

## FROM THE SONA TO THE SOURCE

The National Research Council of the USA and the UK Department of Health made recommendations (RDAs) for the daily intake of nutrients. These have been chosen to meet the nutritional needs of populations of both sexes from weanling infants to senior citizens and are intended mainly for use by dietary professionals. Dr. Cheraskin and his colleagues at the University of Alabama Medical School, felt obliged to determine the SONAs that were equivalent to the RDAs to provide guidance for nutritionists and other professionals.

On June 19, 2002, the American Medical Association, after decades of anti-vitamin policy, has reversed its position and now recommends that Americans take at least one multivitamin pill each day. While only one multivitamin daily is not enough to maintain optimum health over one's lifetime, it is better than no supplementation at all, and is a welcome beginning to a new appreciation of the role of nutrients in preventing disease. It is tragic that the Medical profession and the pharmaceutical industry have largely ignored the results of numerous published scientific studies, including the SONA study, on the role of nutrition in maintaining good health. The quality of life for millions could have been improved and countless lives saved if the AMA had adopted this position years earlier.

To insure that the nutritional needs of all the family are met, a well balanced diet and adequate exercise are the most important single contributions to continued good health. In order to obtain the SONAs for everybody it is prudent to increase the daily nutrient intake with a nutritional supplement as was done by the majority of the subjects in the SONA study.

The daily consumption of additional nutrients in the form of a supplement can serve to add those essential nutrients that may be below the SONA values or absent altogether. A high quality supplement containing all the essential vitamins and minerals and enzymes in adequate amounts can insure that all meals are balanced meals as far as the essential nutrients are concerned. The SONAs in the **SOURCE** have been carefully calculated to provide sufficient nutrient levels for most, irrespective of age and lifestyle. Many of the supplements sold to the public are of poor quality. They may have levels of nutrients well below the RDAs and therefore well below the SONAs. Some may be of poor quality or in a form that cannot be absorbed and may contain impurities or contaminants. Pharmaceutical medicines must be analyzed before being sold to make sure that the active principles are present but unscrupulous manufacturers of dietary supplements have been known to sell products deficient of the nutrients claimed on the label.

The **SOURCE** is the first supplement to include all the SONAs so far determined together with additional vitamins, minerals and other essential nutrients considered by nutritionists to be necessary in establishing and maintaining optimal health. Despite working for more than fifteen years and producing more than 49,000 pages documenting their work, Prof. Cheraskin and his colleagues have only managed to calculate the SONAs for the major vitamins and minerals. The SONA values for the minor micro-nutrients such as PABA, chromium, molybdenum, vanadium and the antioxidant mineral selenium have yet to be established, but research carried out by other groups has estimated the amounts of these minor nutrients that may be needed for optimum health.

The researchers who formulated the **SOURCE** have included a number of these minor nutrients that may be deficient in the average diet to ensure that it represents the state-of-the-art in nutrition supplementation. The micro-nutrients, the vitamins and minerals, do not exist as pure chemicals in our food but are combined with other macro-nutrients in the diet such as proteins, amino-acids, fats or carbohydrates. The presence of these macro-nutrients ensures that the vitamins and minerals in the food can be effectively

absorbed from the intestinal tract, reach the blood and then distributed via the circulation to the organs and tissues where needed.

The nutrient quality of food varies tremendously; some popular prepared foods are deficient in essential micronutrients. They may have been grown in soil in which the minerals have been depleted by intensive farming or the vitamins destroyed by bad storage or overcooking. In other foods, the levels of nutrients can reach extraordinary high concentrations that can be preserved carefully without the loss of their vital food factors.

Some of these are described as *Superfoods* because they are carefully prepared from plants that are naturally well endowed with a range of essential vitamins, minerals and other essential nutrients which may confer benefits that are not yet fully recognize by scientists. Some of these highly nutritious, concentrated *Superfoods* such as *Organic Alfalfa Leaf Powder*, *Kelp Powder*, *Organic Spirulina* and *Citrus Bioflavonoids* are incorporated into the **SOURCE**. They all have exceptionally high levels of the well-recognized micronutrients together with additional nutritional factors in the form of amino acids, poly-unsaturated free fatty acids and rare trace elements that are absent from many foods. They provide additional antioxidant support and work together to provide a nutritional balance that is greater than the sum of the individual *Superfoods*.

In addition to being a source of nutrients in their own right, they also combine with the added vitamins and minerals in the **SOURCE** to insure that they are effectively absorbed from the digestive tract and reach the blood in a form that will be of maximum benefit.

## VITAMINS IN THE SOURCE

All the major vitamins that have been the subject of the investigations in the SONA study are included in the **SOURCE**. The minor vitamins biotin and Pantothenic acid, for which no SONA has yet been established, are also included at the new RDA levels, as these are also essential for optimal health.

In the case of vitamin A, a combination of the vitamin and its precursor beta-carotene is used. This is to insure an adequate supply of the antioxidant activity without including a level of vitamin A that might exceed accepted levels of safety. Vitamin D3, the more bio-available form of the vitamin is used, and vitamin K is added. The vitamins used are all of the highest quality and are produced to recognized international standards of purity. Absorption of the vitamins from the digestive tract is enhanced by the presence of the *Superfoods* in the tablets. The absorption of vitamins is always helped by the presence of food and it is strongly recommended that the **SOURCE** be taken with food. It is not always possible to eat regularly but even if it is inconvenient to take the **SOURCE** with a meal the presence of the *Superfoods* in the tablets will still permit adequate absorption of the vitamins.

## MINERALS IN THE SOURCE

Minerals play an essential role in the body. They make it possible for muscles to contract, for the brain and the nervous system to work and to combine with amino acids to produce co-enzymes that control the many living processes such as energy production and growth.

In nature, minerals are rarely found alone but are bound as inorganic compounds in the earth or in living creatures, with a variety of natural substances as organic complexes and amino acid chelates. Some of the common minerals such as sodium and potassium are termed mono-valent elements and may be present as simple salts such as chlorides, for example sodium chloride or common salt.

Many of the other minerals such as calcium, zinc and magnesium are poly-valent elements and combine in more complex ways with other elements. Some of the essential poly-valent minerals are bound as inorganic or organic complexes and in many cases the vital mineral cannot be absorbed by the body from these complexes. A commonly occurring natural inorganic complex of calcium is calcium silicate, a constituent of rocks such as granite and however much of this you ate you would get none of the essential calcium. Zinc is present in bran but it is mostly present as a complex with phytic acid from which the zinc is only marginally available to the body.

In the **SOURCE**, the poly-valent minerals are combined with amino acids by a process known as chelation. This produces minerals in a form that mimics the form in which most minerals are found in food. Amino acid chelated minerals can therefore be more rapidly and efficiently absorbed from the digestive tract into the bloodstream than inorganic forms of minerals.

Amino acids are made by the hydrolysis (breakdown) of plant protein. In addition to amino acids, the process of hydrolysis produces protein fragments that can cause allergic reactions in some people. If proteins are derived from wheat, yeast, maize or milk, the product may be allergenic to these people. To provide the amino acids for the **SOURCE**, rice protein is used. Allergy specialists regard rice as the least likely of all common grain proteins to provoke allergic reactions in sensitive individuals.

To attain maximum absorption with optimal effect, minerals must be present in the correct ratios. An excess of one mineral can block the absorption of another mineral, for example, too much copper in the diet can depress the absorption of zinc from the intestine. In the wrong ratio, calcium and magnesium can also interfere with each other's absorption. In the **SOURCE**, the amounts have been carefully balanced; for example, calcium and magnesium are present in a ratio of 1:1, recognized as the ideal ratio for optimal absorption. Some minerals such as potassium, phosphorus and sodium are not included in the **SOURCE**, as the typical diet is overabundant in these nutrients and the daily requirements would preclude adding nutritionally significant amounts in supplement form. For example, the RDA for potassium is 2000 mg per day, more than the entire weight of a tablet of the **SOURCE**.

## **IRON IN THE SOURCE**

Ever since an article published in the JULY 26, 1999 Issue of Archives of Internal Medicine titled *Iron, Atherosclerosis, and Ischemic Heart Disease*<sup>(1)</sup> suggested that elevated iron levels might be a contributing factor in the development of atherosclerosis and ischemic heart disease, there has been a trend among vitamin manufactures to bring out iron-free formulas, and by so doing, creating in the public mind, as well as in the mind of some health care practitioners, a fear that iron supplementation might be harmful. This is an unfortunate misinterpretation of the article.

The article refers to a specific type of iron called *heme* iron that is only found in red meat. The article refers to a study by Snowdon et al <sup>(2)</sup> that found a threefold difference in risk of fatal coronary disease between 45 to 64 year-old men who ate meat daily and those who did not eat meat. Meat consumption was positively associated with fatal ischemic heart disease in both men and women.

This was the first study to clearly show a dose-response relationship between meat consumption and ischemic heart disease risk. The article also shows a lack of correlation between *non-heme* iron intake and coronary heart disease (CHD) and suggests that dietary *non-heme* iron does not contribute to an increased cardiovascular risk.

*Non-heme* iron is the type of iron used in most dietary supplements including the **SOURCE**. The report refers to a follow-up study of 44,933 men (with no previous history of CHD) aged 40 to 75 years by Ascherio et al<sup>(3)</sup> that showed, after adjustments for established risk factors, there was no significant association between total iron intake and risk of CHD.

## CONCLUSIONS

These results do not support the hypothesis that dietary iron in general increases coronary risk in men; they are consistent, however, with an increased risk of myocardial infarction among men with higher intakes of *heme* iron (meat eaters), which is itself positively associated with iron stores. The article did not take into account other well-known risk factors in the development of CHD such as smoking, drinking, high fat diet, elevated levels of cholesterol and homocysteine, stress, lack of exercise, heredity and long-term sub-optimal intake of nutrients including vitamin E and C.

It could be a fatal mistake to suggest, as the article suggests, that abolishing iron fortification of foods and avoiding nutritional supplements that contain iron will reduce the incidence of CHD. This approach can create a false sense of security, especially amongst middle-age men, if they think that they can avoid CHD without addressing all of the other risk factors.

The obvious, but omitted, conclusion of the article would be to recommend a reduction in the dietary intake of *heme* iron by reducing or eliminating the consumption of red meat. This simple solution would also reduce other risk factors of CHD such as saturated fat and cholesterol, to say nothing of reducing the risk of mad cow disease. This is of course, a political recommendation as well as a scientific one. Any suggestion that consumption of red meat would have a bearing on the development of CHD or any other health condition would bring the wrath of the powerful agriculture lobby that includes the beef and dairy industries.

The article also discussed the special iron needs of athletes involved in physical training. Physical training reduces iron stores by creating a negative iron balance. This gives rise to a condition known as sports anemia, a common condition in many athletes, both male and female. Building muscle mass such as in bodybuilding and weightlifting leads to an increased need of iron for myoglobin. The report suggests that it is the lower iron levels in athletes that is responsible for their lower risk of CHD, but avoids other positive benefits of exercise on the incidence of CHD such as improved aerobic capacity, lower body fat and cholesterol, stronger heart etc.

Iron deficiency is the most common nutrient deficiency in the world. Groups likely to suffer from iron deficiency besides athletes, include pregnant and lactating women, menstruating women, vegetarians, children during early and adolescent periods of rapid growth, and those who experience symptoms of fatigue. In fact, the majority of the population suffers from some form of sub-clinical iron deficiency. Iron absorption from red meat (*heme* iron) is about 15%, whereas absorption from plant sources (*non-heme* iron) is only about 4%. Iron absorption is governed by the body's need: an iron-anaemic person may absorb 50-60% of iron present in food.

Another study published in October 2002<sup>(4)</sup> confirms the lack of correlation between ferritin concentrations and transferrin levels in patients with coronary artery disease. In patients referred for coronary angiography, serum ferritin levels were not associated with an increased extent of coronary atherosclerosis. Inorganic iron such as ferrous sulphate is often found in many dietary supplements and in fortification of cereals. Inorganic iron is poorly absorbed and can cause constipation, gastric distress and it can interfere with the metabolism of vitamin E —it should be avoided.

In summary, to meet the optimum dietary needs of the majority of the population, organic (*non-heme* iron) supplementation along with optimum levels of all the other minerals, vitamins and enzymes is essential to maintain good health throughout one's lifetime.

The **SOURCE** perfectly meets the optimum nutritional needs of the majority of the population.

1. B. de Valk, MD, J. J. M. Marx, MD, PhD. Iron, *Atherosclerosis, and Ischemic Heart Disease*. Archives of Internal Medicine Vol. 159 No 14 July 26, 1999.
2. Snowden DA, Phillips RL, Fraser GE. *Meat consumption and fatal ischemic heart disease*. Prev Med 1984 Sept. 13(5): 490-500.
3. Ascherio A, Willett WC, Rimm EB, Giovannucci EL, Stampfer MJ. Department of Epidemiology, Harvard School of Public Health, Boston, MA. *Dietary iron intake and risk of coronary disease among men*. Circulation 1994 Mar. 89(3): 969-74.
4. Auer J, Rammer M, Berent R, Weber T, Lassing E, Eber B. *Body iron stores and coronary atherosclerosis assessed by coronary angiography*. Nutr Metab Cardiovasc Dis 2002 Oct: 12(5): 285-90

### **SILICA in the SOURCE**

**SOURCE** contains bamboo extract, the richest known source of natural silica containing over 70% organic silica. This is more than 30 times the level as found in the widely used horsetail plant (*Equisetum*) that contains about 2-3% silica. The bamboo extract is prepared from Tabashir bamboo stem from India (*Bambusa vulgaris*). Silicon (Si) is the second most abundant element on earth after oxygen. It is a sister element of carbon.

Silicon's role as an essential nutrient in human nutrition was not established until 1972, but silicon is now known to play a part in the integrity of the skin, ligaments, tendons and bone. The body constantly metabolizes silicic acid. Silica is eliminated through such natural processes as urination, hair loss and nail trimming. This natural secretion of silica can be from 10 to 40 mg daily.

The average adult body contains about 20 grams of silica, and it is necessary for the body's silica stores to be maintained at this level to promote good health. As we age, less silica is assimilated; therefore daily supplementation with the **SOURCE** will help maintain this necessary equilibrium and to minimize the effects of premature ageing.

- Silicon, is thought to improve the cardiovascular system, and is essential to the structural integrity, elasticity and permeability of the arteries.
- Silica may be useful in reducing blood fats & cholesterol. Atherosclerosis can occur as a result of silicon deficiency whereas silicon is abundant (up to 14 times more) in the arteries of people who are free of heart disease.
- Silicon improves the condition of the hair, nails, teeth, gums and skin and has been used to alleviate eczema and psoriasis. Silica plays an essential role in mineral absorption and may help to re-calcify bones and to de-calcify soft tissue deposits of calcium.

- Silicon enhances the function of iron, calcium, magnesium, potassium and boron and is essential for normal bone development that helps prevent osteoporosis.
- Silicon helps maintain the correct calcium-magnesium balance.
- Silicon may be useful in strengthening the musculoskeletal system, preventing injuries and helping bones to heal in athletes and others.
- Silicon supplementation may retard the ageing process. At birth, the body contains a maximum level of silica that declines with age. As the body's natural level of silica declines, it exhibits the signs attributable to ageing such as bone loss, dry and wrinkled skin, weakened teeth and gums and hair loss.
- Silicon converts aluminum from both water and other dietary sources into insoluble hydroxyl-alumino silicates that cannot enter the bloodstream or brain. This has important consequences for preventing the development of Alzheimer's dementia by assisting the body in eliminating aluminum. Aluminum is thought to a causative factor in the development of Alzheimer's disease.
- Silicon stimulates chondroblasts to deposit chondroitin sulphate and hyaluronic acid into the cartilage matrix. This has important implications in managing arthritis pain, as silicon will improve the function and effectiveness of glucosamine sulphate which is the precursor of both chondroitin sulphate and hyaluronic acid.
- Silicon may help protect against and heal gastric ulcers and arthritis (connective tissue healing).

### **Functions of Silicon**

- Functions as a cross-linking agent, providing strength and resilience to collagen & elastin connective tissues:
- Essential for bone & cartilage collagen synthesis- present as silicic acid in mucopolysaccharides, the structural components of connective tissues:
- Essential for bone calcification:
- Stimulates growth:
- Required for the proper functioning of the enzyme prolyl hydroxylase that functions in the formation of collagen in bone, cartilage and other connective tissues.

### **SOURCE Contains Optimum Levels of Essential Trace Minerals.**

- **Selenium (Se)** and other antioxidant nutrients are powerful anti-ageing factors that protect cells from oxidative and free radical damage that hastens cell death. By preventing and detoxifying free radicals and peroxides, Se protects cells from the relentless destructive effects of these substances. Se is particularly important as a component of glutathione peroxidase, a protective antioxidant enzyme broadly distributed throughout the body. This enzyme plays a key role in protecting cell membrane lipids from random oxidation. Se is also important in nucleic acid metabolism, immune system physiology and reproductive processes. Research on the bio

geographical distribution of Se conclusively indicates that higher incidence's of cancers occur where soil Se levels, and thus food Se levels, are low.

- **Vanadium (Vn)** plays an essential role in growth, iron & lipid metabolism, reproduction & bone development and may replace phosphorous in tooth enamel thereby retarding tooth decay. Vn stimulates oxidation of glucose to energy in fat cells by mimicking the action of insulin, and stimulates glycogen formation in the liver & diaphragm.
- **Molybdenum (Mo)** is a co-factor in the enzyme xanthenes oxidize. Mo is involved immobilizing iron from liver storage to oxidize baldheads. Mo helps to remove nitrogen waste from the body through the formation of uric acid (purine metabolism). Uric acid is a powerful anti-oxidant. Mo appears to play a role in the control of ageing. Mo is involved in fat metabolism & energy production through the Mo activated enzyme (baldheaded oxidize). Mo may play a role in preventing tooth decay by promoting the retention of fluoride.
- **Chromium (Cr)** is a component of glucose tolerance factor. Cr is involved in glucose metabolism that is necessary for energy production. Cr binds insulin to cells potentiating its action in allowing cells to take in glucose. Cr indirectly affects blood fat levels and stabilizes blood sugar levels. Cr is involved in protein synthesis and increases lean muscle mass. Cr stimulates liver enzymes involved in synthesis of cholesterol & fatty acids, and lowers cholesterol & increases beneficial HDL.
- **Boron (B)** may retard bone loss. Since osteoporosis is occurring in larger numbers of the population, this is important news. Bones have osteoclasts that break down old or damaged bone cells, while the osteoblasts work to replace the lost bone. Osteoporosis occurs when the osteoblasts cannot replace lost bone tissue as fast as the osteoclasts break it down. Osteoclasts deplete bone at a faster rate after menopause, leaving women at a greater risk of bone degradation. Boron appears to have a moderating effect on this process. According to a USDA study, boron supplementation increases estrogen and testosterone in post-menopausal women. The study also showed that boron "markedly reduced the urinary excretion of calcium and magnesium," interacts with magnesium metabolism, and the boron effects were not negated by a high intake of aluminum (1000 mg per day). It seems as though boron conserves magnesium and calcium, prevents the bone demineralization, and protects against osteoporosis.

#### **‘SUPERFOODS’ IN THE SOURCE**

- **Alfalfa Leaf:** has long been recognized as a nutritious food source. Many green vegetables have a shallow root system that makes it difficult for them to absorb sufficient minerals, particularly if the soil is depleted; this also increases the chances of the plants absorbing toxic pollutants from the atmosphere. Alfalfa has a very deep root system that can penetrate the soil for over 30 m. This allows the plant to absorb minerals that may be absent from the surface layer of the soil insuring a good supply of the full range of trace minerals essential for a healthy plant. In addition to vitamins and minerals, alfalfa leaf is rich in enzymes that can aid digestion and the absorption and assimilation of the natural nutrients.
- **Kelp:** provides a superior source of organic trace minerals. Sea plants have long been recognized as a superior source of vitamins, minerals and other essential nutrients. Kelp contains over 60 essential minerals and trace minerals, and being a sea plant, these nutrients are in the most bio-available form possible, making kelp the finest source of organic minerals on the planet. Organic

minerals are the only form of mineral that the body can incorporate directly into the cells and tissues, and organic minerals are only provided by plants, with sea plants being the most potent and most complete form. Inorganic mineral forms such as calcium carbonate from dolomite, oyster shell and coral are poorly absorbed because the body must first break them down via the digestive process before they can be absorbed. This is a very inefficient process, and in healthy people, less than 6% of the inorganic mineral will be transformed to the organic form for incorporation into cell membranes. In the elderly, or in people with digestive disorders, the absorption of inorganic minerals can be close to zero.

- **Spirulina, blue-green algae:** is the most highly regarded and nutritionally complete of all the edible algae. It is considered to be a complete food as its proteins contain all the essential amino acids necessary for life and all the essential vitamins are present in high concentrations. It has 25 times the level of beta-carotene found in carrots and also contains the essential fatty acids including the uncommon fatty acid GLA, usually taken in the form of evening primrose oil or borage oil.
- **Citrus bioflavonoids:** often called vitamin P (P for permeability), was discovered and named by Dr. Albert Szent-Gyorgyi, the discoverer of vitamin C. Bioflavonoids are water-soluble flavone derivatives which include Hesperidin, Quercetin, Naringin and Rutin.

Bioflavonoids are found along with vitamin C in foods such as citrus fruits, green peppers and buckwheat. Bioflavonoids are essential for the absorption and utilization of vitamin C. The bioavailability of vitamin C is enhanced when adequate bioflavonoids are present, and in turn, the bio-availability of bioflavonoids is enhanced when adequate vitamin C is present. They assist vitamin C in keeping collagen, the "intercellular cement" in a healthy condition. As a potent antioxidant, bioflavonoids keep vitamin C and adrenalin from being oxidized by copper-containing enzymes. They reduce the risk of heart disease by their ability to lower cholesterol and triglycerides. They improve capillary permeability and reduce red blood cell aggregation. They have anti-allergy and anti-inflammatory activity and reduce swelling and body fluid concentration at sites of inflammation, and they dilate small arteries, improving circulation. They stimulate bile production, influence endocrine glands, and have anti-parasitic and antibacterial properties. Bioflavonoids reduce platelet adhesiveness and reduce the incidence of heart disease and stroke.

Together, vitamin C and bioflavonoids, especially when taken in equal amounts, have proven helpful in treating capillary injuries and they help minimize contact sport bruising. They also have proven helpful in the treatment of bleeding gums, eczema and haemorrhaging. Heating can destroy enzymes and many vitamins; therefore, these *Superfoods* are dried without heat to preserve their vital nutrients before they are incorporated into the **SOURCE**

## **ENZYMES IN THE SOURCE**

The enzymes in digestive juices break down carbohydrates, proteins and fats in foods into smaller units such as glucose, peptides and fatty acids which can then be readily absorbed. Without the presence of enzymes in the intestinal tract, food could not be digested and the result would be starvation. As we age, the level of enzymes in the digestive juices fall and the digestive process becomes less efficient. Similar enzyme deficiencies are found in many mild digestive upsets. It has long been known that taking enzymes that aid digestion can improve the absorption of essential nutrients. To make sure that the full range of



nutrients in the **SOURCE** is made available for absorption, five types of enzymes have been added to the formula.

- **Protease:** an enzyme that breaks down proteins into smaller units called peptides is made up of a number of individual amino acids. The peptides are in turn broken down to the basic building blocks of proteins, the amino acids. Both peptides and amino acids can be absorbed from the intestine from where they are then transported to the liver. There they are rebuilt to form proteins used to build new tissues and replace ones that are worn out or damaged. Amino acids are also used to build hormones that control many bodily processes and messenger chemicals that transmit information within the brain and nervous system.
- **Amylase:** breaks down insoluble complex starches from vegetable materials in the food to simple sugars like glucose that can then be absorbed. The sugars produced are used by the body as the primary source of energy and may also be combined with proteins to produce glycoproteins that are built up into the connective tissues that hold the body together and line the organs such as the lungs and intestines.
- **Lipase:** the fat digesting enzyme that is essential for the digestion of fat. The fatty acids that are released from fats are transported to the liver to be reformed into storage fats or built into the cell membranes of virtually all tissues. The brain and nervous system is largely made from fats. Some fatty acids are chemically changed into hormones such as prostaglandins that are essential for reproduction.
- **Cellulase:** an enzyme that breaks down the cellulose walls of plant cells, allows the nutrients within the cells to be released and absorbed and it also converts the indigestible cellulose into sugars that can be a source of energy.
- **Lactase:** for digesting milk and other dairy products such as cheese - especially helpful for those with lactose intolerance.

These enzymes make it possible for all the nutrient goodness of the Superfoods, minerals and vitamins in the **SOURCE** to be fully utilized by the body.

## **MANUFACTURING the SOURCE**

After careful consideration of all the factors, the **SOURCE** is presented in tablet form rather than in gelatin capsules. Tablets can be made more stable and are not affected by high temperatures and humidity that can cause gelatin capsules to soften and leak. Also, gelatin capsules have a higher moisture content that can adversely affect the stability of the formula. Some methods of manufacturing tablets can cause the temperature of the ingredients to rise to a level that can destroy the enzymes and some of the vitamins. Nutrients in the Green Superfoods are particularly at risk from heat damage.

All the advanced research that has gone into producing the **SOURCE** would be wasted if the sensitive ingredients were destroyed during the manufacturing process. To insure that the nutrients in the **SOURCE** are presented in the best possible way and with maximum protection for the heat sensitive ingredients, the tablets for the **SOURCE** are made using an unique, state-of-the-art process known as *High Density Roller Compaction*.

An advanced device – a **High Density Roller Compactor** – represents the first step in the processing of many raw materials. The compactor houses grooved, counter-rotating rollers pressed tightly against one another by hydraulic pressure. Raw materials are placed into the hopper of the compactor and are fed by a system of horizontal and vertical screws into these rollers. As the materials pass through the grooves in the rollers, the materials are compacted under high pressure and emerge from the compactor as dense pellets. The pellets are then milled into a granular powder, and then they are passed through a series of vibrating screens to produce a free flowing granulation.

The **High Density Roller Compactor** process results in a finished powder that is 3 to 4 times denser than the starting material. The compactor allows the production of smaller tablets without a reduction in potency, resulting in a tablet that is easier to swallow and therefore more desirable to consumers.

The **High Density Roller Compactor** alters the flow characteristics of raw materials, making them easier to use in making tablets, resulting in better dispersion of the nutrients in the body. This is extremely important, because uniform dispersion of nutrients enhances nutrient bioavailability. The ability to alter flow characteristics makes the compactor ideal for use in dry granulation of raw materials.

Wet granulation, the traditional industry standard for preparing materials for tablets and capsules, requires the use of alcohol solvents and high temperature drying to achieve the necessary material characteristics. **High Density Roller Compaction** completely eliminates the need for this destructive process. Without further protection, some of the nutrients could be damaged by exposure to the atmosphere. This can reduce their activity and allow oxidation, which may cause some of the ingredients to be chemically altered and producing undesirable breakdown products such as free radicals.

After compaction, the tablets are coated with a protective layer. This coating, known as **LustreClear**, is made from a special vegetable cellulose complex, carrageenan and purified water. No organic solvents are used at all. Thus, the coating is hypoallergenic and free from chemicals or sugar that can cause allergies in sensitive people. In addition to its protective action, the **LustreClear** process gives the tablets an added advantage in that the smooth, slippery finish makes them easier to swallow than conventional tablets. Finally, the **SOURCE** tablets are packaged in PETE bottles. PETE provides superior moisture and oxygen barrier compared to the more common HDPE plastic that many vitamin manufactures use. To add a further degree of protection every bottle of the **SOURCE** contains a small package of desiccant. The desiccant absorbs any moisture that may enter the bottle during manufacturing and prevents deterioration of the tablets.

## **WHAT IS LEFT OUT OF THE SOURCE?**

All the ingredients in the **SOURCE** are of natural origin and of the highest quality. It is free from contaminants frequently identified in many supplements. Allergies to food and environmental factors appear to be increasing with the change to urban living and our reliance on processed food and artificial ingredients. It is impossible to produce a nutritional supplement that is 100% free of all potential allergic substances (allergens) but in the **SOURCE** all common potential allergens have been avoided. Artificial colours, flavours and preservatives that frequently induce allergic reactions are absent from the **SOURCE**. Although yeast is a particularly good source of many vitamins and minerals, it can cause allergic reactions in some people; therefore, no yeast products are included. Other common allergens that have been omitted from the **SOURCE** include wheat, gluten, lactose, milk products, starch and sugar.

## TAKING THE SOURCE

After swallowing two **SOURCE** tablets, preferably with a meal, the tablets reach the stomach and are exposed to the digestive juices that dissolve the *LustreClear* coating. This allows the active nutrients to begin functioning in the stomach and then down the digestive tract where they are smoothly and rapidly absorbed into the blood stream. They are then distributed to the vital tissues and organs to exert their maximum beneficial effects.

Scientific calculations have shown that the amount of nutrients needed to insure the optimal nutrient allowance (SONA) for all the essential nutrients is too great to be incorporated into a single tablet or capsule. With the **SOURCE**, the nutrients are incorporated into FOUR tablets. To ensure optimal absorption and a beneficial effect over the whole day, it is recommended that TWO tablets should be taken twice daily with a meal (4 per day). Taking the **SOURCE** with meals provides sufficient of the essential nutrients to give the meal the balance of nutrients recommended by nutritionists worldwide.

## FIGHTING DISEASE WITH THE SOURCE

The SONA study showed that those participants that were shown to be the healthiest regularly took nutritional supplements and had been taking them for many years. To be sure of obtaining the maximum health benefits from the **SOURCE** it is advisable to take it regularly 2 times a day with meals.

It is the opinion of many researchers that the nutrients, particularly the antioxidants in the **SOURCE**, when taken regularly, may slow down the ageing process. They may also lead to a reduction of the incidence and severity of those diseases such as arthritis and circulatory diseases that are associated with increasing age.

Throughout the world there is an ever-increasing demand for health care and most of this demand is for improved medical and surgical services to treat diseases. As the standards of living rise, so does the demand for health care: much of this is for the treatment of the very diseases that result from improved standards of living.

These diseases are sometimes called “the diseases of affluence” as their incidence increases with increasing prosperity and is linked to diet and lifestyle. They include cancer, cardio-vascular disease, asthma, allergies, arthritis and mental disorders. The majority of these diseases cannot be cured and most medical treatment is directed toward alleviating their symptoms. It is said, “An ounce of prevention is worth a pound of cure”.

As deficient diets are a major factor in many of these diseases, an improvement in the nutritional status of the diet can be expected to help prevent them. This was confirmed by the SONA study and the US Department of Agriculture Report on Human Nutrition. The potential health benefits of the individual vitamins, minerals and other constituents of the **SOURCE** have been referred to earlier. There is good medical evidence to suggest that a combination of the various nutrients is more effective than when the individual nutrients are given alone. This effect is known as synergy and the combination of nutrients in the **SOURCE** provides this synergy. This effect is known to be particularly important for the antioxidant vitamins.

In a study on 50,000 nurses, a combination of a high intake of beta carotene combined with vitamin C supplements was shown to protect them against developing the dangerous eye condition, cataract, better

than either vitamin alone. Vitamins E and C work together in the body. When the antioxidant effect of vitamin E becomes exhausted, vitamin C can regenerate it and allow it to continue working.

In a study of 6,000 middle-aged men in Edinburgh, the incidence of angina was related to the levels of vitamin C and E in the blood. Angina causes chest pains upon exertion and is an indication of poor circulation to the heart muscle and shows that the patient is at risk for having a heart attack. In this study researchers found that the men with the highest levels of these vitamins had the lowest incidence of angina and were at the least risk from heart attacks.

Minerals and vitamins also work together. Selenium has antioxidant properties and works with vitamin E to protect the essential fatty acids, like GLA in evening primrose oil and borage oil, from attack by oxygen that can lead to the production of harmful breakdown products.

Some forms of cancer are likely to be caused by free radicals and oxidative stress and if the effects of these are reduced, these cancers may be prevented. A large study in Finland showed that the low levels of vitamin E in the blood led to a doubling of the risk of cancer when compared with those individuals who had higher levels of this vitamin.

A major study in Linxian, China, carried out with the collaboration of US doctors; found that giving a vitamin supplement of vitamins A, B, C, E and beta carotene together with the minerals molybdenum, zinc and selenium reduced the incidence of cancer deaths by 13% and those from stomach cancer by 21%. The amounts of the nutrients used in this study were generally higher than the RDAs and similar to those found in the **SOURCE**

The immune system is responsible for protecting the body against invasion by foreign organisms such as bacteria and viruses. If this system is impaired in any way the disease organisms can multiply and cause diseases ranging in severity from the common cold to AIDS.

In a published study from Canada, a multi-vitamin and mineral supplement was compared with a placebo in a group of 96 healthy individuals. Their immune status was determined and their health closely monitored. The results showed that those subjects who were given the supplement had a more active immune system and that the incidence of infectious illnesses and the days off work were more than halved when compared with those given the dummy tablets.

There is also mounting evidence that supplementing the diet of AIDS and cancer patients with vitamins, minerals and essential fatty acids can improve their quality of life and in some cases allow them to live considerably longer than would normally be expected.

Asthma is a respiratory disease that has doubled in numbers over the past twenty years. The common belief is that this is due to an increase in atmospheric pollution, but in fact air pollution has decreased over this period. A recent suggestion from a leading physician in the U.K. has suggested that the resistance of the population to disease may be the cause of the rise in asthma. He has suggested that the reduction in the intake of beta-carotene and vitamin C may be an important factor in the rise of this crippling and frequently fatal disease.

Many scientists are convinced that even with the best efforts of governments, the levels of chemical and radio-active pollution that the population will be exposed to will increase. With this increase will come a greater threat to the health of everyone!

One simple precaution that we all can take is to make sure that we take sufficient of the pollution protecting antioxidants in our diet. Taking the **SOURCE** daily along with **OMEGA 3-6-9** essential fatty acid formula will help achieve this. These are just a few examples of the evidence that is accumulating to show that regular supplementation of the diet with vitamins, minerals, enzymes and essential fatty acids as in the **SOURCE** and **OMEGA 3-6-9** may play a significant role in the prevention of many common diseases.

There are major benefits to the individual and to society in reducing the incidence of the major diseases cited above. Supplementing the normal diet on a regular basis with the **SOURCE** and **OMEGA 3-6-9** could produce profound benefits both to the health of a nation and its individual citizens.

**SOURCE TABLET:**

Medium oblong tablet approx 1600 mg in weight: Clear, aqueous coating.  
Formula: (4 tablets)

<b>VITAMINS</b>				<b>AMINO ACID CHELATED MINERALS</b>			
<b>4 Tablets Contain:</b>		* %	° %	<b>4 Tablets Contain:</b>		* %	° %
	<b>Potency</b>	<b>DRI</b>	<b>SONA</b>		<b>Potency</b>	<b>DRI</b>	<b>SONA</b>
Beta Carotene (15,000 IU)	9 mg	*	°°	Calcium+	300 mg	33 %	°°
Vitamin A (3,000 IU)	880 mcg	100 %	100%	Magnesium+	300 mg	71 %	100 %
Vitamin D <sub>3</sub> (400 IU)	10 mcg	200%	100%	Zinc+	20 mg	133 %	100 %
Vitamin E (100 IU) (d'Apha Tocopheryl acetate)	100 mg	740 %	100%	Iron+	18 mg	60 %	°°
Vitamin K <sub>2</sub>	80 mcg	66 %	100%	Manganese+	5 mg	250 %	°°
Vitamin C	400 mg	667 %	100%	Copper+	3 mg	333 %	°°
Thiamine (HCl)	9 mg	643 %	100%	Boron+	3 mg	*	°°
Riboflavin	3 mg	188 %	100%	Chromium+	200 mcg	666 %	°°
Niacin	30 mg	167 %	100%	Selenium+	200 mcg	364 %	°°
Pyridoxine (HCL)	10 mg	1000 %	100%	Iodine (potassium Iodide)	300 mcg	200 %	°°
Folacin	800 mcg	400 %	100%	Vanadium+	75 mcg	*	°°
Vitamin B <sub>12</sub>	3 mcg	10000 %	100%	Molybdenum+	50 mcg	100 %	°°
Biotin	0.15 mg	100 %	°°				
Pantothenic Acid	21 mg	420 %	°°	+ Hypoallergenic form, chelated with hydrolyzed rice protein.			
<b>WHOLE FOOD CONCENTRATE</b>				<b>ENZYMES</b>			
Organic Alfalfa Grass Powder			200 mg	Protease (haemoglobin tyrosine basis)			6000 HUT
Pacific Kelp			200 mg	Lipase (lipase units)			30 I.U.
Organic Spirulina Blue Green Algae			200 mg	Amylase (alpha amalyase dextrinizing units)			3000 DU
Citrus Bioflavonoids (40 % Hesperidin)			250 mg	Cellulase (cellulose units)			75 cu
Silica (Bamboo Extract 70%)			100 mg	Lactase (lactase units)			180 LacU
*Daily Reference Intake (DRI)							
° Suggested Optimal Nutrient Allowances (SONA):							
°° SONAs Not Yet Established							

### **Biographical Details of the Originators of the SONA's**

Emeritus Professor Emanuel CHERASKIN, MD, DMD, was until his retirement, Professor and Chairman of the Division of Oral surgery and Medicine at the University of Alabama Medical College, Birmingham, Alabama, USA. In a career spanning four decades and many research interests, Dr. Cheraskin has been a leader in the study of the relationship between nutrition and disease. His work has been honoured by his peers in many countries. In the USA, he has received the prestigious Rachel Carson Award and the National Nutritional Foods Association Annual Award.

Outside the USA, his contribution to research on nutrition has been recognized with an Honorary MD from Brazil's University of San Paulo, an Honorary Presidency of the International Academy of Preventative Medicine and an Honorary Membership of the Chinese Medical Association.

Professor Warren M. RINGSDORF Jr. MA, DMD was a Professor of Clinical Dentistry at the University of Alabama Medical College, Birmingham, Alabama. He has worked with Prof. Cheraskin for more than 20 years on the influence of nutrition on health. More particularly, he has studied the health status of his fellow dentists while working closely with the American Dental Association. For his research on nutrition and the circulation, he has been awarded the Achievement Award of the Angiology Research Foundation.

Over the years, Professors Cheraskin and Ringsdorf have been helped by a series of assistants in their ground breaking studies. The studies of their work have been published in over 100 scientific papers in various prestigious scientific and medical journals.