HEALTH & BEAUTY ESSENTIALS

Naturally from Integrated Agro Systems

Borrego Moringa™ Herbal Dietary Supplement
(Moringa Oleifera "CULTIVAR")

The miraculous "Moringa" Leaf - Nature's Medicine Chest - is naturally high in protein, calcium, magnesium, potassium, iron, sulfur, vitamins, essential amino acids, fatty acids, dietary fiber, polyphenols and flavonoids including anti-oxidants, anti-inflammatories, antihistamines, and antimicrobial compounds to build the immune system.

Moringa - like all plants - absorbs its nutrients for growth from the water and soil in which it is growing. Unlike all plants though, Borrego Moringa™ has a unique ability to produce an array of *Natural Organic Compounds* within the various plant tissues, i.e., roots, bark, stems, foliage and flowers that happen to be required by the human body and some other animals for growth and to sustain a healthy balanced metabolism. The significance is that these compounds and vital dietary nurtiants are fully "bioavailable" in ionic form ***naturally*** - without processing or augmentation. Borrego Moringa™ is truely "Nature's Medicine Chest".

Borrego Moringa™ (CULTIVAR) was selected by IAS for its ability to absorb vital minerals from the geothermal irrigation water and mineral soils deposited over millennia from the ancient ocean which covered the Borrego desert, from which Borrego Moringa™ is cultivated.

The result: a product rich in necessary vitamins, amino acids, minerals and an era of vital compounds that give our bodies the vitality and health we deserve.

The following analysis reports provide a complete explanation of the vitamin, mineral, amino acids, fatty acids, polyphenal & flavonoid content within Borrego Moringa™. Microbiological test results and testimonials are also included.

Vitamin Content

Vitamins	Units
Total Vitamin A	65,220 iu/100g
Beta carotene	63,700 iu/100g
Retinol	1,520 iu/100g
Vitamin B1(Thiamine)	805 mg/100g
Vitamin B2 (Riboflavin)	2.0 mg/100g
Vitamin B3 (Niacin)	8.33 mg/100g
Vitamin B5 (Panothenic Acid)	2.59 mg/100g
Vitamin B6 (Pyridoxine)	1.70 mg/100g
Vitamin B7 (Biotin)	92.90 mcg/100g
Vitamin B9 (Folic Acid)	1037.00 mcg/100g
Vitamin B12 (Cobalamin)	< 0.200 mcg/100g
Vitamin C (Ascorbic Acid)	9.3 mg/100g
Vitamin E (Alpha Tocopherol)	91.80 mg/100g
Gamma Tocopherol	7.50 mg/100g
Delta Tocopherol	1.1 mg/100g

Amino Acid Content

Amino Acids	Percent
Alanine	1.38 %
Arginine	1.73 %
Aspartic	3.08 %
Glutamic Acid	3.75 %
Glycine	1.75 %
Histidine	0.65 %
Isoleucine	1.16 %
Leucine	2.10 %
Lysine	1.46 %
Methionine	0.34 %
Phenylalanine	1.64 %
Proline	1.15 %
Serine	1.18 %
Threonine	1.03 %
Tryptophan	0.24 %
Tyrosine	0.92 %
Valine	1.48 %

Image above shows in detail the Borrego Moringa Flowers, Pods and Leaves

Mineral Content

Minerals	Units
Aluminum	29.86 mg/100g
Arsenic	< .013 mg/100g
Barium	1.01 mg/100g
Boron	4.71 mg/100g
Cadmium	< .003 mg/100g
Calcium	1996.02 mg/100g
Chloride	700.80 mg/100g
Chromium	043 mg/100g
Cobalt	< .005 mg/100g
Copper	0.74 mg/100g
Iron	35.43 mg/100g
Lead	< .031 mg/100g
Lithium	.192 mg/100g
Magnesium	370.26 mg/100g
Manganese	7.56 mg/100g

Minerals	Units
Mercury	< .003 mg/100g
Nickel	.035 mg/100g
Nitrogen	5.78 %
Phosphorus	329.93 mg/100g
Potassium	1456.44 mg/100g
Selenium	< .049 mg/100g
Silicon	42.02 mg/100g
Silver	< .002 mg/100g
Sodium	117.67 mg/100g
Strontium	6.24 mg/100g
Sulfur	1018.83 mg/100g
Tin	< .028 mg/100g
Titanium	.92 mg/100g
Vanadium	05 mg/100g
Zinc	3.68 mg/100g

Analytical Results

Analytical Results Lot# 82101/lb. I.D.# 150477362	Units
Moisture - vacuum oven	7.52 %
Ash	10.73 %
Protein (Total)	31.58 %
Dietary Fiber (Total)	31.24 %
Fats (Total)	5.64 %
Carbohydrates calculation	44.5 %
Calories calculation	355 cal/100g
pH	5.85

"Borrego Moringa tm " 100% Pure Dried Leaf Powder Benefits – In Layman's Terms

Analytical Results Lot# 82101/lb.I.D. 150477362

Protein -Total ...31.58 %

Proteins are essential components of all body tissues and help the body produce new tissue. Protein is extremely important during all stages of growth from pregnancy, through muscle development and when recovering from wounds. Deficiency can cause growth retardation, muscle wasting, edema. Synthesis of protein by the body requires intake of sufficient vitamin A.

Dietary fiber -Total ...31.24 %

An important component on all human diets, fiber aids in digestion of all foods. A high-fiber diet slows the rise in blood sugar after a meal, aids in the maintenance of normal blood sugar levels and reduces the amount of sugar excreted in the urine. Insoluble fibers, such as cellulose in whole wheat products, wheat bran and some vegetables, promotes bowel regularity which minimizes toxins and bile acids from our intestine from being reabsorbed back into our blood and appear to provide some protection against some cancers. Some forms of fiber such as pectin in fruit and fiber in alfalfa, cooked dried beans, oat bran and guar gum reduce LDL cholesterol levels. High dietary fiber combined with a balanced vitamin and mineral content with regular exercise and effective stress management, builds immunity and reduces the risk of numerous abnormalities and diseases.

Carbohydrates ... 44.5 % of total Fats...5.64 %

Carbohydrates are extremely important and vital compounds, which provide fuel for billions of chemical reactions in the body, the energy nutrient for heat and for all forms of body activity. Deficiency can cause the body to divert proteins and body fat to produce needed energy. This can lead to depletion of body tissue and the risk of numerous abnormalities.

Vitamin A / Beta carotene / Retinal -Total ...65,220 iu/100 g

Is vital for developing good eyesight, healthy skin and hair, strong immunity and resistance to infection, strong bones, good growth and helps prevent anemia. Deficiency can cause intestinal and respiratory infection, poor eyesight, night blindness. Young people lacking vitamin A are more prone to respiratory and intestinal infection. Vitamin A in the form of retinol is mainly found in meat, eggs and dairy but it is also found in Borrego Moringa™ at 1,520 iu / 100 g/ of powdered dried leaf. Beta carotene a precursor of vitamin A is found in plants, fruits and vegetables with yellow, red and dark green coloring such Borrego Moringa™ at 63,700 iu / 100 g.

Vitamin B1 - Thiamine... .805 mg./100g

Helps the body convert glucose into energy in nerves and muscles. Vitamin B 1 assists in improving mental ability and heart functions, digestion and preventing rheumatism. Deficiency van cause fatigue, muscle weakness, loss of appetite, nausea , constipation, impaired memory and the inability to concentrate.

Vitamin B2 - Riboflavin ...2.0 mg / 100g
Helps the body convert proteins, fat and sugars into energy, in addition it helps the body in normal growth and development, repairs and maintains tissues. It helps regulates certain hormones and the formation of red blood cells. Deficiency can cause bloodshot or tired eyes, as well as inflammation and ulcers of the mouth the tongue and lips, hair loss, dermatitis with simultaneous dryness and greasy scaling and even depression.

Vitamin B3- Niacin ... 8.33 mg /100g
Releases energy from carbohydrates, aids in the breakdown of protein, fats and certain hormones in the formation of red blood cells and in the detoxification of several drugs and chemical. Vitamin B3 is essential for the supply of energy and the maintenance of all body cells. Has cholesterol-lowering effects and reduces the risk for developing heart disease in people with elevated blood fat levels. Deficiency includes weakness loss of appetite, indigestion, skin eruptions, dermatitis, scaly, dark pigmentation of the skin. The tongue is swollen, and damage to the central nervous system can result in disorientation, irritability, headaches, insomnia and emotional instability.

Vitamin B5- Panothenic Acid ...2.59 mg / 100g
Vitamin B 5 is necessary for the synthesis of vitamin D Panothenic acid are found in the watery portion of food and are easily lost when over cooked. It is important to note that vitamin B 5 is mixed easily in the blood and only small amount are stored in the tissues since vitamin B5 is excreted in the urine. The vitamin is converted into coenzyme A, an important catalyst in the breakdown of fats, carbohydrates and protein for energy. Deficiency has not been reported in humans.

Vitamin B6 - Pyridoxine ...1.70 mg / 100 g
It is involved in the building and breakdown of carbohydrates, fats and proteins. Its primary role involves protein and its building blocks. Thus, vitamin B 6 is involved in the manufacture of most protein-related compounds, such as hormones, hemoglobin in red blood cells, nerve chemicals such as serotonin that regulate nerve function and many enzymes. In addition vitamin B 6 aids in the treatment of asthma, prevention of graying of hair and stimulates wound healing. Deficiency symptoms are widespread and vague. Symptoms include depression, vomiting, increased susceptibility to disease and infection, dermatitis, anemia, inflammation of the nerves, oxalate kidney stones, nausea and lethargy.

Vitamin B 7 - Biotin ...92.90 mcg /100 g
Biotin is a water-soluble vitamin, absorbed in the small intestine. Significant amounts are produced by bacteria in the intestines and excesses are excreted in the urine. Biotin is essential for numerous body functions that manufacture and break down fats, amino acids and carbohydrates. The vitamin works closely with folic acid (B 9) pantothenic acid (B 5) and cobalamin (B 12) vitamins and is reported to minimize the symptoms of a zinc deficiency. Deficiency in Biotin is rare unless large doses per day of raw egg whites are consumed, since egg white protein called avidin binds biotin in the intestine and prevents its absorption. In addition long term use of antibiotics interferes with production of biotine in the intestine and might increase the risk of deficiency. Deficiency symptoms include dermatitis, depression, hair loss, elevated blood levels of cholesterol, anemia, tingling and numbness in the hands and feet, muscle pain.

Vitamin B9 - Folic Acid ...1037 mcg / 100g
Folic acid is a water-soluble compound found in dark green leafy vegetables and fruits. The vitamin is absorbed from the small intestine. Excess is excreted in the urine. Folic acid is very important, its main function is to maintain the cells genetic code and regulate cell division and the transfer of inherited traits from one cell to another. It is essential for normal growth and maintenance of all cells. It is also involved in the production of neurotransmitters, such as serotonin, that regulate mood, sleep and appetite. Folic acid is the most common deficient vitamin in the American diet. Stressful situations, including disease, alcohol consumption, tobacco use and chronic use of medication, including some birth control pills, aspirin and anticonvulants add to the risk of developing Folic acid deficiency. Symptoms of folic acid deficiency are anemia, poor growth, malnutrition, diarrhea, loss of appetite, weight loss, weakness, apathy, sore tongue, headaches, heart palpitations and behavioral disorders. Some studies show a link between low folic acid intake and increases in homocysteine levels, a risk factor for heart disease.

Moringa Trees in bloom, growing in our Rich Borrego Soils

Vitamin B 12 - Cobalamin ...< 0.200 mcg /100g
Vitamin B 12 is necessary for normal processing of carbohydrate, protein and fat in the body. It is important for production of certain amino acids and fats and in the formation and maintenance of the nervous system. Vitamin B 12 functions in the replication of the genetic code within each cell and in this capacity it is essential in replacement and maintenance of all cells in the body. Vitamin B 12 combined with other B vitamins are essential in the formation of neurotransmitters, chemicals that facilitate communication between nerve cells. Historically Vitamin B 12 dietary sources were mostly foods of animal origin or fermented vegetables, such as fermented soybean "Miso". The vitamin is normally produces by bacteria but vegetable sources such as Spirulina algae contains 320 mcg / 100 g. Chlorella algae contains 130 mcg /100g. Borrego Moringa™ contains .200 mcg/100 g while animal sources such as cheddar cheese contains .81 mcg/100g and beef contains 64 mcg/100g.

Vitamin C - Ascorbic Acid .....9.3 mg / 100g
Vitamin C is a water-soluble vitamin that is easily absorbed in the intestine. Excesses of vitamin C are excreted in the urine. Humans are one of the few species that cannot manufacture vitamin C. Vitamin C functions in the formation and maintenance of collagen, a protein that forms the basis for the most abundant tissue in the body: connective tissue. The shape and function of all tissues depend on collagen, which acts as a cementing substance between cells. Found in bones, teeth, tendons, skin, and cornea of the eye and is the supporting material in the blood vessel walls. Vitamin C, promotes the healing of wounds, bone fractures, bruises, hemorrhages and bleeding gums and forms the protective barrier between infections or disease and the surrounding healthy tissue. Optimal intake of vitamin C builds immunity to disease and infection, as an antioxidant it has many beneficial functions in combating many diseases and infections. The best sources of vitamin C are fresh fruits and vegetables.

Vitamin E- Alpha Tocopherol...91.80 mg/100g; Gamma Tocopherol ... 7.50 mg/100g; Delta Tocerol ...1.1 mg/100g
Vitamin E is a group of fat-soluble compounds. Alpha tocopherol is the most common and most potent form. The main function of vitamin E is as an antioxidant in body tissue, protects vitamin A and amino acids and promotes the ability of white blood cells to resist infectious diseases and protects red blood cells from damage. Vitamin E also protects the tissues of the lungs and mouth from damage by air pollutants. Vitamin E also protects tissues of the eyes, skin, liver, nerves, breast and calf muscles and reportedly affects the production of hormone-like substances in the body called prostaglandins that regulate a variety of body processes including blood pressure, reproduction and muscle contractions. Additional research studies have shown treatments by the medical community with vitamin E to range from prevention of premature aging , reduced blood sugar levels in some diabetics, reduced risk of heart disease and risk reduction for oral, pancreas and liver cancer with vitamin E. Sources of vitamin E include soybean oil @ 87 mg/100 g; corn oil @ 66 mg/100g; wheat germ oil @ 42.4 mg/100g; spinach 2.2 mg/100g; avocados @ 1.3 mg/100; beef @ .66 mg/100g; Borrego Moringa™ @ 91.80 mg/100 g.

Amino Acids:
Borrego Moringa™ contains seventeen Amino Acids nine of which are essential. Amino acids make the specific proteins required by the body's specialized tissue. With the lack of any one of the nine essential amino acids, production of the needed proteins cannot occur. Although the body is able to make most of the amino acids it needs, several are not made in sufficient quantities and must be obtained from the person's diet. These are called essential amino acids. All of the essential amino acids can be found in Borrego Moringa™ dried powdered leaves. Note: There are more then 300 amino acid compound grouped together to form various proteins.

Nine Essential Amino acids: contained as % of Borrego Moringa™ dried leaf powder :

- Arginine.. 1.73 % - Immune booster; allows blood vessels to relax; facilitates reduction of body fat.
- Histidine ..... 0.65 % - Needed for growth and repair of tissue; reduces inflammation and helps the body fight allergens.
- Isoleucine ..... 1.16 % - Help to protect muscles and acts as energy ; is needed for hemoglobin formation and maintains regular energy.
- Leucine..... 2.10 % - Help to protect and act as energy; aids in bones, skin and muscle tissue and increases body's hormone production.
- Lysine..... 1.46 % - Aids in the production of antibodies, hormones and Enzymes; inhibits the growth of viruses.
- Methionine..... 0.34 % - Assists in breakdown of fats; helps prevent clogging of arteries; powerful antioxidant in detoxifying heavy metals.
- Phenylalanine.... 1.64 % - An anti-depressant endorphin; intensifies the body's own natural painkiller hormones; and suppresses appetite.
- Tryptophan ..... 0.24 % - Is converted into serotonin in the body, relaxes the mind provides a sense of well being and promotes sound sleep.
- Valine ..... 1.48 % - Protects and acts as energy; stimulates muscle metabolism and tissue repair; a good source of energy for muscles.

Eight non-essential amino acids: contained as % of Borrego Moringa™ dried leaf powder:

- Alanine ..... 1.38 % - Aids in the metabolism of glucose which the body uses for energy.
- Aspartic acid ..... 3.08 % - Reduces fatigue; combined with other amino acids to carry toxins out of the bloodstream.
- Glutamic acid ..... 3.75 % - Metabolizing sugars and fats; relaying communication from brain to nerves to transport nutrients through the body.
- Glycine ..... 1.75 % - Needed to make RNA & DNA and helps the body metabolize fats in the blood; helps speed wound healing.
- Proline..... 1.15 % - Improves texture of skin, aids in the production of collagen; helps heal cartilage; fortifies joints, tendons and heart.
- Serine..... 1.18 % - A natural moisturizing agent for the skin; aids in metabolizing of growing muscles; aids in production of antibodies.
- Threonine ..... 1.03 % - Necessary for the production of collagen and elastin; helps prevent fatty accumulation in the liver.
- Tyrosine..... 0.92 % - A natural antidepressant, helps to resist stress and mood dips; reduces body fat; helps with drug withdrawal.

Minerals :

On the next pages, a list of thirty one minerals are described. These minerals were determined to be present by leaf analysis in the Borrego Moringa™ dried leaf powder. Their respective identity and concentrations expressed in mg/100 g is provided as well as the layman's understanding the benefits they provide the human system.

These natural minerals are absorbed by the plant from the soil and geothermal mineral water as "Miners ". Twenty of these minerals are essential for human health, the remaining eleven minerals (non-essential) were also analyzed to determine identity and concentration thus allowing the consumer full disclosure for there evaluation and determination. Note: Based on current information, five of the eleven identified non essential trace mineral are in such low concentrations to render them inactive.

There are twenty two well known minerals essential to human health, they are divided into "major" minerals (present in the body in greater amounts then a teaspoon) and "trace" minerals present in the body (in amounts of less then a teaspoon). Deficiency of either a major or trace mineral can produce equally harmful effects. Minerals work either together or against each other. Some minerals compete for absorption, so a larger intake of one mineral can produce a deficiency of another. In other cases, some minerals enhance the absorption of other minerals. Absorption is also dependent on site specific body needs; a person who is deficient in a mineral will absorb more of a particular mineral than someone who is adequately nourished. The human body - when reduced to its simplest form - is a small pile of mineral (ashes) weighing approximately five pounds which play vital roles in all body tissues and function. Minerals provide structure to bones and participate in muscle contraction, blood formation, building protein, energy production and numerous other body functions. Some minerals such as sodium, potassium and chloride are electrical charges "Electrolytes" that act like a magnet to attach to other electrically charged substances and form complex molecules, conduct electrical impulses along nerves which transport substances in and out of the cells. In addition minerals regulate pH balance of blood and other fluids as well as fluid pressure between cells and the blood. Minerals also bind proteins and other organic substances and are found in red blood cells, all cell membranes, hormones and enzymes and in some cases act as antioxidants and are catalysts for all bodily processes.

Essential Minerals: Identified in Borrego Moringa™ 100% dried leaf powder / Lot # 101000

- **Boron ...4.71 mg / 100g**
  Boron is essential for normal calcium and bone metabolism. It works with magnesium and vitamin D for growth and development. Deficiency of boron intake causes bone changes similar to osteoporosis. Good dietary sources of boron are fresh fruits, vegetables and nuts. Current literature recommends daily intake of 1.5 to 7 mg

- **Calcium ...1,996.02 mg/100g**
  Calcium is the fifth most abundant substance in the body, 99 percent is located in the bones and teeth and 1 percent is in the blood and other body fluids and within all cells where it aids in regulating body processes. Calcium is absorbed in the small intestine with the help of vitamin D. A constant supply of calcium is required throughout life especially during periods of growth. As with most tissues, bones are constantly being reformed, bones lose and gain calcium daily. In later years or when dietary intake is poor, calcium loss might outweigh calcium gain and bones become susceptible to fractures. Healthy adults with optimal diets have equal amounts of calcium entering and leaving the bones each day. Deficiency in calcium is often linked to hypertension, ostereoporosis and with very low levels of calcium in the blood can increase the sensitivity of the nerves and results in muscle spasms such as leg cramps. Normal dietary sources of calcium are plain yogurt @ 415 mg/100g; sardines @ 372 mg/100g; nonfat milk @ 302 mg/100g; canned salmon with bones @ 167 mg/100 g; mustard greens cooked @ 97 mg/100g; broccoli cooked @ 50 mg/100g; whole wheat bread @ 24 mg/100g .An exceptionally good source is Borrego Moringa™ @ 1,996.02 mg./100g. Recommended daily intake from 800 mg to 2,000 mg.

- **Chloride ...700.80 mg/100g**
  Chloride is one of the three "Electrolytes" that are present in Borrego Moringa™ it is often combined with sodium in the form of sodium chloride (table salt). Chloride is distributed throughout all body fluids, including the blood, lymph, the fluids between cells and in fluids that surround cells and are essential to carry electrical charges to help regulate nerve transmission and many cell membrane functions. It functions to maintain normal pH balance, and with calcium and magnesium it maintains normal muscle contraction and relaxation. Chloride is a component of hydrochloric acid or stomach acid which, is required for digestion of food. Nutritional requirements of chloride are easily obtained in natural foods such as asparagus, avocado, banana, leafy vegetables, fish, chicken, nuts, milk and milk products. High concentrations of sodium chloride can lead to hypertension. Minimum requirements per day range from 350 mg. to 750 mg.

- **Chromium ...043 mg/100g**
  Chromium is a very interesting mineral that functions as a component of the glucose tolerance factor. It works in regulating insulin and facilitating the uptake of blood sugar (glucose) into the cells. Chromium maintains normal blood sugar levels by regulating insulin, elevated insulin levels in turn increases urinary loss of chromium, exacerbating the chromium deficiency and contributing to the development of diabetes. Optimal chromium intake reduces the amount of insulin needed to sustain normal blood sugar. Chromium insulin combination also stimulates the synthesis of protein. Chromium improves the blood fat profile by reducing total blood cholesterol and LDL cholesterol and increasing HDL cholesterol levels. Note: 90 % of Americans diets are low in chromium, due to consumption of refined white bread and processed convenience foods. Sources are brewers yeast @ .504 mg/100 g; Cooked round beef @ .044 mg./100 g; all bran cereal @ .014 mg/100 g; orange juice @ .0096 mg/100g; Borrego Moringa™ @ .043 mg/100 g. Recommended daily intake ranges from .04 mg to .2 mg.

- **Cobalt...< .005 mg/100g**
  The only known function of Cobalt is as a constituent of vitamin B12. Cobalt aids in the formation of red blood cells, maintenance of nerve tissue and normal formation of all cells. Deficiency is equivalent to deficiency of vitamin B 12 and can cause anemia, nerve disorders and abnormalities in cell formation. Dietary sources are animal organ meats as well as oysters and claims. Good vegetarian sources are Spirulina and Chlorella algae as well as Borrego Moringa™ since these vegetarian sources contain B 12 cobalt becomes bioavailable to the body. Recommended daily intake @.008 mg.

- **Copper ...74 mg/100g**
  An essential trace mineral found in all tissues including the brain, heart, kidney, liver, bones and muscles. An important mineral that facilitates the activity of several enzymes and hormones in the development and maintenance of the heart, arteries and other blood vessels, the skeletal system and the structure and function of the nervous system, including the brain. Copper aids in nerve transmission (by maintaining the myelin insulating sheath) and helps regulate neurotransmitter levels in the brain.
  Important in the development and maintenance of red blood cells and their protein hemoglobin. Copper is a component of the antioxidant "supperoxide dismutase" which acts as a scavenger and prevents the formation of free radicals before they damage tissues. Good sources of copper are unprocessed foods including, oysters, lobster, cooked liver, avocados, bananas, fish, spinach, Borrego Moringa™, cooked soybeans. Recommended daily intake ranges from .7 mg to 3.0 mg

- **Iron... 35.43 mg./100 g**
  Iron is an essential trace mineral and a vital component of red blood cells (hemoglobin) which carry oxygen throughout the body, used in enzymes production and other body function including endurance capacity for physical activity, muscle strength. In addition iron strengthens the immune system and increases resistance to colds, infection and disease. Deficiency of iron can cause anemia, tiredness, headaches, insomnia, irregularities in heartbeat function, impaired mental and motor development, impaired, attention span. Good sources of iron include organ meats like cooked liver @ 7.5 g/100; beef cooked @ 5.0 g/100g; spinach cooked @ 2.4 g/100g; broccoli cooked @ 0.7 g/100g; oysters@ 6.6 g/100g; An excellent source of iron is Borrego Moringa™ @ 35.43 g/100g which is 14.76 times higher then spinach and 4.72 time higher than cooked liver. Recommended daily intake ranges from 6 mg to 18 gm.

- **Magnesium ...370.26 mg / 100g**
  Is one of the major minerals required by the body, a positive electrolyte cation mineral. More then half of the body's magnesium is in bone, twenty five percent is in muscles and the remainder is in body fluids and soft tissues, such as the heart and kidneys. The bone acts as a reservoir for magnesium and is transported via the blood through the entire body.

Magnesium helps convert carbohydrates, protein and fats to energy, manufactures special proteins, synthesizes genetic materials within each cell and removes toxic substances such as ammonia. Magnesium functions in muscle relaxation and contraction, nerve transmission as well as prevention of tooth decay and in the prevention of heart disease and irregular heartbeats. Sources of magnesium are peanuts @ 63 mg/100g; bananas @ 58 mg/100g; beet greens @ 58 mg/100g; baked haddock @ 20 mg/100g; avocado @ 56 mg/100g. An excellent source of magnesium is Spirulina algae @ 191.5 mg./100g. Borrego Moringa™ @ 370.26 mg/100g. Recommended daily intake ranges from 40 mg/100g to 400 mg.100/g.

- **Manganese ...7.56 mg / 100g**
  Manganese participates in the formation of connective tissues, fats and cholesterol, bones, blood clotting factors and proteins. Important in digestion of proteins. In addition it plays an important role in the metabolism of carbohydrates by helping to transport glucose in the body. Some literature suggest that manganese might function as an essential antioxidant and as a mineral amino acid chelates when combined with the amino acid a, growth retardation, birth defects, bone malformation and general weakness.
  Dietary sources of manganese are tea @ .4 to 2.7 mg./100 g; raisins @ .201 mg./100g; cooked spinach @ .128 mg./100g ; wheat bran @.048 mg/100 g . Excellent sources are spirulina algae @ 2.5 mg./100 g; Borrego Moringa™ @ 7.56 mg/100 g. Recommended daily intake ranges from .6 mg to 7 mg.

- **Molybdenum ...< .003 mg /100 g**
  All tissues contain small amounts of molybdenum, the larges amounts are found in the liver, kidney, bone and skin. Molybdenum is important in the mobilization of iron from storage throughout the body and is necessary for normal growth and development. An important component of the enzyme xanthine oxidase, that aids in the formation of uric acid a normal breakdown product of metabolism. Molybdenum works with vitamin B 2 in the conversion of food to energy. Intake of more then 10 mg daily depending on the form consumed is associated with symptoms of pain and swelling of joints. Dietary sources of molybdenum are vegetables, fruits and grains. Their concentrations are dependent on the molybdenum concentration in the soil and the ability of the plant to absorb the chemical. Primary sources of molybdenum are extra-lean meats, whole grain breads, cooked dried beans and peas, dark green leafy vegetables and organ meats. Recommended daily intake ranges from .3 mg to .25 mg.

- **Nickel ...035 mg/100g**
  Nickel has no established role, although the mineral is found in association with genetic code within each cell and might help activate certain enzymes. Nickel is probably involved in the activity of hormones, cell membranes and enzymes. Low blood levels of nickel are observed in people with vitamin B6 deficiency, cirrhosis of the liver and kidney failure. In contrast, elevated blood levels of nickel are associated with the development of cancer, heart attacks, thyroid disorders psoriasis and eczema. Dietary sources of nickel include whole grain bread, cereals, chocolate, peas, fruits, vegetables, nuts and cooked dried beans and peas. Diets high in meat and foods of animal origin and fats might be low in nickel. Recommended daily intake ranges from .17 mg to .70 mg.

- **Phosphorus...329.93 mg/100g**
  Phosphorus is one of the major minerals essential for life, 80% of the body's phosphorus is in bones and teeth. The other 20% is active in many metabolic processes and is found in every cell of the body. An essential constituent of protoplasm, all soft tissues, including kidney, heart, brain, muscles, nervous tissue, bones and teeth. It is a substance fundamental to growth, maintenance and repair of all body tissues and is a part of the genetic code of all cells. It is necessary for the conversion of dietary carbohydrates, protein and fat to energy and is a part of cell membranes. The mineral helps maintain pH balance in the blood and it helps activate B vitamins.

Phosphorus is a component of the storage form of energy in the body and facilitates the absorption of nutrients such as glucose, which is a form of sugar found in the blood and used for energy. Dietary sources of phosphorus are in all foods of plant and animal origin and deficiency is rare. Excessive intake of phosphorus might occur in people who consume diets high in meat, convenience foods and soft drinks low in calcium. The function of phosphorus, calcium and magnesium are closely related. Dietary sources are liver @ 405 mg/100g; yogurt low fat @ 326 mg/100g canned tuna @ 188 mg/100g; cooked soybeans @ 166 mg/100g; egg@ 126 mg/100g; banana @ 14.75 mg/100 g; Borrego Moringa™ is an ideal vegetable source @ 329.93 mg/100g. Recommended daily intake ranges from 300 mg to 1,200 mg.

- **Potassium ...1,456.44 mg/100g**
  Potassium is closely related in function in the body to sodium and chloride, it is a major mineral and one of the three "Electrolytes" that are present in Borrego Moringa™ and distributed throughout all body fluids. Potassium is primarily found in fluids within cells, it carries an electrical charge when dissolved in body fluids, maintains normal pH balance and with calcium and magnesium it maintains normal muscle contraction and relaxation and thus help regulate nerve transmission and many other cell membrane functions. Interesting to note: potassium also helps prevent and treat hypertension by regulating normal blood pressure, maintaining proper calcium balance and minimizing the pressure-raising effects of high sodium rich diets. With an increase of potassium-rich foods in the diet of hypertensives, it helps reduce blood pressure and often reduces the need for antihypertensive medications. Dietary sources of potassium include, asparagus @ 278 mg/100g; avocado @ 375 mg/100g; banana @ 300.54 mg/100g; egg @ 87.3 mg/100g; fish non salted @ 447.4 mg.100g; nonfat milk@ 253.42 mg/100g; baked potato@ 219 mg/100g; Borrego Moringa™ @ 1,456.44 mg/100g.
  Recommended daily intake ranges from 500 gm to 2,000 mg.

- **Selenium...< .049 mg/100g**
  Selenium is an essential trace mineral that is very important as it is used by a component of the antioxidant enzyme "glutathione peroxidase". This selenium dependent enzyme protects red blood cells and cell membranes from damage by "free radicals" (highly reactive oxygen fragments). In addition selenium works closely with and in some cases can replace the antioxidant vitamin E. Selenium enhances the activity of immune system cells, assists in detoxifying the body of heavy metals that suppress the immune system and stimulates the release of lymphocytes (a type of white blood cell that fights infection). Leukemia and cancers of the colon, rectum, ovaries and lungs are less likely to develop in people who consume a selenium rich diet.

  Selenium is involved in the production of a hormone-like substance called prostaglandins that regulate the inflammation process associated with rheumatoid arthritis, selenium supplements improved symptoms in 40% of arthritis patients. Selenium content of food is dependent on the selenium content of the soil in which the food is grown. Note: some of the selenium content of foods are lost when cooked, stored improperly, processed or refined.

  Organic forms of selenium such as selenomethionine and selenocysteine, are better absorbed and less likely to cause toxic symptoms than the inorganic forms of the mineral such as sodium selenite and selenate. Organic forms of selenium are available in selenium-rich nutritional yeast, whole grain products, fruits and vegetables (that are grown in selenium rich soils). Dietary sources of selenium are, organ meats @ .131 mg/100g; seafood @ .0344 mg/100g;lean meat & chicken@ .02 mg/100g; whole grain cereals & bread@ .0123 mg/100g; vegetables@ .0016 gm/100g; Borrego Moringa™ < @ .049 mg/100g. Recommended daily intake ranges from .05 mg to .1 mg. Note: Toxicity can occur when amounts greater then .6 mg to .9 mg are consumed per day Selenium toxicity symptoms include hair loss, white streaking of fingernails, tenderness and swelling of fingers, fatigue, nausea and vomiting.

- **Silicon...42.02 mg/100g**
  Silicon is a trace mineral that's primary function is in the development and maintenance of bone Silicon is primarily located in areas of active growth inside bones where it might be involved in the growth of bone crystals and the calcification of bone. Silicon is important in the formation of cartilage and connective tissue, the protein network in bone in which calcium is embedded. Dietary sources include whole grain breads, whole grain cereals, root vegetables and cooked dried beans and peas, Borrego Moringa™ dried leaf powder. Recommended daily dietary intake is unknown but therapeutic doses have been recommended by Canadian researchers at 200 to 2000 mg / day.

- **Sodium ...117.67 mg/100g**
  Sodium is one of the three major "Electrolytes" minerals that are distributed throughout all body fluids including the blood and lymph system. Sodium along with chloride is primarily found in the fluids that surround cells. Sodium carries an electrical charge when dissolved in body fluids and thus helps to regulate nerve transmission and participate in many cell membrane functions. The blood and other fluids require a narrow range of sodium concentration when consuming a salty meal, the concentration of sodium increase in the blood, which stimulates thirst, more water is consumed which dilutes the blood back to a more normal sodium level. Extra water and sodium are excreted by the kidneys, if blood levels of sodium outside the cells are to deluded by water, extra cellular sodium outside the cell allows water to move from the blood into the cells, symptoms of water intoxication develop such as headaches, muscular weakness and poor memory. Sodium in excess contributes to hypertension by raising blood pressure. Sodium also functions to maintain normal pH balance and with calcium and magnesium in the maintenance of normal muscle contraction and relaxation. Dietary sources of sodium are in most natural unprocessed foods but processed and convience foods contain large amounts of sodium, such as olives, pickles, sandwich meats soy sauce, monosodium glutamate. Recommended daily intake ranges from 120 mg to 500 mg. Toxic levels are at 7,500 mg. Natural dietary organic sources of sodium include, whole wheat bread@ 172 mg/100g; egg@ 83 mg/100g; ham cured@ 1,012.5 mg/100g; avocado@ 2.22 mg/100g; banana@ 2.22 mg/100g; fish no salt@ 82.4 mg/100g; Borrego Moringa™ @ 117.67 gm/100g.

- **Sulfur ...1,018.83 mg/100g**
  Sulfur is a major mineral in many body function it is a component of all body tissues, especially those tissues that contain high amounts of protein such as hair, muscles and skin. Insulin, the hormone that regulates blood sugar also contains sulfur. Most sulfur in the body is bound to sulfur-containing amino acids: methionine, cystine and cysteine, which are building blocks of protein. It is involved in the formation of bile acids important for fat digestion and absorption. It is a constituent of bones and teeth activates certain enzymes and helps regulate blood clotting. Sulfur helps in the conversion of proteins, carbohydrates and fats to energy because it is a component of vitamin B1, biotin and pantothenic acid; helps regulate blood sugar by being a constituent of the hormone insulin; and as a component of collagen it holds connective cell tissue together. Dietary sources of sulfur include meat, organ meats, poultry, fish, eggs, cooked dried beans and peas, milk and milk products, high protein vegetables. Daily recommended rates have not been established and no toxicity symptoms have been reported for sulfur since excesses are excreted in the urine.

- **Vanadium ... .05 mg/100g**
  Vanadium is an essential trace mineral found in the human body, however, no role for vanadium has been proven in humans. The human body has vanadium located in the blood, organ tissues and bones. It is said to be involved in building bones and teeth, cholesterol metabolism, red blood cell growth, iodine metabolism, thyroid function and hormone production. Preliminary reports show that vanadium might protect against the development of breast cancer, slow the growth of tumors and improve glucose metabolism of diabetics. Daily intake of vanadium is estimated at .015 mg to .03 mg. Dietary natural sources of vanadium are seafood, cereals, mushrooms, parsley, corn, soy, gelatin, dill and liver, all organic sources come from decomposition of vanadinite and patronite rocks. However there are two additional sources which include refined processed foods, probable gained from stainless steel processing equipment, which might not be usable by humans and airborne vanadium entering the body through the lungs is another major source of the nutrient.

- **Zinc.....3.68 mg/100g**
  Zinc is a component of numerous enzymes in the body and functions in the detoxification of alcohol in the liver; the mineralization of bone ,the digestion of protein and the conversion of calorie-containing nutrients to energy. Zinc also functions in the production of proteins, the proper functioning of insulin in the regulation of blood sugar , the maintenance of the genetic code ,normal taste ,wound healing and the maintenance of normal blood levels of vitamin A and use of the vitamin by the tissues.

  Zinc is important in maintaining normal blood cholesterol levels for growth and development and in the production of hormone-like substances called prostaglandin?s that regulate blood pressure, heart rate and the normal functioning of oil glands of the skin. Studies showed that zinc has some antioxidant activity such as detoxifying free radical-promoting metals and protecting substances needed for enzyme activity from free-radical damage.

  Zinc improves taste perception and helps in weight gain in anorexia patients and in patients undergoing radiation therapy. Zinc has a beneficial effect on the immune system and the body's natural defense against colds, infection and disease by increasing levels of antibodies and immune cells such as T-lymphocytes. Deficiency includes anemia, reduced taste perception, poor healing of wounds, glucose intolerance, and dermatitis and hair loss as well as reduced antioxidant defenses. Vegetarians, athletes, hospital patients, low-income families and the elderly who refrain from eating red meat while consuming refined grains and convenience foods are continuously at risk for zinc deficiency.

  Daily recommended intake range from 10 mg to 15 mg for adults and high amounts for woman during the last half of pregnancy. Sources of dietary zinc are, oysters@ 124.9 mg/100g; dark meat turkey @ 4.35 mg/100g; lima beans cooked@ 2.7 mg/100g; turkey light meat@ 2.11 mg/100g; spinach cooked@ .60 mg/100g. Borrego Moringa™ @ 3.68 mg/100g. Note: longterm ingestion of 80 to 150 mg. of zinc might lower HDL-cholesterol and increase risk of heart disease and interfere with normal immune function. Zinc intake up to 100 mg are reported to be safe if the diet is comprised of low bioavailability zinc sources of plant origin.

- **Aluminum ...29.86 mg/100g**
  Aluminum once thought to be harmless might be related to serious bone and brain disorders. High intake of aluminum affects the absorption and use of calcium, phosphorus ,magnesium, selenium and fluoride . Abnormal levels of aluminum in the body are associated with nerve damage and brain disorders such as Alzheimer's disease, but this is still unclear if it is the cause or a result.

  Sources of aluminum include food additives as sodium aluminum phosphate in processed cheese, cake mixes, pancake mixes. Normal table salt contains (sodium silicon alumiate or aluminum calcium silicate) . Other sources are aluminum leached from aluminum coffee pots, acidic foods cooked in aluminum pans dissolve minerals into the foods, aluminum-containing antacids, antiperspirants, vaginal douches, lip-stick also contain aluminum.. Note : The lower the source of aluminum the better!! Antacids average 35 to 208 mg of aluminum per dose.

- **Arsenic...< .013 mg/100**
  Arsenic is found through the body. Animal studies show that arsenic is essential for growth, development and reproduction, possibly because of its role in the metabolism of methionine, an amino acid involved in growth. The requirement for arsenic might be as low as .012 mg daily. Estimated daily intakes sited in literature are approximately .14 mg, an amount far below the stated toxic level of .25 mg. Foods that contain arsenic includes fish, grains, cereals, vegetables as well as municipal water sources.

- **Barium...1.01 mg/100g = 10,100 ppb**
  Barium is a natural occurring mineral of the earth's crust, ground water erosion of sedimentary rocks is the primary source of natural occurring barium in drinking water. Very small amounts of naturally occurring barium are sometimes present in food a drinking water. According to the EPA, "The amounts of barium in food and water supplies poses little or no health concern. In fact, the human body requires a certain level of barium to maintain good health". The EPA has established a maximum level of 1,100 ppb of barium in drinking water. EPA also has said that an average-sized adult exposed to 1,500 ppb (parts per billion) every day for 70 year will not experience adverse health effects. Some foods such as brazil nuts, seaweed, fish and certain vegetables, may contain high amounts of barium. No specific dietary consumption research has been conducted.

- **Cadmium ...< .003 mg /100g**
  Cadmium is not used for body functions nor is it excreted from the body, though it can accumulate over time to toxic levels. The estimated daily intake is .013 to 024 mg of which very little is absorbed. Excessive intake occurs when soft water leaches cadmium from pipes. Symptoms of cadmium toxicity includes anemia, muscle wastage, hypertension and liver and kidney damage.

- **Lead .....< .031 mg/100 g**
  Lead is a toxic metal that produces nerve damage, anemia, muscle wastage, lethargy and mental impairment. It can accumulate in bone and is found in the liver and kidneys. Lead is ingested from a variety of sources including fresh and canned foods, fish, shell fish, water, lead-based paint, plants grown in soil contaminated with lead ,lead-glazed pottery and air pollution. Adequate intake of calcium, iron, zinc, copper and vitamin C might help prevent and might even treat the symptoms of lead exposure, toxicity levels, daily allowable specified by FAO;WHO & FDA are: FAO indicate 250 ug (.25 mg/day) is acceptable for food and drinking water, EPA indicates toxicity begins at 15 ppb / day . WHO indicates that only 10% of lead ingested from food and water is absorbed the balance is excreted in the feces and through the urine and in sweat and hair.

- **Lithium ..... .192 mg/100g**
  Lithium is an alkali metal of the earths crust, sparingly distributed in nature. Lithium is found in eggs, milk, processed meat, milk products ,potatoes and vegetables such as ,beets and sugar cane but could be absorbed by all plants that are grown in spring or epothermal spring waters and in mineral waters. Lithium is also recovered from natural brine salts, normally as Lithium hydroxide in mineral water and in foods. Daily dietary intake for humans is estimated at .2 to .6 mg / day (200 to 600ug). Lithium compounds such as Lithium carbonate are used in psychopharmacology as a therapeutic agent in the treatment of manic depression and is used in anti-gout medication also. High concentrations produce lethargy and impair concentration. Standard dose of Lithium carbonate is 1 - 2 g/day, lithium toxicity includes, anorexi , nausea, diarrhea, alopecia (hair loss), muscle spasms, anemia, acne.

- **Mercury ..... < .003 mg/100g**
  Mercury is a heavy liquid metal (extracted by roasting Cinnabar), it has been used for more then 2,000 years. Mercury salts are used in medicine, agriculture (fungicides and pesticides) and industry, and accumulation of toxic levels is possible. Mercury alters the shape and function of proteins and its production of hormones, antibodies, hemoglobin in red blood cells and all enzymes. Mercury from agricultural and industrial, cosmetic and medical waste has polluted our waters and contaminated our fresh and saltwater plants and fish. Resulting in the body accumulating mercury in the kidneys, nerves, blood, liver, bone marrow, spleen, brain, heart ,skin and muscles but it primarily attacks to the nervous system. Mercury also interferes with antioxidant selenium and can cause a suppressed immune system. Most humans can process from 30 to 50 mcg (.03 mg to .05 mg/day) Intake should not exceed .02 ppm / day = (.02 g/ltr .day), which is the thresh hold of toxicity levels on a continuous bases. Note: pectin and algin can decrease mercury absorption and selenium at .01 to .20 mg is listed as an important nutrient to protect against mercury heavy metal toxicity.

- **Nitrogen ... 5.78 %**
  An natural occurring element, constitutes 78.06% of the earth's atmosphere as a gas, found in volcanic mine gases, gases from springs, fixed or combined nitrogen is present in many mineral and rock deposits . Nitrogen is a vital constituent of all living organisms and is a required nutrient to grow plant tissue. Nitrogen is absorbed (fixed) from the atmosphere in a gases form via nitrogen fixing bacteria (Rhizobium) from within the soil or is fixed in water molecules in rainwater during electrical storms. Humans cannot use nitrogen directly out of the atmosphere it must come from foods we consume. Nitrogen from various foods are digested and made into proteins, amino acids peptides and more and used as energy. When woman are pregnant the nitrogen removed from foods during digestion is needed to help the fetus to grow properly. Unlike carbohydrates nitrogen has no designated storage depots it must be converted. Pure protein is 14% nitrogen. Most humans require 70 mg/day of protein.

- **Silver ...< .002 mg / 100g**
  Borrego Moringa™ contains low amounts of soluble ion salts of silver. Silver is a natural metal found in the earths crust and is deposited in rocks and various soils as a natural decomposition of rocks in alluvial soil deposits. The mineral is mostly used in jewelry, electroplating, tableware, medical vessels and apparatus for medical chemicals and in processing foods and beverages. Also used as ingredients of dental alloys.

  Silver ions have been used in purification of drinking water to kill toxic bacteria and lower forms of single celled organisms. "Colloidal Silver ", a form that is processed silver ions that are subjected to electrical charges that bind the silver salts to form a large colloidal particle. This form kills over 650 species of bacteria for medicinal use. No pathologic or adverse health effects result from silver ion consumption in the body, though argyria can result (a permanent bluish-gray discoloration of the skin which is more pronounced when exposed to sunlight) at daily concentrations above 10 to 20 ug / day = (.01 to .02 mg / day).

- **Strontium ... 6.24 mg/100g**
  Strontium is one of the alkaline earth metals, primarily occurring in the sulfate celestine, or the carbonate stontianite, associated with calcium or barium minerals. Occurring naturally in some alluvial mineral soils. It is not been shown to be essential for either plants or animals, though it has been effective as a plant stimulant. Strontium is metabolizes similarly to calcium and it can be substituted for calcium in the body. Assuming adequate calcium is available to the body, dietary strontium levels as high as 2,000 ppm (2,000 mg/100g.) can be tolerated. Once absorbed the element has a strong affinity for the skeletal system. Large portions of ingested strontium are removed naturally from the body with feces, particularly when consuming natural vegetarian diets.

  Tin is naturally occurring in the earth crust, it is found in cassiterite, stannite and tealite mineral rocks. Tin is possibly an essential element for animals, but no specific role for tin in human health has been identified. Some scientists suspect that extremely small quantities of tin are necessary for some species of animals to grow and develop correctly. High intakes of tin in humans might destroy red blood cells. Elevated tissue and blood levels of tin can be a result of leakage of the metal into canned foods. Tin absorption is poor and it is not clear how much of the estimated daily intake of 1.5 to 3.5 mg consumed by humans daily actually crosses the intestinal lining and enters the blood.

- **Titanium ...92 mg /100g**
  Titanium is the ninth most abundant element in the earth's crust. Occurring as an oxide in the minerals rutile, ilmenite, perovskite, anatase, octahedrite, brookite, titanite and benitoite. Very little in known on the biological role of titanium, titanium has no known biological use in humans, although it is known to act as a stimulant in some plants. Titanium is used in chemical energy production and titanium is used in prosthetics because the metal won't react with the biological tissues in the body.

Most estimated daily dietary consumption of titanium ranges from .2994 mg to 2 mg./ day from food sources such as processed cheese, canned fruits and vegetable juices. The larges concentration of titanium comes from air born contamination from coal fired power plants and mineral refining operations, of which the majority of the pollutant was titanium dioxide, which was found in the lungs of humans. No toxicity levels have been established.

Total Fatty Acids @ 3.2 % Borrego Moringa™ 100% leaf powder Lot # 82101, consists of the following fourteen fatty acids of which .09% are saturated ; 0.l% cis-monounsaturated; 2.2% cis-polyunsaturated; 3.3% total fat; total Omego 3=.06%; total Omego 6= 1.6%; total trans fats (18:1, 18:2)=0.0%.
Note : The Essential Fatty Acids in Omega-3 and Omega-6 are required in the human diet as part of many metabolic processes and can not be synthesized by the body from other fatty acids and therefore must be obtained from other food sources such as fish, shellfish, flaxseed, soy oil, canola, hemp oil, pumpkin seeds, sunflower seeds, leafy vegetables, Algae and walnuts. Borrego Moringa™ contains the following types and percent of Fatty Acids in the dry leaf powder:

- 45.784 % eicosatrienoic acid ,Omega-3 ,C20:3; essential for growth and is an inflammation mediators
- 22.624 % palmitic acid ,saturated C 16:0
- 19.473 % linolenic acid, Omega-3 , C18:3;
- 3.315 % linoleic acid Omega-6, C18:2c;
- 2.020 % stearic acid ,saturated; C18:0
- 1.69 % myristic acid ,saturated, C14:0; used in treatment of virus infections.
- 1.304% oleic acid ,unsaturated, C18:1c;
- 1.027% palmitoleic acid ,monounsaturated, C16:1;
- .899% lignoceric acid, saturated, C24:0 ;
- .648% behenic acic, saturated , C22:0 ;
- .354% vaccinnic acid ,unsaturated , C18:1;
- .354% heptadecanoic, acid saturated, C17:0;
- .259% arachidic acid ,saturated , C20:0;
- .25 % lauric acid ,saturated,C12:0 ; used in treatment of virus infections.

Antioxidants, anti-inflammatory, antihistamine, antimicrobial, UV(B) inhibiters and natural compounds for immune system building and reduction of LDL cholesterol levels while assisting in the reduction of blood sugar levels from type II diabetes. These are found in various concentrations in Borrego Moringa™ 100% pure dried powder.
Sample : # 45281-001 J.R. Lab . 04/13/2006

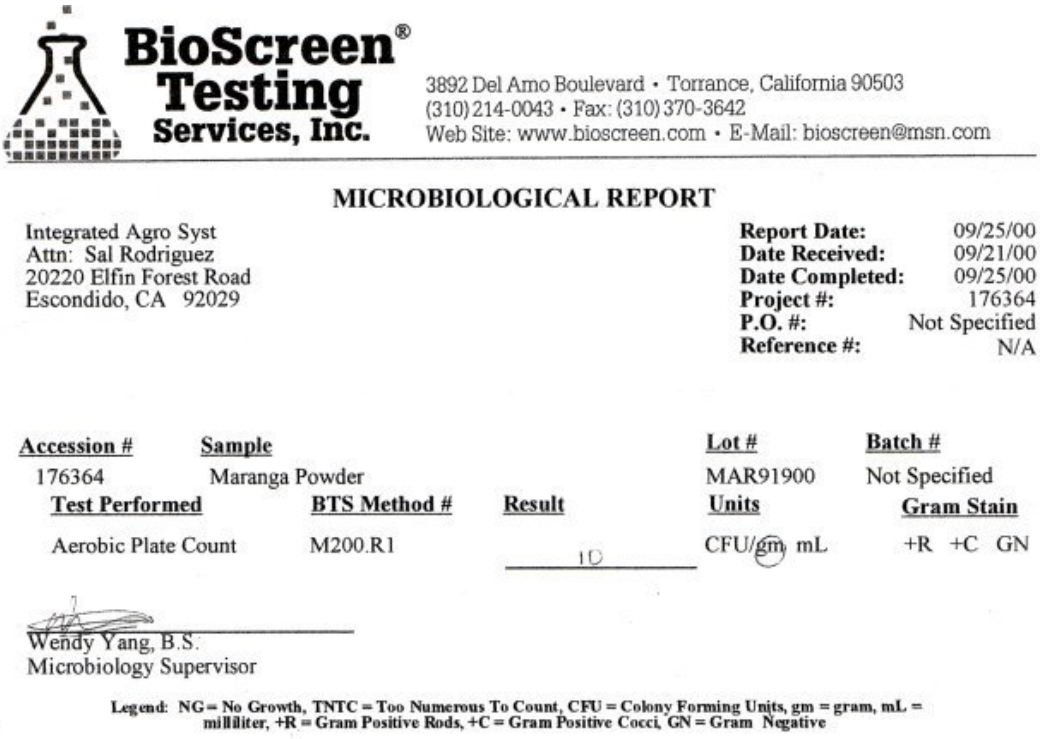
- Anthocyanidins @ 0.097 g/100g. flavonoid; antioxidant and free radical scavenger found in the Moringa leaf pigment; helps to reinforce and inhibit destruction of collagen which is the most abundant protien in the body.
- Quercetin @ 0.54 g/100g. flavonoid; anti-inflammatory; antihistamine; antioxidant; a free radical scavenger.
- Kaempferol @ 0.10 g/100g. flavonoid; could be usefull for the treatment of cell-mediated immune disease.
- Isorhamnetin @ 0.02g/100g. flavonoid; acts as an antioxidant,assists in reduction of serum glucose and 5-HMF levels,associated with diabetes mellitus.
- B-Sitostanol @ 0.05% phytosterol; LDL cholestrole lowering efficacy in hypercholesterolemies.

- B-Sitosterol @ 0.11% phytosterol; plant based sterols that lower and interfere with cholestrol absorption and reduces blood cholestrol levels.
- Campestanol @ 0.01% phytosterol; a plant based phytosterol lipid that may reduce cholestrol levels and prevent coronary heart disease.
- Campesterol @ 0.01% phytosterol; a plant based phytosterol that provides healthy prostrate function , regulates liver cholesterol.
- Clerosterol @ <0.01% phytosterol responsible for transport of cholestrol and other lipids within the body.
- Stigmasterol @ 0.01% phytosterol; that reduces plasma cholesterol levels and inhibits hepatic synthesis and intetestinal absorption of cholesteral.
- Other possible phytosterol @ 0.20%
- Total polyphenols ... 2.7 g/100g
- Total Flavonoids.....1.1 g/100g

Microbiological Lot # Mar 91900
Aerobic Plate Count...10 cfu /mg.

Disclaimer: "The above mentioned information (any information regarding properties and effects of products) is of an educational and general nature and should not be construed as legal or medical advice. You should consult appropriate written and professional sources to answer questions related to your individual situation."

MicroBiological Test Results



BioScreen® Testing Services, Inc.
3892 Del Amo Boulevard • Torrance, California 90503
(310) 214-0043 • Fax: (310) 370-3642
Web Site: www.bioscreen.com • E-Mail: bioscreen@msn.com

MICROBIOLOGICAL REPORT

Integrated Agro Syst
Attn: Sal Rodriguez
20220 Elfin Forest Road
Escondido, CA 92029

Report Date:	09/25/00
Date Received:	09/21/00
Date Completed:	09/25/00
Project #:	176364
P.O. #:	Not Specified
Reference #:	N/A

Accession #	Sample	Lot #	Batch #
176364	Maranga Powder	MAR91900	Not Specified

Test Performed	BTS Method #	Result	Units	Gram Stain
Aerobic Plate Count	M200.R1	10	CFU/gm mL	+R +C GN

Wendy Yang, B.S.
Microbiology Supervisor

Legend: NG = No Growth, TNTC = Too Numerous To Count, CFU = Colony Forming Units, gm = gram, mL = milliliter, +R = Gram Positive Rods, +C = Gram Positive Cocci, GN = Gram Negative

Complete Fatty Acids Profile

JR LABORATORIES INC.

HEAD OFFICE
#12 - 3871 North Fraser Way
Burnaby, B.C., Canada V5J 5G6
Telephone: (604) 432-9311
Fax: (604) 432-7768
E-mail: info@jrlabs.ca

ATLANTIC DIVISION
3650 Hammonds Plains Road Unit #14, Suite 165
Upper Tantallon, N.S., Canada B3Z 4R3
Telephone: (902) 483-2759
Fax: (902) 826-1768
E-mail: jrlabs@ns.sympatico.ca

ANALYSIS CERTIFICATE

lay 11, 2006

Integrated Agro Systems
Pecoff Brothers Nursery & Seed Inc.
20220 Elfin Forest Road
Escondido, CA 92029
USA
Attention: Ronald Pecoff

Date Received: April 24, 2006
Temp on Receipt: RT
ID#: PB700-45427
Date of Analysis: April 27, 2006

RESULTS OF ANALYSIS
Borrego Moringa 100% Leaf Powder; Lot# 82101

Type of fatty acid	% of fatty acid in sample
saturated	0.9%
cis-monounsaturated	0.1%
cis-polyunsaturated	2.2%
total fat	3.2%
total Omega 3	0.6%
total Omega 6	1.6%
total trans(18:1, 18:2)	0.0%

Component Name	Carbon Chain	% of total fatty acid	Omega
caproic acid	C 6:0	0.000	
caprylic acid	C 8:0	0.000	
capric acid	C 10:0	0.000	
undecanoic acid	C11:0	0.000	
lauric acid	C 12:0	0.250	
tridecanoic acid	C13:0	0.000	
myristoleic acid	C 14:1	0.000	
myristic acid	C 14:0	1.690	
pentadecenoic acid	C15:1	0.000	
pentadecanoic acid	C 15:0	0.000	
palmitoleic acid	C 16:1	1.027	
palmitic acid	C 16:0	22.624	
cis-10-heptadecenoic	C 17:1	0.000	
heptadecanoic acid	C 17:0	0.354	
gama-linolenic acid	C 18:3	0.000	
linoleic acid	C 18:2c	3.315	W 6
linolenic acid	C 18:3	19.473	W 3
oleic acid	C 18:1c	1.304	W 9
linolelaidic acid	C 18:2t	0.000	
elaidic acid	C 18:1t	0.000	
stearic acid	C 18:0	2.020	
vaccinnic acid	C18:1cis-11	0.354	
octadecanoic acid	C18:1cis-12	0.000	
arachidonic acid	C20:4	0.000	
eicosapentaenoic acid	C 20:5	0.000	
eicosatrienoic acid	C20:3	45.784	
eicosadienoic acid	C20:2	0.000	
eicoenoic acid	C 20 :1	0.000	
eicosatrienoic acid	C20:3n3	0.000	
arachidic acid	C 20:0	0.259	
heneicosanoic acid	C21:0	0.000	
docosahexaenoic acid	C 22:6	0.000	
docosapentaenoic acid	C22:5	0.000	
docosadienoic acid	C22:2	0.000	
erucic acid	C 22 :1	0.000	
behenic acid	C 22 :0	0.648	
tricosanoic acid	C23:0	0.000	
nervonic acid	C24:1	0.000	
lignoceric acid	C 24 :0	0.899	

Analyst _____ QA Approved _____

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VERSION 1.3

Polyphenol & Flavonoid Analytical Results

JR LABORATORIES INC.

HEAD OFFICE
#12 - 3871 North Fraser Way
Burnaby, B.C., Canada V5J 5G6
Telephone: (604) 432-9311
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3650 Hammonds Plains Road Unit #14, Suite 165
Upper Tantallon, N.S., Canada B3Z 4R3
Telephone: (902) 483-2759
Fax: (902) 826-1768
E-mail: jrlabs@ns.sympatico.ca

ANALYSIS CERTIFICATE

May 11, 2006

Integrated Agro Systems
Pecoff Brothers Nursery & Seed Inc.
20220 Elfin Forest Road
Escondido, CA
92029
USA

Attention: Ronald Pecoff

Customer #: PB700
Customer Name: Integrated Agro Systems
PO #:
Date Received: 04/13/2006

RESULTS OF ANALYSIS

Sample #: 45281-001
Sample Description: Borrego Moringa tm, 100% Leaf Powder; Lot# 82101
Comment:

Temp on Receipt: RT
Date Analysis Started: 04/18/2006

Test	Compound	Specification	Limit	Result	Detection Limit
Anthocyanidins assay (colorimetric)	Anthocyanidins			0.097 g/100g	n/a
Caffeine				ND g/100g	0.01g/100g
Ginkgo Biloba – flavonoids assay	Kaempferol			0.10 g/100g	n/a
	Isorhamnetin			0.02 g/100g	n/a
	Kaempferol			0.1 g/100g	n/a
	Quercetin			0.54 g/100g	n/a
Grapeseed/pycnogenol - assay				ND g/100g	0.2g/100g
Green tea – assay (HPLC)	[-] Epigallocatechin-3-0-gallate			ND g/100g	0.05g/100g
	Catechins			ND g/100g	0.05g/100g
Green tea - assay (UV)	Total polyphenols			2.7 g/100g	
Total Flavonoid				1.1 g/100g	n/a
Vitamin D assay				ND mg/100g	0.7mg/100g
Phytosterol profile (powders)	other possible phytosterol			0.20 %	
	B-Sitostanol			0.05 %	
	B-Sitosterol			0.11 %	
	Campestanol			0.01 %	
	Campesterol			0.01 %	
	Clerosterol			<0.01 %	
	Stigmasterol			0.01 %	
	Total phytosterols			0.38 %	

Analyst _____ QA Approved _____

ISO 9000 QUALITY SYSTEM REGISTERED

INSPECTION AND/OR ANALYSIS HAS BEEN PERFORMED USING GOOD LABORATORY PRACTICES AND PROCEDURES. THE REPORTED RESULTS RELATE ONLY TO ITEMS TESTED. THIS CERTIFICATE/REPORT MUST NOT BE REPRODUCED WITHOUT WRITTEN CONSENT FROM JR LABORATORIES. JR LABORATORIES LIABILITY IS LIMITED TO THE TESTING FEE PAID.

Certificate ID: 17413

Testimonial 1 Regarding Type II Diabetes & Borrego Moringa™

POINTE CAPITAL, LLC
1100 Moraga Way, Suite 100 Moraga, CA 94556 Phone (925)376-8863
Fax (925)376-8931 Email: dennisnn@sbcglobal.net

June 19, 2006

Mr. Ronald Pecoff
Integrated Agro Systems
20220 Elfin Forest Rd.
Escondido, CA 92029-4710

Dear Ron:

This letter is to thank you for your Borrego Moringa product. I have been taking it for the past year and one half. In January of 2004 I went into the emergency room at the hospital feeling very tired and sleepy. This was not typical for me in the daytime. Fortunately my wife insisted that I go and get checked by a doctor.

When they did a blood test I had a blood sugar reading of over 1,300. I was diagnosed with diabetes and was in the intensive care unit for a week. After being transferred from the ICU I remained in the hospital for another week while the doctors got my blood sugar readings down to normal with insulin injections.

When I was released from the hospital I was taking 100 units of insulin a day. I was told by the doctors that this would be the medication I would need for the rest of my life. A friend of mine told me about the Borrego Moringa supplement and I started taking 2 pills in the morning and 2 pills with dinner. After a few months of exercise and watching my diet I was able to stop taking insulin entirely.

After doing my own research on diabetes I have found that many of the vitamins and minerals in the Borrego Moringa helped to control my blood sugar. I continue today to take the Borrego Morinaga for my diabetes and as a daily nutritional supplement for good health.

Sincerely,

Dennis Nakamura

Testimonial 2 Regarding Type II Diabetes & Borrego Moringa™

Matthew Szymczak L. Ac.
Acupuncture-Massage Center
121 West E Street
Encinitas, CA 92024
Telephone: (619)942-1128

November 16.2006

Dear Integrated Agro-Systems:

I just want to note an observation concerning my 88 year old patient and your apparently "amazing " herbal product "Borrego Moringa " .

My patient developed diabetes after a protracted prostrate enlargement which backed up the bladder and kidney system, as a result he had prohibitively high blood sugar levels. His doctor put him on oral insulin medication starting in April of 2006 and continued through the end of August 2006.
In addition to the oral insulin a series of supplemental nutrients and herbs were taken by the patient starting in early July , his blood sugar levels improved somewhat but still remained too high ! . It was only after introducing "Borrego Moringa" in late July 2006 , that his blood sugar levels started down resulting in complete normalization , mind you his doctor began reducing his oral insulin dosage slowly and eventually stopped its use by the end of August . By the end of September the patient was still taking the "Borrego Moringa " to maintain both nutritional and normal blood sugar levels .

Sincerely,
Matt Szymczak L.Ac.
Matthew Szymczak L.Ac.
Diplomat of National Board
Of Acupuncture Orthopedics

Testimonial For General Health

September 30, 2006

Mr. Ronald Pecoff
Integrated Agro-Systems
20220 Elfin Forest Rd.
Escondido, CA 92029

Dear Mr. Pecoff:

I was feeling tired and was getting headaches. Sometimes I would feel dizzy and not feel well. I thought I was just working too hard and needed rest. When I didn't improve I went to the doctor but he said that nothing was wrong with me.

A friend of mine gave me some Borrego Moringa supplements to try. I tried taking one or two pills in the morning and in the evening. In a few weeks my dizziness disappeared and I no longer have the headaches. I feel much better now and I continue to take the Borrego Moringa supplements on a daily basis just for general health and nutrition.

Thanks for your great product.

Sincerely,

Paul Wong
2707 So. Virginia
Reno, NV 89502

Naturally, from Integrated Agro Systems

Contact: Mr. Ronald Pecoff at 760-822-1142

Integrated Agro Systems
1732 Rancho Summit Dr
Encinitas, CA 92024

Borrego Moringa™ is packed in VeggiCaps.
Each bottle contains 90 capsules, Net 30 grams.