

# Zeal Formula: Nutrient Glossary

## Glossary arranged in order of label ingredients

### **Soluble Stabilized Rice Bran and Rice Germ**

Stabilized rice bran is a unique, natural source of essential vitamins and minerals, essential amino acids, Omega-3, 6, and 9 fatty acids, and both soluble and insoluble fiber. It provides dietary fiber, protein and a variety of beneficial antioxidants. In addition, stabilized rice bran contains vitamins, antioxidants and nutrients that may help support healthy cholesterol levels, maintain natural immune system function, as well as support the body's natural defenses against free radicals.

### **Fructooligosaccharide (FOS) from Chicory Root**

Fructooligosaccharides (FOS) are part of a group of dietary fibers known as "prebiotics" that help support a healthy gut as well as promote a healthy balance of bacteria in the intestinal tract. The FOS in Zeal is from chicory roots.

### **Crystalline Fructose**

A simple sugar found in honey and fruit and part of more complex sugars such as sucrose (cane sugar). Fructose has less impact on blood sugar levels than other sugars, including honey, high fructose corn syrup and white sugar. Crystalline fructose is sweeter than other sugars, allowing for lower levels of use to provide the same level of sweetness. Crystalline fructose is at least 98% fructose with the remainder made up of water and minerals.

### **Citric Acid**

Citric acid is a naturally occurring weak acid that exists in greater than trace amounts in a variety of fruits and vegetables, most notably citrus fruits. It is used as part of flavor systems and as a natural preservative. It plays a role in metabolism support.

### **Guarana Seed Powder with Natural Caffeine**

Guarana is a climbing plant in the maple family, native to the Amazon basin and especially common in Brazil. Guarana features large leaves and clusters of flowers, and is best known for the seeds from its fruit, which are about the size of a coffee bean. As a dietary supplement, guarana is a natural energizer, since its seeds contain about twice the concentration of caffeine found in coffee seeds (about 2–4.5% caffeine in guarana seeds compared to 1–2% for coffee seeds).

### **Ionic Mineral Powder & Fulvic Minerals**

Ionic minerals are well absorbed by the cells that line the intestinal tract. These minerals may be readily employed in the body's many physiologic activities, including nutrient transport, enzyme reactions, metabolism and immune system support. Ionic minerals also play an important role in supporting a healthy acid/alkaline balance. Fulvic minerals supply electrolytes, support nutrient transport and enzyme reactions, increase mineral assimilation and help support the immune system.

### **Stevia**

Also known as sweet leaf, stevia is a well-known traditional South American herb. Stevia has a negligible effect on blood glucose and is widely used as a natural, high intensity sweetener around the world.

### **Aloe Vera Powder**

Aloe Vera is used as a dietary supplement to maintain a healthy gastrointestinal system. Aloe vera is also known as lily of the desert, burn plant, and elephant's gall. The origin of aloe vera is believed to be in the Sudan and has been used for its health benefits for more than 6,000 years. The great virtues of this plant have been recognized by many civilizations, including the Egyptians, Spanish, Persians, Greeks, Italians, Africans, Japanese, and Indians. The aloe vera plant has a wide array of phytochemicals, such as mannans, polysaccharides, lectins, and anthraquinones that are considered to be beneficial.

### **Moringa Oleifera**

Moringa oleifera is a tree that grows in the foothills of the Himalayas in northern India. It is also cultivated throughout Africa, Central and South America. Moringa oleifera is a multi-purpose herbal plant used for human food and known for its health benefits worldwide. Moringa oleifera contains essential amino acids, carotenoids in its leaves, and a wide array of phytonutrients supporting the idea of using this plant as a nutritional supplement.

### **Gotu Kola**

A slender, creeping plant that grows commonly in swampy areas of India, Sri Lanka, Madagascar, South Africa and the tropics. Gotu kola is traditionally employed as a tonic for promoting healthy memory, cognitive function, and mental well-being. Gotu kola may assist in maintaining immune system functions and support the body's production of collagen and cartilage. Studies have also demonstrated that gotu kola is helpful in promoting relaxation and a positive mood.

### **Maca**

Maca is a cruciferous root vegetable native to the high Andes of Peru and Bolivia, and belongs to the same family as broccoli, cabbage, cauliflower, radish and turnip. It is the only edible plant with the ability to grow at altitudes of 9,000 to 14,500 feet and survive the harsh weather conditions, rocky soil and thin air. Maca has been cultivated for over a thousand years and has historically been used by indigenous Andean inhabitants as an adaptogen to improve stamina, endurance, energy, hormone balance, and support a healthy mood. Maca is a source of approximately 60 phytonutrients including alkaloids, tannins, saponins and glucosinolates.

### **Beta Glucan**

Soluble fiber known as beta-D-glucan. These compounds are usually referred to as beta-glucans and they comprise a class of non-digestible polysaccharides widely found in nature in such sources as oats, barley, yeast, bacteria, algae and mushrooms. Studies have shown that a healthy diet including beta-glucan can aid in maintaining healthy blood and glucose levels.

### **Lychee**

The scientific name litchi chinensis is in the soapberry family and is the only member of its genus, meaning that it is quite unique in the world. It is a fruit tree that can grow in tropical and subtropical climates. Lychee is packed with health benefits deriving from the vitamins, minerals, and nutrients in the fruit including vitamin C, vitamin B6, niacin, riboflavin, folic acid, copper, potassium, phosphorous, magnesium, and manganese. It's also a great source of dietary fiber, protein, and a good source of proanthocyanidins and polyphenolic compounds. Lychee is highly celebrated globally because of its health benefits which are due to the wealth of nutrients and organic compounds present in its fruit.

### **Alfalfa Leaf**

The word "alfalfa" comes from the Arabic phrase, al-fac-facah, meaning "father of all foods." It stands to reason, alfalfa is extremely nutritious. The extensive root system allows the plant to absorb a high level of nutrients, including essential minerals from the soil. Alfalfa leaf contains essential vitamins including the entire spectrum of B-vitamins, A, D, E and K. Alfalfa leaf is a source of iron, niacin, biotin, folic acid, calcium, magnesium, phosphorous, potassium and chlorophyll. Compared to other plants, alfalfa leaf is very high in protein and amino acids.

### **Broccoli (Sprout) Extract**

Broccoli sprout extract is the purified, powdered form of broccoli sprouts. Normal broccoli sprouts are dried and reduced to form an extract. The benefits of broccoli sprout extract are similar to the benefits of eating mature broccoli – they're just more powerful. The extract delivers higher levels of key nutrients from broccoli into your body, which means the health benefits may actually be magnified. Benefits of broccoli and broccoli sprout extract include support for bone health, healthy aging, improved digestion, and natural body detoxification.

### **Cranberry**

Cranberries are one of nature's best low calorie sources of vitamin C and fiber, with only 45 calories per cup. In health supporting antioxidants, cranberries outrank nearly every fruit and vegetable – including strawberries, spinach, broccoli, red grapes, apples, raspberries, and cherries. Cranberry's benefits for urinary tract health are also widely known and supported by multiple clinical studies.

### **Milk Thistle Extract**

A plant native to the Mediterranean which grows wild throughout northern Europe. Milk thistle extract is studied in relation to healthy liver support and for providing other important antioxidant benefits.

### **Bacopa Extract**

Bacopa is also known as brahmi. It is a well-known herb traditionally employed in the Ayurvedic system and used for supporting normal memory and brain function. The extract has potent antioxidant properties and can provide natural support for brain and nervous system function.

### **Ashwagandha**

A low-lying perennial shrub found growing in Africa, the Mediterranean and India. Ashwagandha has been widely used in the traditional Indian Ayurvedic health system. It is widely used to facilitate overall health and promote longevity. Some studies have also indicated a positive antioxidant and anti-stress effect.

### **Green Tea Extract**

Used to promote health and wellbeing in China since as far back as 2737 B.C., green tea (*Camellia sinensis*) is naturally rich in polyphenols and bioflavonoids. In fact, it may be one of the world's most powerful antioxidants delivering up to 200 times stronger protection from free radicals than other sources of antioxidants. The useful parts of green tea are the leaf bud, leaf, and stem. It can be prepared as a beverage which can have some health effects or an "extract" can be made from the leaves. Green tea is used to support mental alertness and clear thinking. Antioxidants and other substances in green tea are being shown to have an increasingly wide array of health benefits.

### **Wild Blueberry**

Wild blueberries are a nutrient-rich food packed with fiber, minerals and antioxidants. Compared with many other fruits, wild blueberries are among the most potent in antioxidant capacity per serving. The antioxidant compounds in wild blueberries are contained in their deep-blue pigments. These anthocyanins, a subclass of phytonutrients called flavonoids, are known for their potent antioxidants related to healthy aging and maintenance of overall good health at all ages.

### **Turmeric Extract**

A spice, which contains curcuminoids, a group of bioactive compounds. The major bioactive curcuminoid is curcumin, a yellow pigment with a characteristic taste and aroma. Curcumin is a potent antioxidant and clinical studies indicate that curcumin exhibits a variety of benefits for health and assists in maintaining immune function.

### **Red Ginseng (Panax Ginseng)**

Panax ginseng is a plant that grows in Korea, northeastern China, and far eastern Siberia. It contains many important active substances called ginsenosides or panaxosides. Panax ginseng is an adaptogen that helps people cope with stress and is a general tonic for improving well-being. Panax ginseng supports concentration, memory, work efficiency, physical stamina, and muscles from the side effects of strenuous exercise and athletic endurance.

### **Yerba Mate**

Yerba mate, which is very popular in Brazil, Paraguay, and Argentina is a plant containing caffeine and other phytochemicals that provide a mild stimulant to support the brain, heart, and other parts of the body. Yerba mate is traditionally used to relieve mental and physical tiredness (fatigue).

### **Kudzu**

Kudzu is a vine that was introduced in North America in 1876 in the southeastern U.S. Kudzu supports healthy blood circulation and has been used in China for health benefits since at least 200 B.C. Early research suggests that taking a combination supplement containing kudzu isoflavones along with other ingredients might improve exercise performance in some people. Research also suggests that Kudzu may provide additional benefits for healthy weight control.

### **Fennel**

Fennel is a perennial, pleasant-smelling herb with yellow flowers. It is native to the Mediterranean but is now found throughout the world. Dried fennel seeds are often used in cooking as an anise-flavored spice. In foods and beverages, fennel oil is used as a flavoring agent. Fennel may provide nutritional support for healthy lung and digestive function.

### **Goji Berry**

This is a bright orange-red berry that comes from a shrub native to China and has been consumed for generations due to their perceived benefit for healthy aging. Over time, people have also eaten goji berries to support healthy blood sugar levels and maintain normal blood pressure.

### **Acai Berry**

Acai, pronounced AH-sigh-EE, is a palm tree that is widely distributed in the northern areas of South America along the Amazon River. As a food, the acai berry is eaten raw and as a juice. In manufacturing, acai berry is used as a natural purple food colorant. Acai contains a wide variety of antioxidants, some of which are unique to this berry. Antioxidants are thought to protect body cells from the effects of chemical reactions with oxygen (oxidation). According to some research, acai has more antioxidant content than cranberry, raspberry, blackberry, strawberry, or blueberry.

### **Noni Juice Powder**

Noni is a small evergreen tree in the Pacific Islands, Southeast Asia, Australia, and India that often grow close to lava flow areas. Noni contains many essential nutrients and phytochemicals including potassium. Some of these substances might help support cellular activity in the body and the immune system.

### **Chlorella**

Chlorella is a type of blue-green algae that grows in fresh water and the whole plant can be used to make nutritional supplements. Chlorella is consumed as a powder or made into tablets and liquid extracts. It contains what is called "chlorella growth factor" which is described as a water-soluble extract of chlorella containing phytochemicals including amino acids, peptides, proteins, vitamins, sugars, and nucleic acids. Chlorella is a good source of protein, fats, carbohydrates, fiber, chlorophyll, vitamins, and minerals.

### **Grape Seed Extract**

Grape seed extract is derived from the ground-up seeds of red wine grapes. Grapes - along with their leaves and sap - have been consumed for their health benefits across Europe for thousands of years. Grape seed extract contains phytochemicals that may help support healthy circulation and overall good health.

### **L-Arginine**

Arginine, also known as L-arginine, is an amino acid involved in a number of different functions in the body. They include support for healthy kidney function, normal immune and hormone function. As a natural component of many foods, arginine has garnered particular attention for its possible heart health benefits. In the body, the amino acid arginine can be converted into nitric oxide (NO) that helps blood vessels relax and also helps maintain healthy circulation. Arginine-rich foods include red meat, fish, poultry, wheat germ, grains, nuts, seeds and dairy products. The L-arginine in Zeal is derived from a plant source making it suitable for vegans.

### **Glycine**

Glycine is an amino acid which is a building block for protein. The body uses glycine to make a variety of proteins. Glycine is also involved in the transmission of chemical signals in the brain. It is not considered an "essential amino acid" because the body can make it from other chemicals. A typical diet contains about 2 grams of glycine daily. The primary sources are protein-rich foods including meat, fish, dairy and legumes. The glycine in Zeal is derived from a plant source making it suitable for vegans.

### **Lysine**

Lysine is an essential amino acid which is a building block of protein. L-Lysine plays a major role in calcium absorption, building muscle protein, and the body's production of hormones, enzymes, and antibodies. The lysine in Zeal is derived from a plant source making it suitable for vegans.

### **Tyrosine**

Tyrosine is one of the essential amino acids, which are the building blocks of proteins. It is synthesized in the body from L-phenylalanine. Tyrosine is believed to improve mental energy & focus by serving as a precursor for the neurotransmitters epinephrine, norepinephrine and thyroid hormones. As a fortified nutrient, Tyrosine is derived from animal sources and is not vegan.

### **Ornithine**

Ornithine is used for improving athletic performance. Early research suggests that taking ornithine by mouth might reduce fatigue and improve measures of athletic performance. Also, taking ornithine in combination with arginine seems to improve strength and power in male weightlifters.

### **Natural Flavors & Natural Colors**

The term natural flavor or natural flavoring is defined as the essential oil, oleoresin, essence or extractive, protein hydrolysate, distillate, or any product of roasting, heating or enzymolysis, which contains the flavoring constituents derived from a spice, fruit or fruit juice, vegetable or vegetable juice, edible yeast, herb, bark, bud, root, leaf or similar plant material, meat, seafood, poultry, eggs, dairy products, or fermentation products thereof, whose significant function in food is flavoring rather than nutritional. In contrast, the term artificial flavor or artificial flavoring means any substance, the function of which is to impart flavor, which is not derived from a spice, fruit or fruit juice, vegetable or vegetable juice, edible yeast, herb, bark, bud, root, leaf or similar plant material, meat, fish, poultry, eggs, dairy products, or fermentation products thereof.

## **VITAMINS AND MINERALS**

### **Sodium**

Sodium is a mineral that is present only in small quantities in most natural foods. Sodium is the predominant mineral ion in extracellular fluid. Sodium functions with chloride and bicarbonate to maintain a balance of positive and negative ions (electrically charged particles) in our body fluids and tissues. Sodium is a vital component of nerves as it stimulates muscle contraction. It also helps to keep calcium and other minerals soluble in the blood, as well as stimulating the adrenal glands. However, excessive sodium intake may be associated with negative health effects, including problems maintaining healthy blood pressure levels.

### **Potassium Citrate**

Potassium is an essential electrolyte mineral that helps your heart, muscles, kidneys, nerves and digestive system work properly. Potassium plays a role in many body functions including transmission of nerve signals, muscle contractions, fluid balance, and various chemical reactions. Potassium citrate is a well absorbed combination of potassium and citric acid.

### **Retinol Palmitate (Vitamin A)**

Unlike "pro-vitamin A" forms like beta-carotene, this pre-formed source of vitamin A does not need to be converted into vitamin A within the body. Retinol is a pure form of the vitamin found in green and yellow vegetables, egg yolks, whole milk, beef, chicken, and fish-liver oil. It's essential to vision and bone development and plays a role in vision health. Retinol is also hugely popular in skin care products because the skin naturally converts it to retinoic acid which helps to stimulate collagen production, increase cellular rejuvenation, and decrease pore size, creating softer, smoother skin.

### **Ascorbic Acid (Vitamin C)**

Vitamin C is the body's primary water soluble antioxidant and is essential for collagen formation and immune defense. Almost all animals can make their own vitamin C, but because humans cannot we must get this vitamin from food and other sources. Good sources of vitamin C are fresh fruits, vegetables and especially citrus fruits. Vitamin C can also be made in a laboratory.

### **Iron**

Iron's role in biology is to form complexes with molecular oxygen in hemoglobin and myoglobin. Iron is an essential component of hemoglobin and red blood cell protein that transfers oxygen from the lungs to the tissues. As a component of myoglobin, a protein that provides oxygen to muscles, iron supports metabolism. Iron is also necessary for growth, development, normal cellular functioning, and synthesis of some hormones and connective tissue.

### **Vitamin E (D-alpha Tocopherol)**

Vitamin E is a fat soluble vitamin that is required for the proper function of many organs in the body. It is also an important antioxidant helping the body to slow down processes that damage cells. As the body's premier fat-soluble antioxidant, it is incorporated directly into cell membranes where it offers protection from harmful free radicals. It is found in many plant based foods including vegetable oils, cereals, fruits, vegetables, wheat germ oil, meat, poultry, and eggs.

### **Thiamin (Vitamin B1)**

Thiamine is a vitamin also called vitamin B1 that is required by our bodies to properly use carbohydrates. Vitamin B1 is found in many foods including yeast, cereal grains, beans, nuts, and meat. It is often used in combination with other B vitamins and found in many vitamin B complex dietary supplements. Vitamin B complexes generally include vitamin B1 (thiamine), vitamin B2 (riboflavin), vitamin B3 (niacin/niacinamide), vitamin B5 (pantothenic acid), vitamin B6 (pyridoxine), vitamin B12 (cyanocobalamin), and folic acid.

**Riboflavin (Vitamin B2)**

Riboflavin is a B vitamin that supports healthy eyes, hair, skin, nails and is involved in the regeneration of glutathione, one of the body's primary free-radical scavengers. Riboflavin is required for the proper development and function of the skin, lining of the digestive tract, blood cells, and many other parts of the body. It can be found in certain foods such as nuts, enriched flour, green vegetables, milk, meat, and eggs. Riboflavin is frequently used in combination with other B vitamins in vitamin B complex products.

**Niacinamide (Vitamin B3)**

Niacin is converted to niacinamide when it is taken in amounts greater than what is needed by the body. Niacin and niacinamide are easily dissolved in water and are well-absorbed when taken by mouth. Niacin and niacinamide are both forms of Vitamin B3. Vitamin B3 is found in many foods including yeast, green vegetables, beans, cereal grains, meat, fish, milk and eggs. Niacin and niacinamide are also found in many vitamin B complex supplements with other B vitamins. The different forms of vitamin B3 provide different benefits for the body. For example, niacin has been shown to help support health blood lipids levels, including cholesterol, while niacinamide can help with blood sugar regulation.

**Pyridoxine hcl (Vitamin B6)**

Pyridoxine is required for the proper utilization of sugars, fats, and proteins in the body. It is also required for the proper growth and development of the brain, nerves, skin, and many other parts of the body. It is essential for the formation of proteins, neurotransmitters, red blood cells, antibodies and hormone-like compounds called prostaglandins.

**Vitamin D**

Vitamin D is an essential nutrient primarily associated with healthy bones and supporting healthy calcium and phosphorous levels in the body. Recent research has shown that there may be a variety of other health benefits associated with maintenance of healthy Vitamin D levels, including maintenance of a healthy immune system. While the body has the ability to produce Vitamin D by virtue of the action of sunlight on the skin, many people live in areas where sunlight is limited or do not get out into the sun enough to support healthy vitamin D levels. Use of UV protection products in personal care and sun protection products may also impact on the amount of Vitamin D produced in the body. There are two forms of Vitamin D that are found in foods and either added to foods or sold as dietary supplements. Vitamin D2, ergocalciferol is found in plants, fungi like mushrooms and some other microorganisms. Vitamin D3 is derived almost exclusively from animal sources, including lanolin, which is found in the wool of sheep. As such, Vitamin D2 is suitable for vegan diets where Vitamin D3 is not. While there are many differing opinions about which form is best, studies have found little difference in the effects of D2 compared to D3 at daily intakes of 1,000 IU or less, which represents up to 250% of the recommended daily intake.

**Folic Acid**

Folic acid is needed for the proper development of the human body and is involved in producing DNA and numerous other bodily functions. Folate and folic acid are forms of a water-soluble B vitamin. Folate occurs naturally in food and folic acid is the synthetic form of this vitamin. Since 1998, folic acid has been added to cold cereals, flour, breads, pasta, bakery items, cookies, and crackers as required by federal law due to its association with healthy birth outcomes.

**Methylcobalamin (Vitamin B12)**

Vitamin B12 is required for the proper function and development of the brain, nerves, blood cells and many other parts of the body. Vitamin B12 is essential to a healthy nervous system and proper immune function. It can be found in foods such as meat, fish, and dairy products. Methylcobalamin is considered to be a more active form of vitamin B12 compared to cyanocobalamin which is more commonly used in dietary supplements.

**Biotin**

Biotin is considered essential because of its role in the metabolism of amino acids, fats and carbohydrates. It has received attention for its ability to promote healthy hair, skin, and nails.

**Pantothenic Acid (Vitamin B5)**

Long hailed as the "anti-stress vitamin," pantothenic acid plays a critical role in healthy adrenal function and cellular metabolism. Pantothenic acid also plays a key part in the production of vital compounds that allow our bodies to burn carbohydrates and fats.

**Phosphorus**

This essential mineral works with calcium to form bones and teeth and plays an important role in cell growth, tissue repair and energy production. Phosphates are normally absorbed from food and are important chemicals in the body. They are involved in cell structure, energy transport and storage, vitamin function, and numerous other processes essential to health.

**Magnesium**

Magnesium is a mineral that is present in relatively large amounts in the body with about half in the bones and is important in more than 300 chemical reactions that keep the body working properly. People get magnesium from their diet, but sometimes magnesium supplements are needed if dietary magnesium levels are too low, which is particularly common among women. Magnesium is required for the growth and maintenance of bones and for the proper function of nerves, muscles, and many other parts of the body. In the stomach, magnesium helps neutralize stomach acid and moves stools through the intestine.

**Zinc**

One of the most common minerals in our bodies, zinc is involved in over 200 essential enzyme reactions. Its most prominent roles are maintaining proper immune function, cell membrane structure, prostate gland function, skin health, carbohydrate and protein structure. Zinc is needed for the proper growth and maintenance of the human body. It is found in several systems and biological reactions. Legumes, nuts and whole grains offer relatively high levels of zinc from plant sources, while meats, seafood and dairy products also provide significant levels of zinc.

**Manganese**

Manganese is a mineral that is found in many plant foods including nuts, legumes, seeds, tea, whole grains and leafy green vegetables. It is considered an essential nutrient because the body requires it to function properly. Manganese is involved in many of the body's chemical processes including cholesterol, carbohydrates, protein and may also be involved in bone formation.

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