

ALOE VERA

Here are some scientific facts about the amazing plant known as Aloe:

What is aloe?

Aloe is a plant specie that grows in warm and arid regions of the globe and is widely known as a succulent plant. It is widely cultivated in countries such as Africa, Australia, China, Cuba, Dominican Republic, India, Latin America, Mexico, Jamaica, and the United States in southern states such as Arizona. After a rain in the desert, you can actually watch this plant swell to 130% of their usual size, as they take on water. During periods of drought, they slowly shrink back to normal as the excess water locked in their gel matrix is consumed.

It can also be grown indoors in small quantities as a house plant.

The aloe plant is well known for its thick spiked leaves which contain a clear gel-like liquid which has been used for its medicinal properties for thousands of years.

Aloe is also known as “lily of the desert”, the “plant of immortality”, “pharmacy in a plant” and the “medicine plant” for its numerous health benefits. The name was derived from the Arabic **alloe** meaning “bitter” because of the bitter liquid found in the leaves. In 1500 B.C. Egyptians recorded the use of the herbal plant in treating burns, infections, and parasites.

What is aloe vera?

Aloe Vera is a member of the Lily family. It is very-cactus like in its characteristics. This unique plant also belongs to a larger plant family called “Zeroids”. The green colored aloe leaf grows from the base of the plant in the rosette pattern. Each plant usually has 12-16 leaves that, at maturity, may weigh up to 3 pounds. Mature plants can grow as tall as 2 and a half inches to 4 feet with the average being around 28 to 36 inches in length. Of the 250+ species of aloe, only 5 are recognized as being of nutritional and medicinal value to human beings and animals.

These 5 special aloe vera plants are:

- Aloe Barbaradensis Miller sometimes called Aloe Linne, Aloe Vulgaris or the Curaco Aloe.
- Aloe Perryi Baker also known as the Socotrine or Zanzibar Aloe
- Aloe Ferox also known as Cape Aloe
- Aloe Arborescens
- Aloe Saponaria

Aloe Barbadensis Miller is at the top of these 5 being the most popular and the last 2 are the least popular. This particular aloe plant was introduced to the West Indies at the beginning of the 16th century. It is the most potent both nutritionally and medicinally and is the type of aloe used in most commercial aloe containing products available today. Thus, check to make sure that any aloe-based products you use are being made from the **Barbadensis Miller** species.

Aloe vera is known to be non-toxic and has no known side effects.

The outside of the leaf is smooth and rubbery to the touch and inside is the aloe gel that is so highly respected. The aloe vera plants are not fully mature with their medicinal properties until they are 4 years of age, therefore, growers know that the gel is not to be extracted until it reaches this age.

The parts of the aloe plant that are used medicinally are the gel that is found inside the leaves and the sap (a bitter, yellow, sticky substance (a.k.a. aloe latex) that is found just inside the leaf surface. It is the aloe latex part that is known to act as a powerful laxative.

HEALING BENEFITS of ALOE VERA

Internal Medicinal Benefits:

- *Reverses ulcers, IBS, Chronn's disease and many other digestive disorders.
- *Eliminates constipation.
- *Relieves and eliminates heartburn and acid reflux.
- *Improves digestion and absorption of foods.
- *Cleanses of the digestive tract while detoxifying the whole body.
- *Stimulates the body's metabolic system.
- *Promotes weight loss.

- *Stops and reverses the growth of colon cancer, heals the intestines and lubricates the digestive tract.
- *Reverses and prevents colon polyps.
- *Prevents and treats candida infections.
- *Stabilizes blood sugar and reduces triglycerides in diabetics.
- *Lowers high cholesterol levels.
- *Reduces high blood pressure naturally by treating the cause not the symptoms.
- *Reduces strokes and heart disease.
- *Alkalizes the body, helping to balance overly acidic diets and lifestyles.
- *Protects the body from oxidative stress.
- *Boosts the oxygenation of the blood.
- *Repairs “thick blood” and reverses “sticky blood”.
- *Eases inflammation and soothes arthritis pain.
- *Relieves muscle and joint pain.
- *Prevents and heals kidney stones and protects the body from oxalates in coffee and tea.
- *Protects the kidneys from disease.
- *Amplifies the antioxidant effects of vitamins.
- *Nourishes the body with minerals, vitamins, enzymes, and glyconutrients.
- *Provides a natural electrolyte balance to the body, so can be used as a “sports drink”.
- *Boosts cardiovascular performance and physical endurance.
- *Boosts the immune system (in animals too) and destroys cancer tumors.
- *Accelerates healing and speeds recovery from injury or physical exertion.
- *Functions as an anti-bacterial, anti-viral, and anti-fungal...essentially an anti-microbial.
- *Extends average life span by 10% and slows the mortality rate.
- *Saves humans and animals from severe hemorrhagic shock (blood loss).
- *Reverses gum disease. (Gum disease is really a Vitamin D deficiency).
- *Improves bone tuberculosis and broken bones.
- *Decreases inflammation in and improves conditions such as gynecological infections, paralysis from polio, ear, nose, throat problems as well as bronchial asthma.

External Medicinal Benefits:

- *Hydrates the skin, accelerates skin repair.
- *Accelerates healing from physical burns and radiation burns.
- *Heals both severe and minor epidermal cuts, scratches and scrapes.
- *Heals skin infections such as boils and benign skin cysts.
- *Improves genital herpes and psoriasis.
- *After facial derm-abrasion or skin cancer removal surgery to speed healing.

Adaptogenic property of aloe vera;

Another key to the many benefits of aloe vera besides its amazing list of nutritional ingredients and their synergistic abilities between them, is its adaptogenic properties. The adaptogenic properties of aloe vera mean that different individuals take what they need from it, therefore the benefits of aloe vera will vary from one person to another. What this means is that it will correct imbalances in the human body (whole system) that can range from acne to constipation to x-ray burns.

An adaptogen is any of various substances that work through the adrenal glands to produce adjustment in the body to combat stress and increase resistance to stress, and which usually produce no side effects.

Aloe vera is well known to be hypoallergenic which means that it does not have any known allergic reactions or side effects.

What is in pure Aloe Vera Gel?

Interestingly enough, aloe vera is just 0.5 – 1.5 % solid, with an average pH value of 4.55. This solid material found in aloe vera contains over 75 different nutrients including vitamins, minerals enzymes, sugars, anthraquinones (or phenol compounds), lignins, saponins, sterols, amino acids and salicylic acid. No other natural product anywhere contains so many elements beneficial to the body.

Specifically, aloe vera (*barbadensis miller*) contains over 20 minerals, all of which are called essential to the human body. The human body requires 22 amino acids for good health – eight of which are called “essential” because the body cannot fabricate them. Aloe vera contains all of these eight essential amino acids, and 11 of the 14 “secondary” amino acids. Aloe vera has Vitamin A, B1, B2, B6, B12, C, and E. Vitamins cannot be manufactured within the body and some cannot be stored by the body, so it is necessary for the diet to sustain a continuous supply.

The following is a long and detailed description of what is in aloe vera and how each of its individual ingredients makes it such a powerful and beneficial nature given “gift” for health.

Water

Amino Acids

Enzymes Hormones Lignin

Salicylic Acid

Saponins

Sterols
Vitamins
Minerals
Sugars

Further ingredient breakdown of aloe vera:

***Aloe vera contains water:**

Water also known as 2 hydrogen and 1 oxygen molecules. Water is essential for life and constitutes 90% of the human body. The aloe plant stores water like no other plant.

Aloe vera contains 19 of the 20 amino acids required by the human body for good health. The human body, however, produces only 12 of these. The 8 outstanding amino acids – known as “essential” amino acids – required by the human body have to be taken in as food and drink.

Aloe vera contains 7 of the 8 “essential” amino acids:

Isoleucine
Leucine
Lysine
Methionine
Phenylalanine
Threonine
Valine

The 12 “non-essential” amino acids contained in aloe vera are:

Alanine
Arginine
Asparagine
Cysteine
Glutamic Acid
Glycine
Histidine
Proline
Serine
Tyrosine
Glutamine

Aspartic Acid

Amino acids are the building blocks of proteins in the production of muscle tissue. The missing “essential” Amino acid is Tryptophan, which some researchers today actually claim is among the Amino acids contained in Aloe vera. Surely it is obvious that 19 amino acids out of 20 is an overwhelming bonus for aloe vera.

***Aloe vera contains 12 anthraquinones:**

Aloe Emodin
Aloetic Acid
Aloin
Anthracine
Anthracine
Antranol
Barbaloin
Chrysophanic Acid
Emodin
Etheral Oil
Ester of Cinnamonic Acid
Isobarbaloin
Resistannol

These 12 Phenolic compounds are found exclusively in the sap of the aloe vera plant. In small quantities, when they do not exert their purgative effect, they aid absorption from the gastro-intestinal tract and have anti-microbial and pain killing effects.

Anthraquinones also provide anti-bacterial, anti-fungal and anti-viral activity. In high concentrations on their own they can be toxic, but they are not toxic within the complex environment of the aloe vera plant.

***Aloe vera contains 8 enzymes:**

Aliiase
Alkaline Phosphate
Amylase
Carboxypeptidase
Catalase
Cellulase
Lipase

Peroxidase

These enzymes contained in aloe vera help the breakdown of food sugars and fats, aiding in digestion and enhancing nutrient absorption.

One in particular, Bradykinase, helps to reduce excessive inflammation when applied to the skin topically and therefore, reduces pain. Whereas, other enzymes help to digest any dead debris (tissues) found in the wounds. Lipases and proteases which break down foods and aid digestion are also present.

***Aloe vera contains 2 hormones:**

Auxins

Gibberellins

These hormones provide wound healing and anti-inflammatory activity. Gibberellin acts as a growth hormone stimulating the growth of new cells in the aloe plant.

***Aloe vera also contains lignin:**

Lignin is a cellulose based substance, which provides penetrating power in aloe vera skin preparations and acts as a carrier for other components of aloe vera.

Lignin takes the soothing properties of aloe vera down to damaged skin areas where it strips the toxic materials, increases the blood circulation to the area and flushes the dead tissue away. It is also keratolytic – meaning it destroys and softens hard skin.

***Aloe vera also contains salicylic acid:**

Salicylic acid is an aspirin like compound that works as a pain killer. It possesses anti-inflammatory and anti-bacterial properties.

***Aloe vera also contains saponins:**

Saponins are glycosides, form about 3% of what's in aloe vera gel. They are soapy substances which provide cleansing and anti-septic activity. They act powerfully as anti-microbials against bacteria, viruses, fungi and yeasts.

***Aloe vera also contains 4 main plant steroids:**

Cholesterol
Campesterol
Lupeol
B Sitosterol

These are all anti-inflammatory agents. Lupeol also possess antiseptic and analgesic properties.

***Aloe vera also contains vitamins:**

Vitamin A (Beta- Carotene)
Vitamin B1 (Thiamine)
Vitamin B2 (Riboflavin)
Vitamin B3 (Niacin)
Vitamin B5
Vitamin B6 (Pyridoxine)
Vitamin B12
Vitamin C
Vitamin E
Choline
Folic Acid

Vitamins A, C and E provide aloe vera's antioxidant activity and neutralize free radicals.

The "B" Vitamins and Choline are involved in amino acid metabolism, Vitamin B12 is required for the production of the red blood cells, Folic Acid is required in the development of blood cells.

***Aloe vera also contains minerals:**

The following is a list of the 10 most important minerals:

Calcium
Chromium
Copper
Iron
Magnesium
Manganese

Potassium
Phosphorous
Sodium
Zinc

These minerals are essential for good health and immune functioning and are known to work in synergistic combinations with each other, vitamins and other trace elements.

***Aloe vera also contains sugars:**

Glucose
Fructose

They provide anti-inflammatory activity.

***Aloe vera also contains polysaccharides:**

Polysaccharides are normally found in all cells of your body. However, your body stops producing polysaccharides around the age of 10, after which your body relies completely on outside sources for these vital compounds.

Aloe vera is an extremely rich source of polysaccharides such as Glucomannans or Polymannose, molecules of Mannose linked to molecules of Glucose. This is a polysaccharide which provides the anti-viral, immune modulating activity of Acemannan. Acemannan deserves a special mention here because of the very important role it plays. It stimulates the body's macrophages to produce Interferon and Interleukin, which stop viruses from multiplying.

Macrophages are the deep cleansers of the immune system that can destroy small particles such as toxic chemicals and tumors. Acemannan also helps lubricate the joints and lines the colon.

The long chain Gluco-mannans are ingested whole – from the gut, not broken down like other sugars, and appear in the bloodstream in exactly the same form

This process is known as pinocytosis.

Once in the blood stream they are able to exert their immune-regulating effects. Some of these polysaccharides are not absorbed but stick to certain cells lining the gut and form a barrier preventing absorption of unwanted material, so helping to prevent a “leaking gut” syndrome.

There are probably other yet undiscovered components of aloe vera but what you have here is a detailed summary of what we do know.

Suggested Dosages:

In order to get a steady and complete supply of these vitamins, minerals and amino acids it is recommended that one should drink 2-4 ounces twice daily for an adult.

Furthermore, due to our unknowingly (and sometimes knowingly) consuming thousand of anti-adaptogens, such as fertilizers, pesticides, herbicides, food additives, oxidants, drugs (prescription, OTC or other), the benefits of drinking aloe vera preferably on a daily basis are obvious.

Specific Warning:

Because aloe vera is such a strong blood circulation stimulant, it should avoided during pregnancy because it could create contractions. Also, because it is such a cooling herb, it should not be used by people with weak, watery symptoms or general tendency to bodily temperature coolness.

Biologically active compounds:

Aloe vera leaves contain a range of biologically active ingredients, the best-studied being acetylated mannans, polymannans, anthraquinone C-glycosides, anthraquinones, and various lectins.

Historical Uses:

Aloin was the common ingredient in Over-the-counter drug (OTC) laxative products in the United States prior to 2003, when the Food and Drug Administration (FDA) ruled that aloin was a class III ingredient, therefore banning its use. It should be noted here that aloe that contains aloin is used primarily as a laxative, whereas processed aloe vera juice that does not contain significant amounts of aloin is used as a digestive healer. Manufacturers commonly remove aloin in processing due to the FDA ruling.

Commodity Uses:

Aloe vera is now widely used on face tissues, where it is promoted as a moisturizer and/or anti-irritant to reduce chafing of nose of users suffering hay-fever or cold. It has been suggested that bio-fuels could be obtained from aloe vera seeds. It can also be used to re-twist dread locked hair, a favorite agent for vegans and those preferring natural

products. Aloe vera has also been used as a fish tank water conditioner. Aloe vera is also used for soothing the skin and keeping the skin moist to help avoid flaky scalp and skin in harsh, cold and dry weather. Aloe vera is also used in products such as makeup, soaps, sunscreens, incense, shaving cream and shampoos. Other uses for extracts of aloe vera include dilution of semen for the artificial fertilization of sheep, as a fresh food preservative and used in water conservation in small farms.