabolism and has a favorable effect on diabetes.

In terms of vitamins in addition to A, E and H is known for being the richest natural source of B12 (ideal to complement strict vegetarian diets, because a gram per day covers the daily needs of this vitamin). In minerals, is particularly rich in iron (five times more than liver), but

---

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ Affiliate Program. We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE Click Here !!**

---

also contains calcium, phosphorus, magnesium, potassium, sodium, manganese, selenium, chromium and zinc, among others.

It is also well endowed with chlorophyll, carotenes, nucleic acids and mucilage. Its celled structure (plasma membrane) lacking cellulose, facilitates rapid assimilation of nutrients, especially to protein level, even in people with digestive and absorption difficulties.



### Unicellular Micro-Algae Spirulina Platensis

#### Properties

The Unicellular Micro-Algae Spirulina Platensis 100% natural, is a dietary supplement that consumed with regularity provides excellent health benefits in the human body.

It is a Natural Invigorating for people of all ages, for convalescents of the operations or any disease, prevents states of malnutrition, increases the bioavailability of iron, corrects the anemia, activates the immune system, reduces the risk of cancer and premature aging, helps to lower the cholesterol levels, serves for the treatment of juvenile acne, helps regulate blood sugar levels, is an adjuvant in slimming diets and encourages the multiplication of intestinal lactobacilli.

The Spirulina Platensis is an important source of vitamins (b-Carotene, B complex and vitamin E), pigments and enzymes with antioxidant properties.

---

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ Affiliate Program. We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE Click Here !!**

---

The fatty acids presents in the Spirulina Platensis help prevent and improve cardiovascular diseases such as arteriosclerosis, cholesterol, blood pressure and are essentials in human nutrition.

The Spirulina Platensis is also suitable for people who play sports, your continued consumption in people who practice any type of physical exercise produces greater strength in the body keeping the body for longer period of time without feelings of exhaustion and lengthening the time of resistibility in great efforts, the recovery after a major effort is much faster than usual when is consuming Spirulina regularly.

The Spirulina Platensis cultivated in macro-pools with advanced ecological bio-technology, has a rich content of essential nutrients, contributing more than 50 macro and micro-nutrients, cellular anti-oxidants, natural pigments such as chlorophyll, caroteinoides and phycocyanin, essential amino acids, proteins, essential fatty acids, and nutrients cofactors precursors essential Prostaglandin E-1 and E-3, which are essential hormones bioregulator of the nervous system, cardiovascular, immune system, anti-inflammatory, hormones, sexual, hair, skin, nails, reproductive, metabolism and balanced levels of blood sugar, PGE-1 and PGE-3 necessary "in-situ" and in milli-seconds for the good operation and maintenance of the natural protection of our cells and vital organs.

### Other Benefits Of The Unicellular Micro Algae Spirulina Platensis

I - Thinning (Taken before meals with water).

---

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ Affiliate Program. We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE Click Here !!**

---

II - Reconstituent (Taken during meals).

III - Ideal complement for deintoxication regimens and fasting.

IV - Nutrient supply co-factors (macro, micronutrients, gamma-linolenic acid (GLA) and others.

V - It acts as a bio-activator of melanin and good skin color, protector of free radicals; with essential nutrients such as Factor Glucose Tolerance for the control of blood glucose levels and for that the insulin work more effectively.

---

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ **Affiliate Program.** We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE [Click Here !!](#)**

## Sheet Technique The Unicellular Micro-Algae Spirulina Platensis

Physical Properties		
Appearance	Fine Powder	
Colour	Dark Green	
Smell and Taste	Strong, resembles marine plants. Unflavored	
Density	0.5 Grams per liter	
Particle Size	9 to 25 microns	
Chemical Composition		
Nutritional Value: Total Nitrogen Organic %	10.85 min	13.35 max
Nutritional Value: Total Proteic Nitrogen %	9.60 min	11.36 max
Nutritional Value: Crude Protein (%N*6.25)	60.00 min	71.00 max
Nutritional Value: Net Protein Utilization %	53.00 min	61.00 max
Nutritional Value: Digestibility %	83.00 min	84.00 max
Residual moisture %	4.00 min	7.00 max
Ash %	6.40 min	9.00 max
Protein %	60.00 min	71.00 max
Raw Fibers %	0.10 min	0.90 max
Xanthophylls g/kg of Product	1.40 min	1.80 max
Beta-Caroteno g/kg of Product	1.50 min	1.90 max
Chlorophyll A g/kg of Product	6.10 min	7.60 max
Minerals: Calcium mg/kg of Product	1045.00 min	1315.00 max
Minerals: Phosphorus mg/kg of Product	7617.00 min	8942.00 max
Minerals: Iron mg/kg of Product	475.00 min	580.00 max
Minerals: Sodium mg/kg of Product	275.00 min	412.00 max
Minerals: Chloride mg/kg of Product	4000.00 min	4400.00 max
Minerals: Magnesium mg/kg of Product	1410.00 min	1915.00 max
Minerals: Manganese mg/kg of Product	18.00 min	25.00 max
Minerals: Zinc mg/kg of Product	27.00 min	39.00 max
Minerals: Potassium mg/kg of Product	13305.00 min	15400.00 max
Minerals: Other mg/kg of Product	36000 min	57000.00 max
Total Carbohydrates %	13.00 min	16.50 max
Total Lipids %	6.00 min	7.00 max
Saturated Fatty Acids: Fatty Total Fatty Acids %	4.90 min	5.70 max

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ **Affiliate Program.** We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE [Click Here !!](#)**

Saturated Fatty Acids: Lauric mg/kg of Product	180.00 min	229.00 max
Saturated Fatty Acids: Myristic mg/kg of Product	520.00 min	644.00 max
Saturated Fatty Acids: Palmitic mg/kg of Product	16500.00 min	21141.00 max
Saturated Fatty Acids: Stearic mg/kg of Product	Traces min	353.00 max
No Saturated Fatty Acids: Palmitoleic mg/kg of Product	1490.00 min	2035 max
No Saturated Fatty Acids: Palmitolinoleic mg/kg of Product	1750 min	2565.00 max
No Saturated Fatty Acids: Heptadecanoic mg/kg of Product	90.00 min	142.00 max
No Saturated Fatty Acids: Oleic mg/kg of Product	1970.00 min	3009.00 max
No Saturated Fatty Acids: Linoleic (Essential) mg/kg of Product	10920 min	13784.00 max
No Saturated Fatty Acids: d-Linoleic (Essential) mg/kg of Product	8750 min	11970.00 max
No Saturated Fatty Acids: a-Linoleic mg/kg of Product	699.00 min	7000.00 max
Other Substances: Insaponic Acids %	1.10 min	1.30 max
Other Substances: Sterols mg/kg of Product	100 min	325.00 max
Other Substances: Triterpene Alcohols mg/kg of Product	500 min	800.00 max
Other Substances: Carotenoids mg/kg of Product	2900.00 min	4000.00 max
Other Substances: Chlorophyll mg/kg of Product	6100.00 min	7600.00 max
Other Substances: 3-4 Benzopyrene mg/kg of Product	2.60 min	3.60 max
Other Substances: Cholesterol mg/kg of Product	60.00 min	196.00 max
Other Substances: b-Sitosterol mg/kg of Product	30.00 min	97.00 max
Other Substances: Dihydro-Cholesterol 7, Cholesterol 7- $\alpha$ -3 Stigmasterol mg/kg of Pro.	10.00 min	32.00 max
a-Carotene (Average) mg/kg of Product	Traces	
b-Carotene (Average) mg/kg of Product	1700	
Xanthophylls: Cryptoxanthin (Average) mg/kg of Product	1600.00	
Xanthophylls: Echinenone (Average) mg/kg of Product	556.00	
Xanthophylls: Zeaxanthin (Average) mg/kg of Product	439.00	
Xanthophylls: Lutein and Euglenanona (Average) mg/kg of Product	289.00	
Vitamins: Biotin (H) (Average) mg/kg of Product	0.40	
Vitamins: Cyanocobalamin (B12) (Average) mg/kg of Product	2	
Vitamins: d-Ca-Pantothenate (B5) (Average) mg/kg of Product	11	
Vitamins: Folic Acid (B9) (Average) mg/kg of Product	0.50	
Vitamins: Inositol (B8) (Average) mg/kg of Product	350.00	
Vitamins: Nicotinic Acid (PP) (Average) mg/kg of Product	118.00	
Vitamins: Pyridoxine (B6) (Average) mg/kg of Product	3	

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ Affiliate Program. We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE Click Here !!**

Vitamins: Riboflavin (B2) (Average) mg/kg of Product	40.00
Vitamins: Thiamine (B1) (Average) mg/kg of Product	55.00
Vitamins: Tocopherol (E) (Average) mg/kg of Product	190.00

How to use: While many studies indicate that the best results of the Spirulina are achieved taking the equivalent the 2% and 2.5% of the daily food we eat, which would to take approximately 12 to 15 grams per person per day, the most brands recommend taking between 4 and 9 grams per person per day, the average amount set by most brands was about 6 grams per person per day, if we put the same example of the presentations and consume spirulina tablets of 400 mg., we have take 5 tablets at breakfast, 5 tablets at lunch and 5 tablets at dinner. In any case, it is advisable to follow the instructions indicated of the each mark instructions.

The treatment time is depending on the needs of each person, in cases helps preventing problems or as a simple bracing can be taken by seasons of three months and stop between 30 and 45 days from shot to shot, in cases that the health problem has manifested itself must be taken continuously. In any case, since Spirulina while acting as a regulator of the organism is a food, it can be taken continuously in the doses indicated the desired time without any fear to have adverse effects.

Quality: For the Spirulina we consume make the desired effect, should always be pure, without mixing any other ingredients, totally natural and organic farming with recognized certification "Bio". Although all

---

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ Affiliate Program. We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE Click Here !!**

---

marks of Spirulina contain the same nutrients and in similar proportions, the ingredients of Spirulina or organically grown "Spirulina Bio" are of much higher quality and digestibility, so that favorable effects on the body are much more noticeable.

Contraindications: None known.

### Some Works Done With Spirulina In Animals

A study carried out in Egypt by Abdel-Taw-Wab in 2009, showed the benefit and importance of eating seaweed (The Sprirulina) on the survival of juvenile Nile tilapia after exposure to the bacteria *Aeromonas hydrophila*, a common bacterium in crops of tilapia and other species). The cumulative mortality within 10 days after exposure was about 80% for fish receiving the ration without spirulina, against 47-10% for fish with spirulina receiving ration from 2.5 to 10 g per ration kilo.

In another study also conducted in Egypt Ibrahim et al. in 2013, juvenile Nile tilapia of 8 grams, showed better growth when they received ration containing 10 g of dry/kilo of Spirulina, in compared to fish that did not receive Spirulina in the diet (final weight of 58 g versus 35 g, respectively). After infection with an injection of the pathogenic bacterium of *Pseudomonas fluorescens*, the tilapia fed for 3 months with a diet containing Spirulina 120g / kilo presented 42% mortality against 63% of the dry ration without Spirulina. Complementary tests

---

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ Affiliate Program. We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE Click Here !!**

---

showed improvement in various components and processes of the immune system in the tilapia with fed rations containing Spirulina. The results of these experiments indicate that the inclusion of alga Spirulina contributes to the supply of any nutrient/s or substance/s specific/s to the immune response (defense) of tilapia against these pathogenic bacteria.

The result of these work in raising tilapia, can be extrapolated to other species using spirulina in feeding them, in the proportions used for the work presented here. Tambien se puede extrapolar a humanos en lo referente a la activacion del sistema inmune y el aumento de defensas del organismo.

Other Recommendations: Just as the body needs components that spirulina has in its composition to regulate the functions of the organs of our body also needs water, water is essential for the proper functioning of the human body, drinking the amount adequate daily, besides being necessary, helps optimize the positive effects of the products we eat, it is advisable to take 1 to 2 liters of water per person per day.

A healthy and varied diet is very important and healthy, the foods that we eat must be chosen depending on the nutritional needs of each person, this does not necessarily lead to eating foods that do not we like them, we can be perfectly combined the desires with food needs and having a varied diet in line with those needs.

---

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ **Affiliate Program.** We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE Click Here !!**

### FREQUENCY OF CONSUMPTION OF MAIN FOOD GROUPS

Food Groups	Frequency Of Consumption
1 Fresh Fruits	3 Pieces per day
2 Vegetables	2 Rations a day, one of them raw (salad)
3 Rice, Spaghetti, Cereals and derivatives, Potatoes	2 Plates daily alternating in lunch and dinner
4 Bread	Moderately breakfast, lunch and dinner
5 Legumes	2 Rations a week, can be replaced by plates Group (3)
6 Lean Meats and Poultry	3 to 4 Rations Week of every
7 Eggs	2 Rations week
8 Fishes	3 to 4 Rations week alternating blue and white fish
9 Milk and dairy products (yogurt, cheese, etc.)	3 Rations per day
10 Fatty meats, sausages, butter, pastries, scones, etc.	Occasionally and in moderate amounts

### Food Values

When talking about a healthy and varied diet also you must have the appropriate nutritional values, thereby providing to the body the protein, fat, vitamins, minerals etc. that you need with equilibration.

A good diet is one that besides their variety of products, tastes and flavors, also must be balanced both in quantity and in content.

In this note are expressed some of the most important values recommended by food experts.

### Recommended Values Most Important We Should Eat Per Person and Day

Protein in Gr. ....	54.00	Lipids in Gr. ....	95.00
Carbohydrates in Gr. ....	325.00	Fiber in Gr. ....	30.00
Kilocalories in Gr. ....	2347.00	Cholesterol in Mg. ....	300.00
Saturated fats in Gr. ....	20.00	Monounsaturated fats in Gr. ....	17.00
Polyunsaturated fats in Gr. ....	15.00	Calcium in Mg. ....	600.00
Phosphorus in Mg. ....	800.00	Iron in Mg. ....	10.00

☀️☀️☀️ Join On The Group **Spirulina Eco** in **Facebook Groups**, for Join on the Group **Do Click Here !!**

☀️☀️☀️ Affiliate Program. We provide a website with your affiliate ID to promote our products and earn up to 50% of sales. **Register FREE Click Here !!**

---

Recommended values described herein are approximate, are based on people 20 to 60 years with a height of 1.65 to 1.80 meters and a weight of 60 to 80 kilos, carrying a normal life without sports practices or other physical efforts, these values may vary depending on the type of life that makes each person, depending on age (Breastfeeding, adolescence or old age) or when diets are made.

### Important Information:

Although the Alga Spirulina has many properties for improving health in people; not replace the traditional medical treatments.

All information contained in this document is part of the book “Green Master Project” del autor Joxe Bilbao. You can see the book in ...

[GreenMasterProject.com](http://GreenMasterProject.com)

© 2016 By [SpirulinaEco.com](http://SpirulinaEco.com)