

In this eNewsletter, I want to cover an ingredient that most do not pay much attention to but has tremendous health benefits, Aloe vera, and why we have included it in several Max Muscle Sports Nutrition (MMSN) products. Here is a little background on this remarkable botanical.

Yours In Health,
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Aloe Vera (*A. barbadensis*)

is a stem-less or short-stemmed succulent plant of the Liliaceae Family and native to northern Africa. Among the Family are the commonly known foods; asparagus, garlic, onion, turnip, etc. Having a long tradition of use, *Aloe vera's* historical records date back to the fourth millennium BC. The botanical was highly regarded by ancient peoples. The Egyptians called *Aloe vera* the "Plant of Immortality" and it was a traditional funeral gift for the pharaohs. It is now cultivated throughout the world, including Asia, North and South America, and Mediterranean regions. It has long been regarded as one of nature's most useful healers and often called the "Miracle Plant". Its triangular and fleshy leaves contain a wealth of biologically active substances. The inner fillet (gel) is used most frequently in cosmetics and foods and is safe to consume orally. Aloe products derived from the outer leaf (latex) is sometimes referred to as "Aloe Rx" or as a drug as defined by the U.S. Pharmacopeia (USP) and should be used with caution. The outer leaf that has the strong laxative effect due to the hydroxyanthraquinone content.



Of the hundreds of species, the *Barbadensis Miller* genus and species is believed to be the most potent and nutrient-rich form containing aloe polysaccharides and a wide range of other beneficial phytochemicals. Compounds such as tannins, enzymes, vitamins, amino acids, trace minerals and others are found in the *Aloe vera* gel. Of the 200 or so different constituents found in the gel, it has been postulated that the beneficial phytonutrients are the mucopolysaccharides (Aloe polysaccharides), especially the glucomannans. Hundreds of studies have now been conducted and published on the uses and benefits of this botanical. *Aloe vera* appears to inhibit infections and has an anti-inflammatory effect to promote the healing of cuts, burns, wounds, frostbite, psoriasis, eczema, etc. It is popular as a skin care ingredient in cosmetics. Orally, it has been studied for digestive disorders, heart disease/blood lipid disorders, blood sugar irregularities, cancer, immune support, along with a natural cleansing and detoxification benefit. The benefit of *Aloe vera* to enhance nutrient absorption and bioavailability has recently been studied and I want to discuss this in more detail and explain why we have included this botanical in some of our MMSN products.

Dr. Joe Vinson and his research team at the University of Scranton conducted a human clinical trial to see if *Aloe vera* would enhance the bioavailability of a water soluble nutrient, vitamin C and a fat soluble nutrient, vitamin E. Subjects were given doses of vitamins C or E with or without *Aloe vera*. Blood samples were taken over a 24 hour period and analyzed to determine the concentration of each vitamin in the blood. Results of this study found increased levels of vitamins C and E in the bloodstream by more than 200 percent when consumed with the *Aloe vera*. Vitamins C and E are both important antioxidants that help protect the body from free radicals. Especially remarkable because of the finding that *Aloe vera* enhanced the absorption of both a fat and water soluble nutrient. Dr. Vinson concluded, "*Aloe vera* is unique in its ability to improve the absorption of these vitamins and should be considered as an adjunct for people who take vitamin supplements."

In a second study, Dr. Sridevi Devaraj, from the Laboratory for Atherosclerosis and Metabolic Research at UC Davis Medical Center, evaluated the effects of *Aloe vera* on the bioavailability of vitamin C and vitamin B12 in healthy human adults in a randomized cross-over trial. Her team found that the *Aloe* was well tolerated and not only enhanced the absorption of vitamins C and B12, but prolonged plasma levels of these vitamins compared to placebo! *Aloe vera* also promoted a significant increase in the antioxidant potential of the plasma as measured by the Oxygen Radical Absorbance Capacity (ORAC) which was particularly high after 4 hours and remaining high even after 24 hours especially in the older subjects tested. This second study confirmed the findings of Dr. Vinson of enhanced nutrient bioavailability of *Aloe vera*.

With the diversity of health benefits and recent research findings, we have included *Aloe vera* in several MMSN products. In **Max Complete** we have added *Aloe* for its ability to enhance the bioavailability and prolong blood levels of essential vitamins and possibly minerals along with enhanced antioxidant function. This makes **Max Complete** a very unique and beneficial multivitamin and mineral supplement in the marketplace. In **Max Green Synergy**, for *Aloe's* ability to support digestive functions, detoxification, antioxidant and overall health. For **Regena-Pro**, *Aloe's* ability to support healthy skin, antioxidant and overall health. In **Max Cleanse & Lean**, to support overall digestive health and aid in weight loss. Most important, the *Aloe vera* used in our products is the most potent form, from the *Barbadensis Miller* genus and species and the highest quality available in the marketplace. We use a highly concentrated (200:1) extract in **Max Complete** and **Max Green Synergy**. The *Aloe vera* in all our products are certified by the International Aloe Science Council (IASC, www.iasc.org) for content, purity, and quality along with being certified Organic and Kosher. *Aloe vera* is truly a remarkable botanical with important health benefits.

Key References:

- Facts and Comparisons. The review of natural products. 3d ed. St. Louis, MO, 2002
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- Devaraj S, Patel S, et al. Aloe supplements enhance bioavailability of vitamin C and B12 in older adults. *The FASEB Journal: Experimental Biology* 2007* Abstracts 8.1-701.35. Washington, DC; April 28-May 2, 2007.