

MMS Plus⁺

Dozens of High-Beneficial Ways to Dramatically Increase Your Health by Adding to Your MMS Regimen.

MMS + _____ = better health

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Warning:

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

This book is solely a collection of research found from hundreds of reliable sources; however, user discretion is strongly advised.

Consult with your healthcare professional before starting any new dietary changes.

MMS Warning:

MMS is a powerful oxidant. It should not be taken with any of the included anti-oxidants. For best results alternate usage 1 day apart.

Always start with the smallest doses possible and slowly increase to see if you body has any adverse reactions.

If you experience ANY reactions stop immediately and consult your health care professional.

Purpose of this book

After years of researching solutions for my own health I found that there were many critical factors that directly impacted my results.

While MMS is one of the most potent pathogen killers known to man, it does not address every need biologically.

If your house had a mold problem you would need to find the source of the mold, say a leaky pipe, fix it, and then remove the mold. This is what MMS does. It does not however help you put up new dry wall, roll out new carpet, and repaint the house. This is where some very critical and time-tested superfoods come into play.

After MMS has attacked the pathogen it is time to go in and rebuild the health of your cells. Your cells need nutrients and not just any nutrients. They ONLY repair themselves with plant-based, bio-available nutrients. Modern chemistry allows big chemical companies to synthetically create things such as Vitamin C, however, your body is unsure what to do with the synthetic chemical and the desired result, which is better, health, is never achieved.

This book is a collection of the superfoods our team has tested. They are not meant to take the place of MMS, but rather pick up where MMS leaves off.

We encourage you to read through all of the options and pick one that you feel best meets your needs. Try it, and let us know how you feel.

MMS Basic Detox

A Protocol 1000 modification

We recommend using the following protocol for general health. If you are using a different protocol then continue with that.

Activation

- Obtain a one quart or one liter container with lid & markings on the side as needed (keep refrigerated and out of sunlight) Can also use 4 oz or 120 ml measuring cup to pour into at each use
- Add 24 drops MMS (28%)
- Add 24 drops citric acid (50%) or 120 drops lemon juice or 10 % citric acid
- Mix by swirling (activate) exactly 20 seconds or (3 minutes with lemon or 10 % citric)
- Add one quart or one liter distilled water(pH 5 to 6) mix (do not add alkaline water)
- Add 1/8 US teaspoon (0.6ml) baking soda (Bicarbonate of soda) to mix then stir well (use aluminum free)

Metric equivalents of this recipe:

- 4 oz (120 ml) = 3 drops activated MMS (same as protocol 1000)
- 2 oz (60 ml) = 1.5 drops MMS
- 1 oz (30 ml) = 0.75 drops MMS

Warnings/Tips

Stay at each amount for 2 to 3 days before increasing so that if unwanted symptoms arise you can go back to a safe known level.

Always stop short of diarrhea, nausea, vomiting or unwanted symptoms.

If you need to reduce your amount, then you can take smaller amount more often or the same amount less often.

We are finding that a low steady amount is all some people need. Some conditions may need an initial higher amount and then a lower amount for continual use.

ALWAYS DRINK 8 GLASSES OF GOOD WATER DAILY FOR HYDRATION & DETOX

To Start: Take 2 oz. (60 ml) four times day and work up to higher amounts and frequency as needed. Taking 4 oz. (120 ml) hourly for 8 hours is equal to 3 drops hourly of MMS, the same as protocol 1000. Always stop short of diarrhea, nausea, vomiting or unwanted effect.

To Start if child or sensitive adult: Children or adults very sensitive can start at 1oz (30 ml) 4 times daily and work up slowly if needed. Always stop short of diarrhea, nausea, vomiting or unwanted effect.

If taste is still undesirable then add one drop peppermint oil to each 4 oz at the time of usage. It is much better to mix up the whole quart than to try and mix individual uses. The optimal pH is 5.2 but the range of 5.0-5.5 should be acceptable.

Recipe changes: If you change the recipe amount of 24 drops of MMS, then you will need to adjust the amount of baking soda as needed to bring the pH to 5.2 or into the range of 5 to 5.5 pH. If you need to take an amount that is larger than 3 drops of MMS, then you can simply drink a larger amount of the recipe mix. Eight ounces (240 ml) would equal a 6 drop dose of MMS.

Recommended Brands:

<http://www.H2OAirWaterAmericas.com>

MMS Chemistry Simplified

by Dr Ron Neer

Well I am often asked just how does mms really work. I thought since I often share my opinion of that with people, then I just as well share it to all since if one does not pay careful attention to 7 details then your mixture might not be what you want it to be.

Prior to being a dentist I was a chemistry major at University of Central Missouri, so I used that basic understanding of chemistry and my observations, testing and extensive research of the literature of the observations of others to form this opinion and want to keep it as simple as possible.

The Action of MMS

MMS which is actually 22.4 % sodium chlorite, when combined with a weak acid such as Citric Acid then produces mostly 3 resultant products in varying amounts and others in minor amounts depending on purity of initial products.

1-- chlorous acid

2-- chlorite ion

3-- chlorine dioxide

There are 7 key details you must know to get the mixture right.

Chlorine dioxide is believed to be the most active ingredient at the point of encounter with the infectious organism that does the disinfection or detoxing.

Upon careful observation though chlorine dioxide readily gets broken down after doing its job of disinfection. So for more disinfection to be done there needs to be a consistent supply of the chlorine dioxide so it can get to the areas where it is needed.

That is where it is believed to be that the chlorite ion comes into play. The chlorite ion when in contact with the acid waste by products of infectious bugs is able to be activated on site where needed to produce the chlorine dioxide. The chlorite ion unlike the chlorine dioxide does not readily break down and is able to pass through the stomach and be absorbed in the duodenum therefore able to circulate throughout the system.

So the chlorine dioxide is the disinfectant and the chlorite ion is the transporter and reserve potential producer of the chlorine dioxide.

Here is a simple test. Mix up some mms and activate it and test the chlorine dioxide ppm content with your test strips. Then put that mixture in your mouth and swish it around and then put it back in the glass and test it again. The ppm will be greatly reduced. Then come back in 10 minutes and test it again and you will see the ppm back

up again. The chlorite produced more chlorine dioxide, hence the chlorite is your reserve potential.

When using 22.4% sodium chlorite when you mix up a 3 drop dose of mms you can get a 50 ppm of Free chlorine dioxide if you do it right. The total potential though of 22.4% sodium chlorite is 224,000 ppm available chlorine dioxide.

So you can see that the chlorite ion has the stored potential to produce a lot of chlorine dioxide. Without the chlorite the amount of chlorine dioxide that you can absorb and circulate is greatly diminished.

Other researchers have similar viewpoint. See it here <http://www.health-science-spirit.com/MMSaction.htm>

But if you do not pay careful attention to the 7 Keys of mixing then you might not get what you set out to. We have observed some people only getting as low as 5 ppm and others 50 ppm.

1. Concentration
2. PH
3. Activation Time
4. Temperature
5. Volume of water
6. Adding antioxidants
7. Exposure to sunlight

1. Concentration

Your MMS must be 22.4% active sodium chlorite or 28% total sodium chlorite salts. Some solutions out there are showing up either much too low which will decrease your final ClO_2 ppm or too high which will cause your dosage to be too high in ClO_2 content and cause possible unwanted effects.



Be sure to look for
either one of these
when you buy MMS.

2. Activation Time

It is important to give careful attention to your activation time. Let it set too long and it is just like taking too much and let it set too little and your final mixture will be too weak. Use 20 seconds with 50% citric acid or use 3 minutes if using 10% citric or fresh lemon or lime juice.



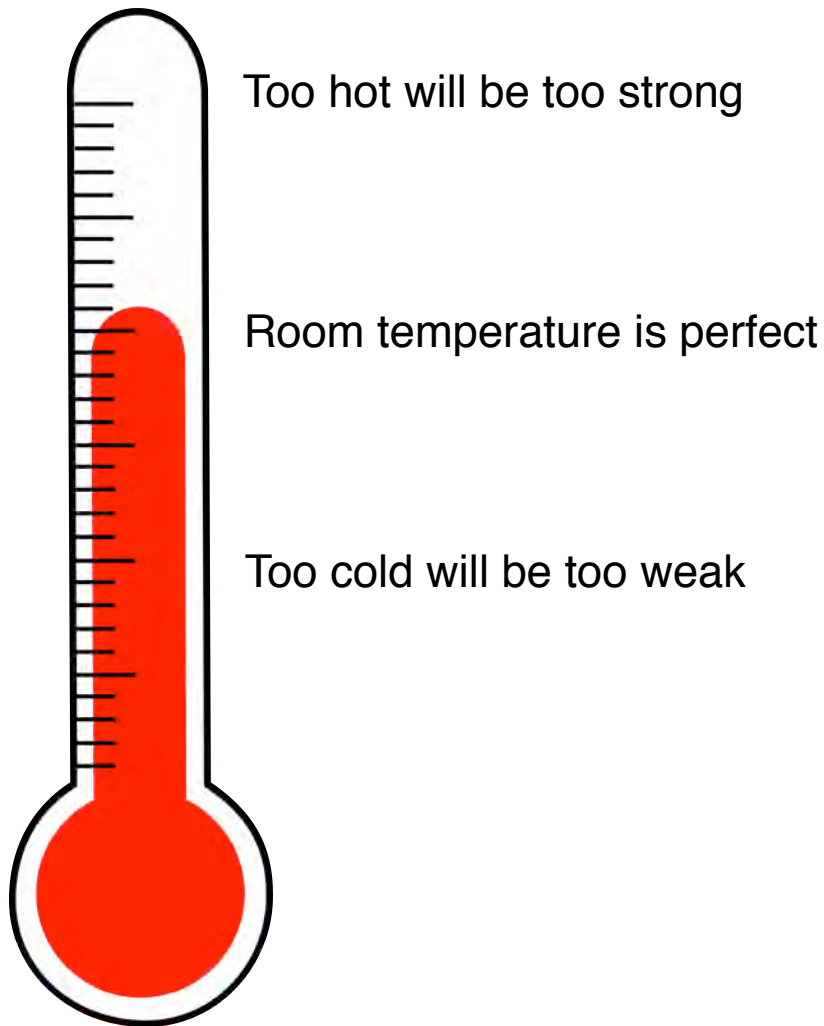
50% CITRIC ACID ==> ACTIVATE 20 SECONDS!



10% CITRIC ACID ==> ACTIVATE 3 MINUTES!

3. Temperature

We suggest using room temperature water when mixing as too hot will increase the strength and too cold will decrease the strength. It is ok to store the mixture once mixed and activated in the refrigerator to help with shelf life. We just suggest mixing and consuming to be done at room temperature for best consistency.



4. Volume of Water and PH of Water

The volume of water must be close to 4 oz or 120 ml for your mixture to be consistently the same. More water decreases the mixture ppm and less water increases the ppm (parts per million). Also one Must use a good clean water with a PH of around 6 or less. Using alkaline water or a high ph water will substantially reduce the final amount of chlorine dioxide in the mix.



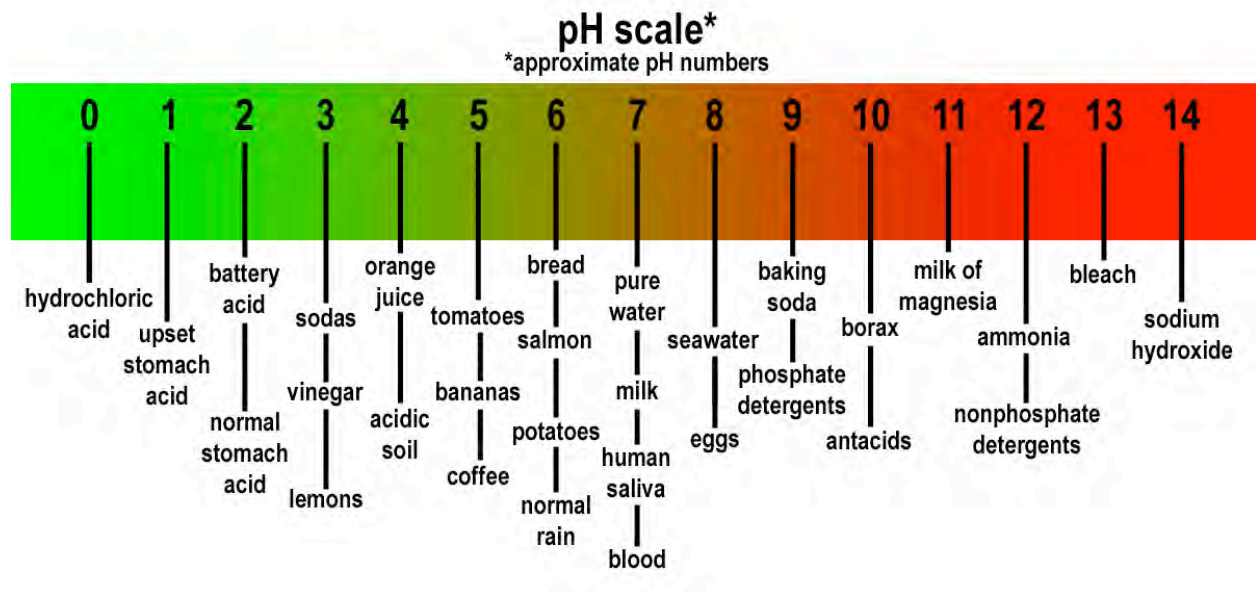
Too much water and it will be weak.

4oz is ideal

Too little water and it will be strong.

5. PH

Ph is the most important step of all because all of the above can also effect the ph of the final mixture. **A low ph must be achieved to produce chlorine dioxide.** The normal mms mixture will yield a ph around 2.5 to 3 when done properly. However if the above are done incorrectly your ph could go up and result in a low ClO2 generation.



You can pick up test strips like this at your local pharmacy.

6. Adding antioxidants

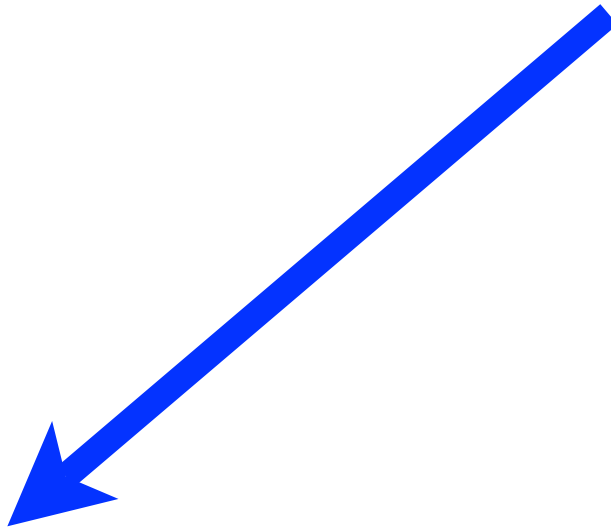
Adding Vitamin C or Fruit juice or DMSO to your mixture will decrease your MMS mixture strength. It is always better to avoid taking these close to your MMS usage. A note if you are having a bad reaction to MMS then taking large doses of Vitamin C will serve as an antidote for the MMS.

If you are needing to mask the taste of MMS then we suggest using the MMS Basic Detox mixture with the baking soda to substantially improve the taste and not add antioxidants that will minimize your ClO_2 content. MMS Basic Detox info is also included in the MMS Plus content.



7. Exposure to sunlight

It is important to not let your MMS or your mixture set in the direct sunlight as exposure to UV light will deactivate and serve to lessen your MMS mix.



Ultra Violet light from the sun deactivates MMS

Paying careful attention to detail in these 7 areas of mixing your MMS will provide you with consistent level of chlorine dioxide and chlorite content in your mixture.

Plus: VEMMA

Recommended dosage
2 fl oz daily



Supplement Facts

Serving Size 4 Tbsp (59 mL / 2 fl oz)
Servings Per Container 16

	Amount Per Serving	% Daily Value
Calories	35	
Total Carbohydrate	8 g	3%*
Sugars	8 g	†
Vitamin A (100% as beta carotene)	2500 IU	50%
Vitamin C (as ascorbic acid)	300 mg	500%
Vitamin D ₃ (as cholecalciferol)	1000 IU	250%
Vitamin E (as d-alpha tocopheryl acetate)	60 IU	200%
Thiamin (as thiamine hydrochloride)	1.5 mg	100%
Riboflavin (as riboflavin U.S.P.)	1.7 mg	100%
Niacin (as niacinamide)	20 mg	100%
Vitamin B ₆ (as pyridoxine hydrochloride)	5 mg	250%
Folate (as folic acid)	800 mcg	200%
Vitamin B ₁₂ (as cyanocobalamin)	15 mcg	250%
Biotin (as d-Biotin)	300 mcg	100%
Pantothenic Acid (as calcium d-pantothenate)	10 mg	100%
Selenium (as selenium amino acid chelate)	140 mcg	200%
Proprietary Wildcrafted Mangosteen, Organic Glyconutrient-Rich Aloe Vera and Organic Green Tea Blend	25.2 g	†
Reconstituted Mangosteen Juice (Garcinia mangostana L.) (fruit), Aloe Vera Gel (leaf), Green Tea (leaf) (decaffeinated), Mangosteen Extract (pericarp) (standardized 10% xanthones)		
Proprietary Plant-Sourced Major, Trace and Ultra-Trace Mineral Blend Including	956 mg	†
Carbon (Organic), Potassium, Phosphorus, Calcium, Sulfur, Magnesium, Sodium, Chloride, Iron, Aluminum, Silica, Fluorine, Iodine, Vanadium, Lithium, Manganese, Selenium, Boron, Strontium, Zinc and Tin		

* Percent Daily Values are based on a 2,000 calorie diet.
† Daily Value not established.

Other ingredients: ultra-purified reverse osmosis water, natural fructose, natural flavors, xanthan gum, citric acid and malic acid.

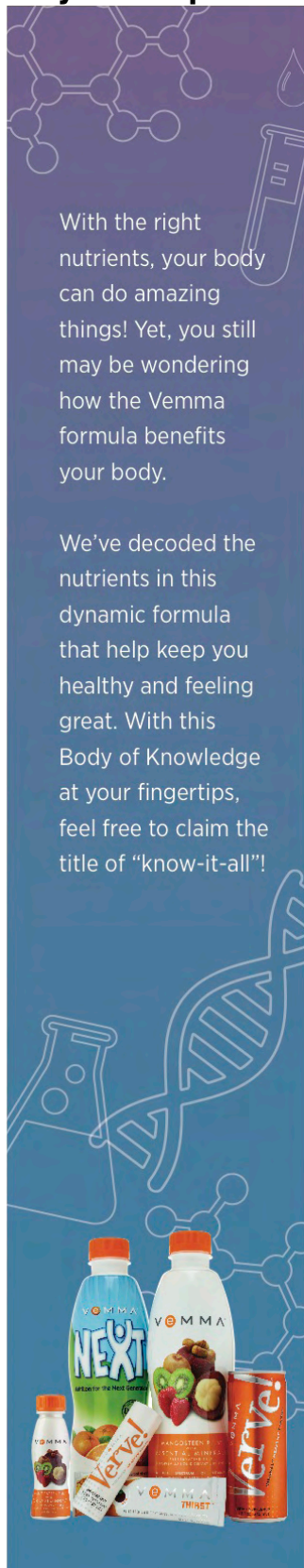
Directions: **SHAKE WELL and SERVE COLD.** For Adults: As a dietary supplement, use two fluid ounces (4 tablespoons) daily. For Children: **Ages 2 through 12,** use a half dosage daily. **Children under 2,** seek advice from a healthcare professional.

Store at 15° to 30° C (59°–86° F). Refrigerate after opening. Avoid exposure to direct sunlight. **Keep out of reach of children.** If you are pregnant or nursing, or have a medical condition, consult your healthcare professional before using this or any other nutritional supplement.
Discontinue if allergic reaction occurs.

Ways it helps the body

With the right nutrients, your body can do amazing things! Yet, you still may be wondering how the Vemma formula benefits your body.

We've decoded the nutrients in this dynamic formula that help keep you healthy and feeling great. With this Body of Knowledge at your fingertips, feel free to claim the title of "know-it-all"!



VEMMA® BODY of KNOWLEDGE

HAIR

Who doesn't want the shiny, healthy hair we see on TV? **Green tea, vitamin C** and the **B vitamin family—thiamin, riboflavin, niacin, vitamins B₆ and B₁₂, folate, biotin** and **pantothenic acid**—are key for strengthening your delicate strands.*

EYES

The doctor's eye exam chart may appear in better focus thanks to **vitamin A**, which helps maintain good vision.*

THYROID

Kick mood swings to the curb! **Vitamin B₉** and **iodine** help keep your hormones and metabolism running smooth, steady and in check.*

SPINE

Houston, there is no problem. **Vitamins B₆** and **B₁₂** keep your daily mission at the forefront by helping produce red blood cells, create DNA and RNA, and promote healthy nerve cells.*

DIGESTIVE

Nothing like an upset tummy to put a damper on your day. Luckily, **aloe vera** is your "secret agent man" to assist with digestive health, keeping nutrients moving along and discomfort free!*

IMMUNITY

Help keep your natural immunity lean, mean and in charge with **mangosteen**, a front runner that may help increase immune cell production, along with an arsenal of **vitamins C** and **D**, **zinc** and **green tea** which unleashes kung-fu-like immunity powers to help keep your immune system invincible.*

BRAIN

You might not be a whiz at *Trivial Pursuit*®, but **folic acid** may help boost your memory.*

SKIN

Beauty may be only skin deep, but that doesn't mean you should cut back on caring for your skin. Just as if you paid a visit to the legendary fountain of youth, help retain glowing skin with **vitamins A, C** and **E**, plus **green tea**.

HEART

Whether it's racing after a healthy workout or fluttering in love, help protect and support a healthy heart with **vitamins B₆, E** and **D**, and **mangosteen**.*

BONES (AND TEETH)

You know milk does a body good—specifically **vitamin D, calcium, phosphorus, fluorine, magnesium** and **manganese** may help keep your bones and teeth strong.*

NAILS

Longing to banish short, brittle nails? The nutritional benefits of **silica** and **biotin** can help bolster their overall health.*

CELLULAR TISSUE

Every day, your body produces 300 million new cells that are vulnerable to free radical damage—a precursor to aging. To help minimize cellular warfare, the antioxidant-rich power of **mangosteen** rallies its allies including **green tea, vitamins A, C, D** and **E**, along with **zinc, magnesium, selenium, calcium, sodium** and **potassium** to function as your internal body guards against oxidative attack.*

LEGS

Your name doesn't have to be Forrest for you to feel the irresistible desire to compete in a marathon—or at least run those dreaded errands—due in part to the energy support you receive from **B vitamins, green tea, iron, copper, magnesium** and **iodine**.

*These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure or prevent any disease.

How it's made

<http://bit.ly/make-vemma>

Plants assimilate minerals from the soil they are embedded in, and in the process, they become highly nutritious for humans to eat. Minerals can be found in nearly all foods that are grown in soil, but the problem is, modern-day food processing, chemical fertilizers and overused croplands make it nearly impossible to get a wide spectrum of minerals from our diets. Vemma's minerals are not man-made, but are carefully extracted from plant vegetation that has been undisturbed for thousands of years, to help replenish the full spectrum of minerals, at levels that nature intended. Major, trace and ultra-trace indicates a level at which a mineral might be needed within the body; however, it is not indicative of the importance for that mineral — all minerals are vital to life. In minute amounts, these nutrients can produce unexplainable, beneficial changes in body chemistry.¹

Benefits:

- Protect and support a healthy heart
- Enhance immune response and support your immune system
- Create abundant energy
- Fight against free radicals
- Promote good vision
- Support a normal, healthy intestinal tract
- Maintain healthy skin, eyes, teeth, gums and hair²

Vemma is one complete, ultra-premium liquid formula that provides your body the nutrients it needs for peak performance. Your body needs superior nutritional ingredients that work quickly to support its 63 trillion cells and fight the aging effects of free radicals.* Free radicals are unstable molecules that remove electrons from a healthy cell, destroying the cell in the process. Everyday your body's cells are being bombarded by these unstable molecules. Without a strong nutritional foundation, your cells may be more susceptible to free-radical damage; this proprietary formula helps protect your body from the effects of aging.

Your physical well-being can be more directly dependent upon the minerals you take into your body than almost any other factor. Minerals help support the health of organs, bones and the immune system. Vemma has a unique mineral blend to help your overall health. It contains 100% ionic, life-giving minerals that are reduced to the smallest, most bioavailable form. Vemma's minerals are sourced from plant vegetation that has been undisturbed for thousands of years. These unprocessed phytonutrients include over 65 major, trace and ultra-trace, plant-sourced minerals.

¹ <http://www.voiceofeden.org/vemma/>

² <http://www.voiceofeden.org/vemma/>

Key points to consider:

- The body cannot survive without nature's fundamental minerals, yet it cannot manufacture minerals. They must be obtained from the diet or through supplementation.
- Modern-day diets may lack the appropriate balance of minerals due to mineral-depleted soils and over-processed foods.
- Minerals are needed for energy production, protection from free-radical damage and other vital functions.
- Minerals provide a foundation for your optimal health.
- The liquid form is more bioavailable than caplets or tablets — easy to take and easy for the body to use.³

Warnings/Tips

Take daily to gain consistent, long-term results.

Recommended brands

Vemma: <http://www.voiceofeden.org/vemma/>

³ <http://www.voiceofeden.org/vemma/>

Plus: Moringa

Recommended dosage
1600 mg daily



Nutritional Analysis

From the report on "Analysis of Leaf Powder for Nutritional Composition, July 17, 1998 by Campden and Chorleywood Food Research Association in conjunction with the Department of Engineering at the University of Leicester and Church World Service, affiliate of the National Council of Churches

Per 100 grams of Edible portion:	Pods	Leaves	Leaf Powder
Water %	86.9	75.0	7.5
Calories	26	92	205
Protein (g)	2.5	6.7	27.1
Fat (g)	0.1	1.7	2.3
Carbohydrate (g)	3.7	13.4	38.2
Fiber (g)	4.8	0.9	19.2
Minerals (g)	2.0	2.3	-
Ca (mg)	30	440	2003
Mg (mg)	24	25	368
P (mg)	110	70	204
K (mg)	259	259	1324
Cu (mg)	3.1	1.1	.057
Fe (mg)	5.3	7.0	28.2
S (g)	137	137	870
Oxalic acid (mg)	10	101	1.6
Vitamin A - Beta Carotene (mg)	0.11	6.8	16.3
Vitamin B - choline (mg)	423	423	-
Vitamin B1 - thiamin (mg)	0.05	0.21	2.64
Vitamin B2 - Riboflavin (mg)	0.07	0.05	20.5
Vitamin B3 - nicotinic acid (mg)	0.2	0.8	8.2
Vitamin C - ascorbic acid (mg)	120	220	17.3
Vitamin E - tocopherol acetate	-	-	113
Arginine (g/16gN)	3.6	6.0	1.33%
Histidine (g/16gN)	1.1	2.1	0.61%
Lysine (g/16gN)	1.5	4.3	1.32%
Tryptophan (g/16gN)	0.8	1.9	0.43%
Phenylalanine (g/16gN)	4.3	6.4	1.39%
Methionine (g/16gN)	1.4	2.0	0.35%
Threonine (g/16gN)	3.9	4.9	1.19%
Leucine (g/16gN)	6.5	9.3	1.95%
Isoleucine (g/16gN)	4.4	6.3	0.83%
Valine (g/16gN)	5.4	7.1	1.06%

Moringa Seed Kernel makes up about 75% of the seed. Per 100g the kernel contains 4.0% water, 38.4g crude protein, 34.7% fatty oil, 16.4g N free extract, 3.5g fiber and 3.2g ash. The cake left after oil extraction contains, 58.9% crude protein, 0.4% CaO, 1.1% P₂O₅ and 0.8% K₂O.

4

⁴ <http://healthyflow.net/why-take-moringa-every-day/>

Ways it helps the body

- Increased Energy and Vitality
- A natural energy boost from nature's most potent superfood
- Vitamins, trace minerals and all essential amino acids
- Mental and Emotional Well-Being
- Elevate your mind and body naturally
- Stay positive, open and rise above the daily grind
- Bursting with Anti-Aging Nutrients
- Defy your age with rejuvenating vitamins and powerful antioxidants
- Revitalize skin tissue and cleanse your body of pollutants
- Healthy Blood – Naturally
- Maintain a healthy blood sugar level
- Support and maintain a safe blood pressure
- Clarity, Focus and Concentration
- Boost your cognitive potential with over 90 nutrients
- Increase memory, brain function and clearer thinking
- General Well-Being
- Maintains healthy joints and bones Supports healthy heart, kidney and liver function
- Provides a natural, non-stimulant energy boost Ensures a restful night's sleep
- Boosts the immune system Nourishes the hair, skin and nails for a more youthful appearance
- Assists in reaching and maintaining an appropriate body weight
- Moringa oleifera is a wholefood supplement that is unparalleled. It is a nutritional powerhouse.

Antioxidants:

Vitamin A
Vitamin C
Vitamin E
Vitamin K
Vitamin B (Choline)
Vitamin B1 (Thiamin)
Vitamin B2 (Riboflavin)
Vitamin B3 (Niacin)
Vitamin B6
Alanine
Alpha-Carotene
Arginine
Beta-Carotene
Beta-sitosterol
Caffeoyquinic Acid
Campesterol
Carotenoids
Chlorophyll
Chromium
Delta-5-Avenasterol
Delta-7-Avenasterol
Glutathione
Histidine
Indole Acetic Acid
Indoleacetonitrile
Kaempferol
Leucine
Lutein
Methionine
Myristic-Acid
Palmitic-Acid
Prolamine
Proline
Quercetin
Rutin
Selenium
Threonine
Tryptophan
Xanthins
Xanthophyll
Zeatin
Zeaxanthin
Zinc

Anti-inflammatories

Vitamin A
Vitamin B1 (Thiamin)
Vitamin C
Vitamin E
Arginine
Beta-sitosterol
Caffeoyquinic Acid
Calcium
Chlorophyll
Copper
Cystine
Omega 3
Omega 6
Omega 9
Fiber
Glutathione
Histidine
Indole Acetic Acid
Indoleacetonitrile
Isoleucine
Kaempferol
Leucine
Magnesium
Oleic Acid
Phenylalanine
Potassium
Quercetin
Rutin
Selenium
Stigmasterol
Sulfur
Tryptophan
Tyrosine
Zeatin
Zinc

Tiny leaves. Enormous benefits.



=

- 7 times**
the Vitamin C of Oranges 
- 4 times**
the Vitamin A of Carrots 
- 4 times**
the Calcium of Milk 
- 3 times**
the Potassium of Bananas 
- 2 times**
the Protein of Yogurt 



How it's made

- 100% pure and organic
- created from the fresh young leaves of organic Moringa trees
- harvest these trees every few months when they reach a height of approximately five feet
- Moringa trees are second in the world only to bamboo in their speed of growth
- cutting the trees back stimulates a vigorous return of plant tissue and increased leaf production
- remove the harvested leaves from their branches
- sterilize them using environmentally safe ozone water
- remaining branches are composted and recycled back into the Moringa plantation
- leaves are cleaned
- dried at low temperatures
- insures that the vital nutrients, some of which are heat sensitive, remain preserved in the fresh leaf tissue.
- pulverized until the plant tissue reaches a fine powder consistency.
- screened for impurities before it's packaged into capsules or sealed in bags
- it will remain fresh for several months, retaining nutritional value of vitamins, minerals, antioxidants, and complete amino acids.

Benefits

When compared to other food sources on a pound for pound basis, Moringa capsules contain:

- 7 times the vitamin C found in oranges
- 4 times the calcium found in milk, and twice the protein
- 4 times the vitamin A found in carrots
- 3 times the potassium found in bananas
- 3 times the iron found in almonds

Moringa oleifera is a wholefood supplement that is unparalleled. It is a nutritional powerhouse.

Moringa leaf provides:

- antioxidants
- proteins
- vitamins

- amino acids
- flavonoids
- fibers
- minerals
- chlorophyll
- beta carotene
- phenols

Moringa leaf powder has more than 90 essential nutrition compounds. Living up to its name as a superfood, Moringa contains approximately:

- 30% protein
- All 8 essential amino acids (the only plant in the world to do so),
- 47 anti-oxidants
- 36 anti-inflammatory agents
- 25 multivitamins
- All the appropriate co-enzymes required by the body to assist with absorption of these valuable nutrients⁵

“Moringa has Vitamin A (Beta Carotene), Vitamin B1 (Thiamine), Vitamin B2 (Riboflavin), Vitamin B3 (Niacin), Vitamin B6 Pyrodixine), Vitamin B7 (Biotin), Vitamin C (Ascorbic Acid), Vitamin D (Cholecalciferol), Vitamin E (Tocopherol) and Vitamin K.

Vitamin A (Beta Carotene), Vitamin A is a vitamin which is needed by the retina of the eye in the form of a specific metabolite, the light-absorbing molecule retinal. This molecule is absolutely necessary for both “Scotopic”scotopic and color vision. Vitamin A also functions in a very different role, as an irreversibly oxidized form retinoic acid, which is an important hormone-like growth factor for epithelial and other cells.

Vitamin B1 (Thiamine) helps fuel the body by converting blood sugar into energy. It keeps the mucous membranes healthy and is essential for nervous system, cardiovascular and muscular function.

Vitamin B2 (Riboflavin) is required for a wide variety of cellular processes. Like the

⁵ <http://www.voiceofeden.org/moringa-oleifera-capsules/>
<http://www.voiceofeden.org/moringa-oleifera-powder/>

other B vitamins, it plays a key role in energy metabolism, and for the metabolism of fats, ketone bodies, carbohydrates, and proteins. It is the central component of the cofactors FAD and FMN, and is therefore required by all “Flavoprotein” flavoproteins. Vitamin B3 (Niacin), like all B complex vitamins, are necessary for healthy skin, hair, eyes, and liver. They also help the nervous system function properly. Niacin also helps the body make various sex and stress-related hormones in the adrenal glands and other parts of the body. Niacin is effective in improving circulation and reducing cholesterol levels in the blood.

Vitamin B6 (Pyridoxine) is required for the synthesis of the neurotransmitters serotonin and norepinephrine and for myelin formation. Pyridoxine deficiency in adults principally affects the peripheral nerves, skin, mucous membranes, and the blood cell system. In children, the central nervous system (CNS) is also affected. Deficiency can occur in people with uremia, alcoholism, cirrhosis, hyperthyroidism, malabsorption syndromes, congestive heart failure (CHF), and in those taking certain medications.

Vitamin B7 (Biotin) has vital metabolic functions. Without biotin as a co-factor, many enzymes do not work properly, and serious complications can occur, including varied diseases of the skin, intestinal tract, and nervous system. Biotin can help address high blood glucose levels in people with type 2 diabetes, and is helpful in maintaining healthy hair and nails, decreasing insulin resistance and improving glucose tolerance, and possibly preventing birth defects. It plays a role in energy metabolism, and has been used to treat alopecia, cancer, Crohn’s disease, hair loss, Parkinson’s disease, peripheral neuropathy, Rett syndrome, seborrheic dermatitis, and vaginal candidiasis.

Vitamin C (Ascorbic Acid) is one of the safest and most effective nutrients, experts say. It may not be the cure for the common cold (though it’s thought to help prevent more serious complications). But the benefits of vitamin C may include protection against immune system deficiencies, cardiovascular disease, prenatal health problems, eye disease, and even skin wrinkling.

Vitamin D (Cholecalciferol) is essential for promoting calcium absorption in the gut and maintaining adequate serum calcium and phosphate concentrations to enable normal mineralization of bone and prevent hypocalcemic tetany. It is also needed for bone growth and bone remodeling by osteoblasts and osteoclasts. Without sufficient vitamin D, bones can become thin, brittle, or misshapen. Vitamin D sufficiency prevents rickets in children and osteomalacia in adults. Together with calcium, vitamin D also helps protect older adults from osteoporosis. Vitamin D has other roles in human health, including modulation of neuromuscular and immune function and reduction of inflammation.

Vitamin E describes a family of 8 antioxidants, 4 tocopherols and 4 tocotrienols. alpha-tocopherol (a-tocopherol) is the only form of vitamin E that is actively maintained in the human body and is therefore, the form of vitamin E found in the largest quantities in the blood and tissue. Vitamin E, a fat-soluble vitamin, protects vitamin A and essential fatty acids from oxidation in the body cells and prevents breakdown of body tissues.

Vitamin K is necessary for normal clotting of blood in humans. Specifically, vitamin K is required for the liver to make factors that are necessary for blood to properly clot (coagulate), including factor II (prothrombin), factor VII (proconvertin), factor IX (thromboplastin component), and factor X (Stuart factor). Other clotting factors that depend on vitamin K are protein C, protein S, and protein Z. Deficiency of vitamin K or disturbances of liver function (for example, severe liver failure) may lead to deficiencies of clotting factors and excess bleeding.

Amino Acids: The foundation of our body.

Our bodies need twenty different amino acids or proteins that are the building blocks for a healthy body. Nonessential amino acids are those that the body can synthesize for itself, provided there is enough nitrogen, carbon, hydrogen, and oxygen available. Essential amino acids are those supplied by the diet. They must be consumed as the human body either cannot make them at all or cannot make them in sufficient quantity to meet its needs. Of the 20 amino acids required by our bodies, eleven of them are nonessential and nine are essential.

Functions of Amino Acids: Proteins act as enzymes, hormones, and antibodies. They maintain fluid balance and acid and base balance. They also transport substances such as oxygen, vitamins and minerals to target cells throughout the body. Structural proteins, such as collagen and keratin, are responsible for the formation of bones, teeth, hair, and the outer layer of skin and they help maintain the structure of blood vessels and other tissues.

Enzymes are proteins that facilitate chemical reactions without being changed in the process. Hormones (chemical messengers) are proteins that travel to one or more specific target tissues or organs, and many have important regulatory functions. Insulin, for example, plays a key role in regulating the amount of glucose in the blood. The body manufactures antibodies (giant protein molecules), which combat invading antigens.

Antigens are usually foreign substances such as bacteria and viruses that have entered the body and could potentially be harmful. Immunoproteins, also called immunoglobulins or antibodies, defend the body from possible attack by these invaders by binding to the antigens and inactivating them.

If these critical components for a healthy body are not provided as part of a healthy diet, the body will look for other sources for them. This can include breakdown of our organs, leading to chronic problems such as liver and kidney problems, diabetes and heart disease among others.

ISOLEUCINE builds proteins and enzymes and it provides ingredients used to create other essential biochemical components in the body, some of which promote energy and stimulate the brain to maintain a state of alertness.

LEUCINE works with isoleucine to build proteins and enzymes which enhance the body's energy and alertness.

LYSINE ensures your body absorbs the right amount of calcium. It also helps form collagen used in bone cartilage and connective tissues. In addition, lysine aids in the production of antibodies, hormones, and enzymes. Recent studies have shown lysine improves the balance of nutrients that reduce viral growth.

METHIONINE primarily supplies sulfur to your body. It is known to prevent hair, skin, and nail problems while lowering cholesterol levels as it increases the liver's production of lecithin. Methionine reduces liver fat and protects the kidneys, which reduces bladder irritation.

PHENYLALANINE produces the chemical needed to transmit signals between nerve cells and the brain. It can help with concentration and alertness, reduce hunger pains and improve memory and mood.

THREONINE is an important part of collagen, elastin, and enamel proteins. It assists metabolism and helps prevent fat build-up in the liver while boosting the body's digestive and intestinal tracts.

TRYPTOPHAN supports the immune system, alleviates insomnia, reduces anxiety, depression, and the symptoms of migraine headaches. It also is beneficial in decreasing the risk of artery and heart spasms as it works with lysine to reduce cholesterol levels.

VALINE is important in promoting a sharp mind, coordinated muscles, and a calm mood.

Non-essential amino acids in Moringa

ALANINE is important for energy in muscle tissue, brain, and central nervous system. It strengthens the immune system by producing antibodies. Alanine also helps in the healthy metabolism of sugars and organic acids in the body.

ARGININE causes the release of the growth hormones considered crucial for optimal muscle growth and tissue repair. It also improves immune responses to bacteria, viruses, and tumor cells while promoting the healing of the body's wounds.

ASPARTIC ACID helps rid the body of ammonia created by cellular waste. When the ammonia enters the circulatory system it can act as a highly toxic substance which can damage the central nervous system. Recent studies have also shown that aspartic acid may decrease fatigue and increase endurance.

CYSTINE functions as an antioxidant and is a powerful aid to the body in protecting against radiation and pollution. It can help slow the aging process, deactivate free radicals, and neutralize toxins. It also aids in protein synthesis and presents cellular

change. It is necessary for the formation of new skin cells, which aids in the recovery from burns and surgical operations.

GLUTAMIC ACID is food for the brain. It improves mental capacities, helps speed the healing of ulcers, reduces fatigue, and curbs sugar cravings.

GLYCINE promotes the release of oxygen required in the cell-making process. It is also important in the manufacturing of hormones responsible for a strong immune system.

HISTIDINE is used in the treatment of rheumatoid arthritis, allergies, ulcers, and anemia. A lack of histidine may lead to poor hearing.

SERINE is important in storing glucose in the liver and muscles. Its antibodies help strengthen the body's immune system. Plus, it synthesizes fatty acid sheaths around nerve fibers.

PROLINE is extremely important for the proper function of your joints and tendons. It also helps maintain and strengthen heart muscles.

TYROSINE transmits nerve impulses to your brain. It helps overcome depression; improves memory; increases mental alertness; plus promotes the healthy functioning of the thyroid, adrenal, and pituitary glands.”⁶

Warning/Tips

Drumstick tree leaves, fruit, and seeds might be safe when eaten as food. However, it's important to avoid eating the root and its extracts. These parts of the plant may contain a toxic substance that can cause paralysis and death.

There isn't enough information to know if drumstick tree is safe when used in medicinal amounts.

Special Precautions & Warnings

Pregnancy and breast-feeding: It's UNSAFE to use drumstick tree if you are pregnant. Chemicals in the root, bark, and flowers can make the uterus contract, and this might cause a miscarriage.

It's also best to avoid drumstick tree if you are breast-feeding. There isn't enough information to know whether it is safe for a nursing infant.”

Recommended Brands

Voice of Eden <http://www.voiceofeden.org/products-page/moringa-supplements/>

⁶ <http://www.lifeinhealth.org/moringa/>

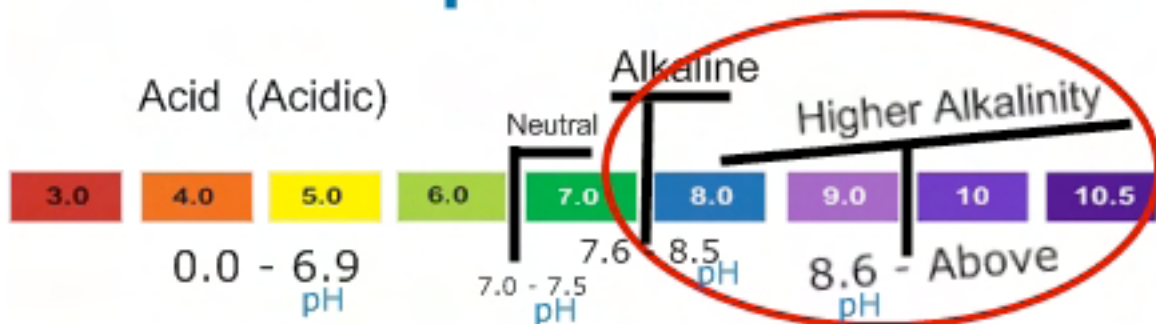
Plus: Aqualyte/Ionyte

Recommended dosage

1 sachet or 1 dropper full per day



pH Chart



How much AquaLyte do I use?

30 sachets are a 1 month supply. One sachet (mini-bag) will treat up to 2 liters (or qts.). Two sachets can treat up to 1 gallon. Always wait at least 5 minutes (or more) before drinking. However, if you are suffering from health problems, you can use 2 (or more) sachets for faster results. Details: If using 2 sachets, use 1 sachet per liter, when drinking 2 liters (or qts.) per day. It is best to only drink water that has been treated with AquaLyte, for faster results. The idea is to replace the water currently in your body with AquaLyte water. That means you are literally “flushing out” the old water. Since your body is about 70% water, your blood is about 90% water, and your organs are more than 50% water, then having better water means better health.

How much Ionyte do I use?

3 to 4 droppers daily (= fill dropper only halfway), with a maximum of 8 droppers daily. If you are drinking 2 liters of water per day, then divide the total number of droppers you want into each liter. Each 118 ml bottle contains about 96 droppers, so 3 droppers per day would be a months supply. We have reports of people drinking a full bottle in one day without side effects, but it is not usually necessary to exceed 8 droppers to get benefits.⁷

Ways it helps the body

- Increases your ENERGY levels (feel the difference)
- Helps eliminate digestive problems
- Helps eliminate aches and pains in muscles and joints
- Helps Boost your natural immune system
- Powerful antioxidant protection against free radicals
- Speeds healing of cuts, burns, bruises, insect bites/stings
- Activates enzyme systems involved in every bodily function
- Helps eliminate mineral deficiencies
- Helps eliminate acne and other skin problems (topically)

Benefits

Ionyte also contains Organic Complexes from plants, plus the full spectrum of minerals from AquaLyte.

If you are not familiar with organic complexes, they contain the “building blocks” the plant uses to create the nutrients in our food.

They contain traces of amino acids (that form proteins), traces of vitamins, traces of enzymes, and traces of minerals.

These are the raw materials that are transformed into the nutrients found in fruits and vegetables.

Organic complexes contain the “life force” and “energy” of our food.

1-2 droppers (1/4 to 1/2 teaspoon) of IONYTE in water provides your body with over 70 essential trace minerals, delivered at the cellular level for maximum benefit.

⁷ <http://fredkaufman.com/Instructions.html>

- Raises pH in drinking water to an alkaline level which can raise alkalinity of blood.
- Turns drinking water into a powerful natural anti-oxidant, by lowering oxidation reduction potential (ORP).
- Neutralizes chlorine in tap water, making drinking and cooking water healthier.
- Adds essential “ionized” calcium and magnesium which are highly absorbable.
- Breaks up water molecules for better assimilation into cell membranes, by lowering surface
- tension and Dyne measurement.
- Replenishes vital trace minerals lost in water treatment and bottled water, especially distilled and reverse osmosis.
- Improves the taste and quality of water and other beverages.
- Helps strengthen bones and teeth by reducing body fluid acidity, as well as adding absorbable
- calcium, magnesium, and other synergistic trace minerals.
- Very unique portable sachet you can put in your pocket or purse to treat drinking water and other beverages anywhere you go (including Mexico).
- Makes measurable changes in the water beginning in just seconds.
- Great for enhancing your pets water and tropical fish aquariums.
- Used sachets can be added to the soil of potted plants.
- Highest quality and effectiveness of any coral product on the market.
- Effective with cooking water, sports drinks, fruit juices, alcoholic drinks, and all non-carbonated beverages

Warning/Tips

Are there any side effects?

Since it is only minerals added to water, there are hardly no side effects and no interference with medications. It is safe for children, too. However, rarely there can be “detox” effects as your body is cleansed of toxins and acid waste, such as mild headache, or diarrhea.

What kind of water?

Good, clean water will be fine. However, distilled or reverse osmosis water is best, because it doesn't have any minerals and allows for more of the coral minerals to be released in the water. (Minerals occupy space, so less minerals means more space.)

Any water can be used and you will still get benefits. Even chlorinated water will work, because the coral sachet will neutralize chlorine. The coral sachet is also designed to help kill bacteria in water, but needs longer contact time in the water (30 minutes or more).

Since lonyte improves digestion, it is good to take with meals. You can put lonyte into any liquid except hot liquids. Lonyte improves energy levels, so if you have trouble sleeping, avoid taking it just before bed. It is important to only drink water that has lonyte added. You want to replace your body's water with lonyte water.

Can I use AquaLyte and lonyte together?

Yes, you can with limits. Use only 2 droppers of lonyte per liter (or qt.) when using together with AquaLyte. When using lonyte alone, you can use 4 droppers per liter (or qt.), or 8 droppers per day. (Drink only water that has AquaLyte, or lonyte added to it.)⁸

Recommended Brands: Voice of Eden <http://www.voiceofeden.org/aqualyte-and-ionyte/>

⁸ <http://fredkaufman.com/Instructions.html>

Plus: Cod Liver Oil

Recommended Dosage

Cod Liver Oil - 1000-2000 mg/daily

For lowering triglycerides: 20 mL of cod liver oil per day.

For high cholesterol: 30 mL of cod liver oil per day.

For lowering blood pressure: 20 mL of cod liver oil per day.⁹



Ways it helps the body

- Healthy nervous system
- Healthy eyes
- Prevents Depression
- Healthy Cardiovascular system
- Healthy Skin

⁹ <http://www.webmd.com/vitamins-supplements/ingredientmono-1040-COD%20LIVER%20OIL.aspx?activeIngredientId=1040&activeIngredientName=COD%20LIVER%20OIL>

- Healthy Digestive Tract
- Healthy Bones
- Healthy Teeth
- Helps regulate blood sugar¹⁰

How it is made

Cod liver oil was traditionally manufactured by filling a wooden barrel with fresh cod livers and seawater and allowing the mixture to ferment for up to a year before removing the oil. Modern cod liver oil is made by cooking the whole cod body tissues of fatty fish during the manufacture of fish meal.¹¹

Benefits

It is one of the most reliable and concentrated food sources of four nutrients that are essential to human health: DHA, EPA, vitamin A, and vitamin D.

DHA is a fatty acid that is essential to the health of your nervous system and eyes.

It is vital to preventing depression. If you suffer from intermittent or chronic depression, you want to get DHA through your diet every day.

If you're pregnant or you plan on getting pregnant, it's best that you eat foods with DHA on a regular basis in order to support proper development of your baby's nervous system and prevent depression during pregnancy and after your baby arrives. I am convinced that the vast majority of cases of post-partum depression can be avoided just by ensuring adequate intake of DHA.

EPA is a fatty acid that promotes a healthy cardiovascular system and decreases inflammation throughout your body. Its anti-inflammatory properties make EPA especially helpful to people who suffer with arthritis. EPA is also closely linked with your emotional health, with many studies showing that it plays a strong role in preventing depression.

Vitamin A is necessary for proper vision, healthy skin, and strong mucosal linings, including the lining of your digestive tract. Many skin and digestive disorders cannot fully heal without adequate vitamin A intake.

Vitamin D is needed to reduce risk of virtually every type of cancer.

¹⁰ <http://drbenkim.com/codliveroil.html>

¹¹ <http://www.callrid.com/guide/health/most-importance-about-cod-liver-oil.html>

Vitamin D is essential to maintaining strong bones and teeth. It enhances the strength and efficiency of your immune system, and decreases your risk of developing autoimmune conditions. Vitamin D helps your body regulate its blood sugar levels, playing an important role in preventing type 2 diabetes. Finally, vitamin D is one of several nutrients that are necessary for preventing high blood pressure.”¹²

Warnings/Tips

Cod liver oil tastes distinctly like fish. Try either the lemon flavored or gel capsules to avoid the taste.

May cause nausea in high doses

May lower blood pressure

Consult with a pharmacist before taking with any other blood related medication.

Medications for high blood pressure (Antihypertensive drugs) interacts with COD LIVER OIL

Cod liver oil seems to decrease blood pressure. Taking cod liver oil along with medications for high blood pressure might cause your blood pressure to go too low.

Some medications for high blood pressure include captopril (Capoten), enalapril (Vasotec), losartan (Cozaar), valsartan (Diovan), diltiazem (Cardizem), Amlodipine (Norvasc), hydrochlorothiazide (HydroDiuril), furosemide (Lasix), and many others.

Medications that slow blood clotting (Anticoagulant / Antiplatelet drugs) interacts with COD LIVER OIL

Cod liver oil might slow blood clotting. Taking cod liver oil along with medications that also slow clotting might increase the chances of bruising and bleeding.

Some medications that slow blood clotting include aspirin, clopidogrel (Plavix), diclofenac (Voltaren, Cataflam, others), ibuprofen (Advil, Motrin, others), naproxen (Anaprox, Naprosyn, others), dalteparin (Fragmin), enoxaparin (Lovenox), heparin, warfarin (Coumadin), and others.¹³

Recommended Brands

Carlson <http://bit.ly/cod-liver-oil>

¹² <http://drbenkim.com/codliveroil.html>

¹³ <http://www.webmd.com/vitamins-supplements/ingredientmono-1040-COD%20LIVER%20OIL.aspx?activeIngredientId=1040&activeIngredientName=COD%20LIVER%20OIL>

Plus: Blue-Green/Spirulina Algae

Recommended dosage:

Algae - Adults: 2,500-5,000 mg daily

Children: 1,500-2,500 mg daily¹⁴



Ways it helps the body

Blue-green algae are used as a source of dietary protein, B-vitamins, and iron. They are also used for weight loss, attention deficit-hyperactivity disorder (ADHD), hayfever, diabetes, stress, fatigue, anxiety, depression, and premenstrual syndrome (PMS) and other women's health issues.

Some people use blue-green algae for treating precancerous growths inside the mouth, boosting the immune system, improving memory, increasing energy and metabolism, lowering cholesterol, preventing heart disease, healing wounds, and improving digestion and bowel health."¹⁵

¹⁴ <http://www.australianspirulina.com.au/spirulina/spirulina.html#seven>

¹⁵ <http://www.webmd.com/vitamins-supplements/ingredientmono-923-BLUE-GREEN%20ALGAE.aspx?activeIngredientId=923&activeIngredientName=BLUE-GREEN%20ALGAE>

Spirulina is a powerful blood cleanser due to its rich source of chlorophyll. It contains roughly ten times the amount of chlorophyll in green vegetables per volume. Chlorophyll helps build red blood cells in the body and provides an easily absorbable form of magnesium. This combination helps oxygenate the blood stream and removes organic toxins.

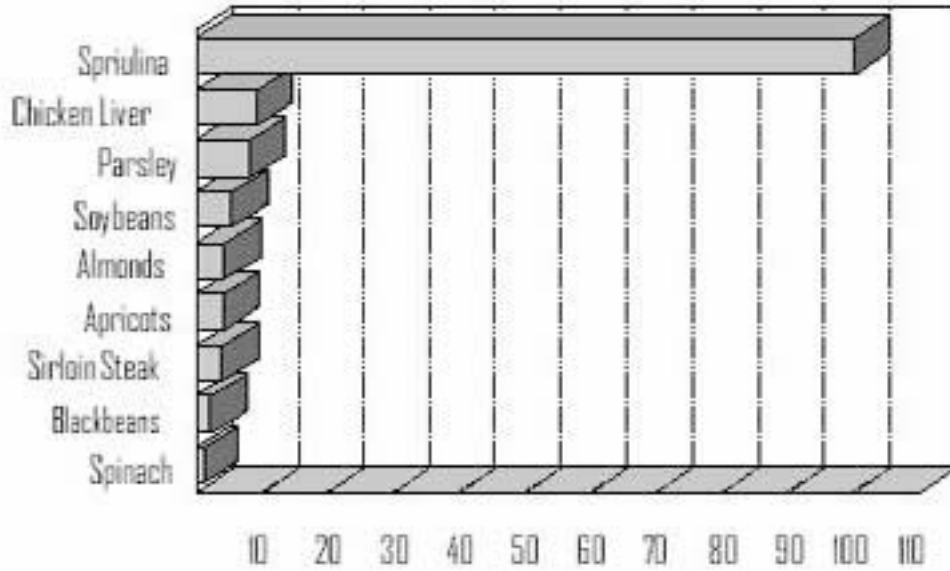
Spirulina is very rich in carotenoid anti-oxidants. It has 10 times the amount of beta carotene (a form of vitamin A) per volume as carrots. Spirulina is also loaded with zeaxanthin and lutein. These antioxidants are extremely important for good vision and overall eye health.

Spirulina contains polysaccharides that act to improve the functional productivity of the bone marrow, thymus and spleen cells. Phycocyanin and allophycocyanin, which help to form the blue color within spirulina (along with anthocyanins), have been shown to increase white blood cell counts.

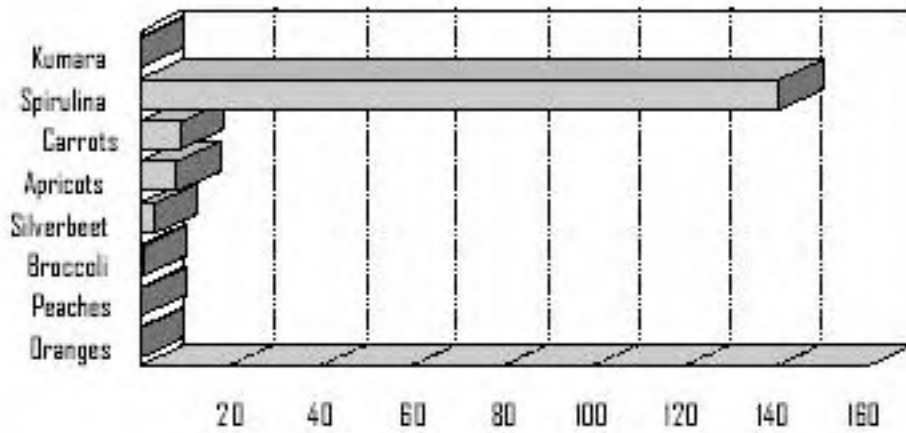
Spirulina is also the world's best source of the anti-oxidant powerhouse superoxide dismutase (SOD). The superoxide molecule is one of the most tissue damaging substances within the body. SOD is a biological adaptation specifically designed to destroy the superoxide radical and to protect against any subsequent tissue damage. Inadequate superoxide dismutase formation leads to accelerated aging and tissue degeneration.

The combination of SOD and carotenoids within spirulina make it very good for skin care. It is remarkable for improving aging spots, eczema, acne, & rashes. This combination also dramatically improves eye health. Individuals with glaucoma, cataracts, & poor vision should be sure to consume spirulina regularly.¹⁶

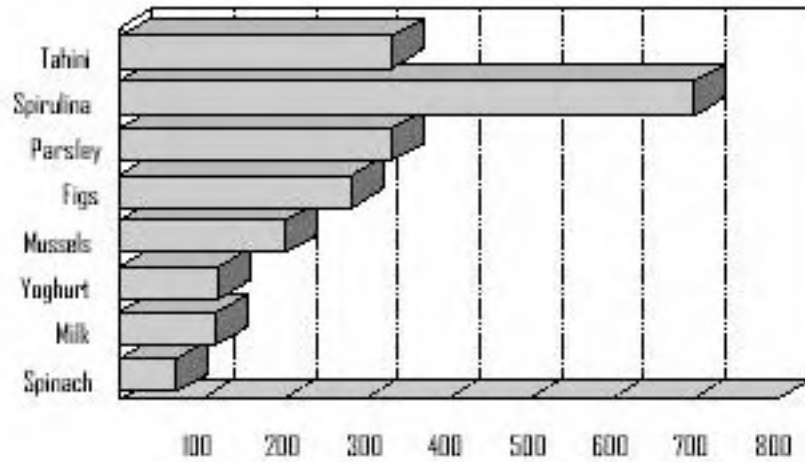
¹⁶ http://www.naturalnews.com/034194_spirulina_superfood.html



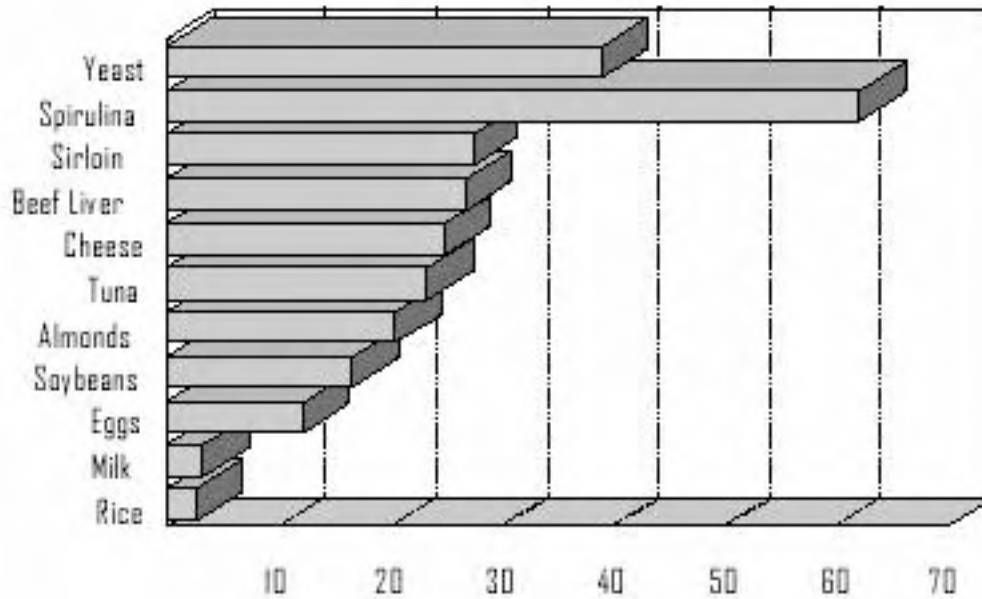
Best Sources of Iron.
Milligrams per 100 grams.



Best Sources of Beta-Carotene.
Milligrams per 100 grams.



Best Sources of Calcium.
milligrams per 100 grams.



Best Sources of Amino Acids.
milligrams per 100 grams.

"17

¹⁷ <http://www.australianspirulina.com.au/spirulina/nutrilInfo.htm>

How it's made

There are four major conditions for growing Spirulina.

- Tropical weather
- Strong sunshine
- Pure water resource
- Pollution free environment

It is not possible to grow Commercial Spirulina culture in a cold or temperate area. Spirulina needs consistent high temperature which helps it's growth. Spirulina will not grow anywhere that has constant low temperature (under 25 degrees). Under 20c degrees Spirulina will stop reproducing and die in a short time.

Spirulina absorbs sunshine and then creates a reaction in it's cells. When this reaction starts, Spirulina will produce the nutrients in the cell and will convert carbon dioxide into oxygen. Strong sunshine helps Spirulina produce more nutrients.

Spirulina grows in alkaline saline water. Because Spirulina easily absorbs nutrients from water, if the water contains pollution or heavy metals, these will be highly concentrated in the Spirulina cell. If this happens, then this kind of Spirulina is no longer suitable for human consumption.¹⁸

Benefits

Vitamins are essential foods which the body needs in small amounts, to work normally and to stay healthy. They are essential for proper growth in children, and for the preservation of good health for all.

Vitamins are commonly classified under thirteen headings, using letters of the alphabet, and are considered according to their ability to be absorbed in fat or water. The vitamins which are soluble in fat are A, D, E and K, they are usually consumed with fat containing foods and the body can store them within its own fat. For this reason, they are retained over some period of time, so it is not necessary to eat or drink them each day. Water soluble vitamins are the B group and vitamin C. These cannot be retained in the body so we need to take foods which contain them every day.

Vitamins Supplied by Spirulina

B6 or pyridoxine helps in the breakdown and assimilation of proteins. It offers protection to the heart and reduces oedema.

¹⁸ <http://www.australianspirulina.com.au/spirulina/spirulina.html#nine>

Biotin is an enzyme that carries carbon dioxide and acts as an agent in the assimilation of some B complex vitamins.

B12 or Cobalamin is very difficult to extract from vegetables, but Spirulina is rich in this rare vitamin. The deficiency of B12 is indicated in cases of pernicious anaemia, nerve degeneration etc.

Pantothenic Acid is used in the adrenal glands along with vitamin C and cholesterol to produce steroids such as cortisone in response to physical and mental stress.

Folic Acid is essential for making new red blood cells.

Inositol keeps the liver healthy and balances blood cholesterol. It is probably the most abundant vitamin in the body after niacin.

Niacin is considered to be a cholesterol lowering agent as well as being essential to mental health.

B2 or Riboflavin prevents eye problems and severe eczema.

B1 or Thiamine maintains glucose level in the blood. A serious deficiency of this vitamin may result in death.

E or Tocopherol. Preserves heart and vascular health and retards aging.

Carotenoids. Some substances in plants are not always true vitamins, but they may be something from which the body can produce its own vitamins. The carotenoid compound of Spirulina is just such a substance. Carotenoids act as free radical quenchers, so they behave as a protector for the body's own cells.

Normally, vitamin A is available only from the liver of some animals. Since vitamin A from animals is fat soluble, the human body stores it with its own fat reserves and it is not naturally expelled when an excess is consumed. Hence, vitamin A poisoning can occur. Beta-Carotene is a very important antioxidant. There are some sources which are artificial, and others which exist within some of our vegetable foods.

The latter group or natural beta-carotenes are much to be preferred since the body can absorb these much more quickly. Several studies have indicated that people whose diet contains a lot of beta-carotene tend to have a lower risk of developing cancer. Other advantages are that natural sources do not contain preservatives or colouring materials.

Many common foods are rich in beta-carotene and may be enjoyed for their flavor as well as their goodness. Kale and spinach with their dark green leaves, broccoli, pumpkin, carrots, squash, papayas and cantaloupes all supply this important substance.

Green and yellow vegetables in general should be embraced as important foods for good health. Spirulina of course is very rich in beta-carotene, and by using it regularly you'd ensure the body was not in need of this essential food.

Other Good Things!

Depending upon growing conditions, Spirulina will be from 65% to 71% protein. This protein content is said to be biologically complete. That means that all eight essential amino acids are present in their correct ratios. A lot of plants contain various ranges of protein, but with differing quantities of amino acids. Thus some degree of incompleteness will exist.

Here again Spirulina is different in that it contains a total of 18 amino acids in the exact proportion to mother's breast milk.

It has these eight complete amino acids regarded as ideal for the human body. Regrettably, the human body is unable to store amino acids, so when incomplete foods are taken, there is frequently an imbalance in the diet. Spirulina can come to the rescue with its full range of complete amino acids. These are as follows.

Isoleucine (4.13%). Needed for growth, intelligence development and nitrogen balance within the body. Also assists with synthesizing other nonessential amino acids.

Leucine (5.8%). Helps to increase muscular energy levels and stimulate brain function.

Lysine (4.0%). used for forming blood antibodies, improves the circulatory system and promotes cell growth.

Methionine (2.17%). Vital for metabolizing fats and lipids that maintain a healthy liver. Also helps calm the nerves.

Phenylalanine (3.95%). Used by the thyroid for the production of thyroxin which in turn governs metabolic rate.

Threonine (4.17%). Improves competence of the intestines and thus aids digestion.

Tryptophane (1.13%). Enhances the use of B group vitamins, improves nerve fibres. This in its turn contributes to emotional stability and calmness.

Valine (6.0%). Assists with the co-ordination of the muscular system as well as contributing to improved mental capacity.

Nonessential amino acids

Another group of amino acids are termed as nonessential, and there are twelve of these. Well Spirulina doesn't have all of them, but does have ten; not bad eh?

Nonessential means that if not present in normal foods, they can be synthesized; it does not mean that the body has no need of them. Again, the following list is that of the nonessential amino acids which Spirulina can provide.

Alanine (5.82%). Strengthens the walls of cells.

Arginine (5.98%). Important for the production of (male) seminal fluid which is about 80% arginine. Assists in keeping the blood clean.

Aspartic Acid (6.34%). Helps with the transformation of carbohydrates to energy.

Cystine (0.67%). Aids with pancreatic health and thus stabilizes blood sugar etc. May help towards alleviating food allergies.

Glutamic Acid (8.94%). Along with glucose it fuels the brain cells. Can reduce the craving for alcohol and also stabilize mental health.

Glycine (3.5%). Promoter of energy.

Histidine (1.08%). Improves nerve relays, especially in the hearing organs. Has even been used as a remedy for deafness.

Proline (2.97%). A Precursor of Glutamic acid.

Serine (4.0%). Helps with the formation of the fatty sheath surrounding nerve fibers.

Tyrosine (4.6%). May slow the aging of cells and suppresses hunger. Involved in the coloration of hair and skin, and indeed helps with sunburn protection.

Chlorophyll - The Green Gold

Spirulina is very high in chlorophyll. It has an average of three times the amount of the green gold of other highly developed green plants. The dark green color of Spirulina comes from the large amount of plant blood or in other words, chlorophyll, which is only one molecule different from haemoglobin in human blood and with it, a very important substance in a healthy diet. Chlorophyll in plants is collected sunlight. This "light-energy", as Dr. Fritz-Albert Popp, Germany, calls it, is an important key factor in the human metabolism and cell communication.

Already in 1915 Prof. Richard Willstätter was honored for his research about chlorophyll with the Nobel Prize. He proved, that chlorophyll is able to produce living substances from dead matter with the help of the stored, converted sunlight.

Dr. Ingfried Hobert, Germany, Chairman of the International Federation to Research and Develop Traditional Healing Methods and author of the book "Das Algen Gesundheits

Buch" (The Algae Health Book), highlights in his book the benefits of chlorophyll in maintaining good health. Chlorophyll is mentioned for the prevention and treatment of gastric and duodenal ulcers, acne, to strengthen the heart muscles, build up immunity and energy, as a possible anti-bactericide, only to mention a few.

Minerals

Along with vitamins, we are always told how important minerals are. Well, to most people minerals come from rocks to form stalactites, or simply make washing water harder to wash with! Minerals really are chemical elements which we know are very important for good health. They are used in extremely small amounts however.

Spirulina grows in shallow ponds which contain very high concentrations of minerals. These ponds are very alkaline and in fact almost no other plant life can survive in this type of environment. Spirulina has the ability to lock many minerals into amino acids. By doing this, when we consume Spirulina, we receive the minerals in a form which our body can readily make use of. This next list shows those minerals and trace elements which Spirulina can provide.

Calcium (1,315 mg/Kg). The most abundant mineral in the human body. Essential for strong bones and teeth. Calcium also contributes to nerve transmission ability and absorbs acids in the body.

Potassium (15,400 mg/Kg). Used for regulating electrolytes. A deficiency can lead to heart attack and muscular collapse.

Zinc (39 mg/Kg). Assists with mental health, skin tone, prostate function and the ability for wounds to heal quickly.

Magnesium (1,915 mg/Kg). Assists with the assimilation of vitamins B and C and also some proteins. A deficiency may lead to muscular and cardiac problems.

Manganese (25 mg/Kg). Activates enzymes together with zinc. Helps stabilize blood sugars.

Selenium (0.40 ppm). Improves cardiac efficiency, reduces some types of toxicity and may retard aging processes.

Iron (580 mg/Kg). Used for making haemoglobin, the oxygen carrier in the blood.

Phosphorus (8,942 mg/Kg). Found in almost every cell of the human body, and together with calcium contributes to strong bones, and assists with digestion of carbohydrates.¹⁹

Warning/Tips

Spirulina is a totally natural product and will not normally cause any problems to the body. Even if too much is taken, there will be no harm to the body, but doing this is a waste.

However some people may experience some of the following symptoms after taking Spirulina:

- Slight fever due to the body's need to burn the extra protein from Spirulina
- Slight dizziness. If this occurs, take less of the product. If the symptom does not improve please stop taking Spirulina
- Thirst and constipation. After taking a high volume of Spirulina we recommend at least an extra 1/2 litre of water per day to help our body absorb the Spirulina
- Stomach ache
- Skin itch or slight body rash

Spirulina from polluted area may result some negative result as Spirulina has been highly concentrate all the heavy metals from growing environment.

Pollution sources are

- Air
- Water
- Dirt or dust
- Feed

Air pollution will bring lead, mercury etc. All commercial Spirulina is grown in open areas,for maximum production yield.

¹⁹ "Spirulina - Micro Food Macro blessing" fourth ed. by Harald W. Tietze
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<http://www.australianspirulina.com.au/spirulina/nutriInfo.htm>

Water pollution is another issue. Most Spirulina production sites need plenty of water to compensate for high evaporation. If the water contains any heavy metal which will accumulate in the growing system, then Spirulina will absorb it. Water pollution is a big issue as even the water pumped from the sea or surface can contain certain amounts of possible pollutants which will eventually accumulate in Spirulina. This is why some other brands suggested that infants or pregnant women should not take Spirulina.”²⁰

Blue-green algae products that are free of contaminants, such as liver-damaging substances called microcystins, toxic metals, and harmful bacteria, are POSSIBLY SAFE for most people.

But blue-green algae products that are contaminated are LIKELY UNSAFE, especially for children. Children are more sensitive to contaminated blue-green algae products than adults.

Contaminated blue-green algae can cause liver damage, stomach pain, nausea, vomiting, weakness, thirst, rapid heartbeat, shock, and death. Don't use any blue-green algae product that hasn't been tested and found free of mycrocystins and other contamination.

Special Precautions & Warnings

Pregnancy and breast-feeding: Not enough is known about the use of blue-green algae during pregnancy and breast-feeding. Stay on the safe side and avoid use.

“Auto-immune diseases” such as multiple sclerosis (MS), lupus (systemic lupus erythematosus, SLE), rheumatoid arthritis (RA), pemphigus vulgaris (a skin condition), and others: Blue-green algae might cause the immune system to become more active, and this could increase the symptoms of auto-immune diseases. If you have one of these conditions, it's best to avoid using blue-green algae.

Phenylketonuria: The spirulina species of blue-green algae contains the chemical phenylalanine. This might make phenylketonuria worse. Avoid Spirulina species blue-green algae products if you have phenylketonuria.²¹

Recommended Brands

Swanson <http://www.swansonvitamins.com/SWR044/ItemDetail>

²⁰ <http://www.australianspirulina.com.au/spirulina/spirulina.html>

²¹ <http://www.webmd.com/vitamins-supplements/ingredientmono-923-BLUE-GREEN%20ALGAE.aspx?activeIngredientId=923&activeIngredientName=BLUE-GREEN%20ALGAE>

Plus: Organic Sulfur

Recommended dosage

Organic Sulfur- “The usual individual dose is about 100-1000 mg. preferably 250-500 mg. per day. Noticeable results are usually, seen within 2 to 21 days.”²²



Ways it helps the body

Organic Sulfur is used for chronic pain, osteoarthritis, joint inflammation, rheumatoid arthritis, osteoporosis, bursitis, tendonitis, tenosynovitis, musculoskeletal pain, muscle cramps, scleroderma, scar tissue, stretch marks, hair loss, wrinkles, protection against sun/wind burn, eye inflammation, oral hygiene, periodontal disease, wounds, cuts, and abrasions/accelerated wound healing. It is either taken by mouth or applied to the skin for these uses.

Organic Sulfur is also used for relief of allergies, chronic constipation, “sour stomach,” ulcers, a bowel disease called diverticulosis, premenstrual syndrome (PMS), mood elevation, obesity, poor circulation, high blood pressure, and high cholesterol. It is also used for type 2 diabetes, liver problems, Alzheimer’s disease, lung disorders including emphysema and pneumonia, chronic fatigue syndrome, autoimmune disorders (systemic lupus erythematosus), HIV infection and AIDS, and cancer (breast cancer and colon cancer).

²² <http://www.familyhealthnews.com/articles-super-sulfur.html>

Other uses of Organic Sulfur include eye inflammation, mucous membrane inflammation, temporomandibular joint (TMJ) problems, leg cramps, migraine, headaches, hangover, parasitic infections of the intestinal and urogenital tracts including *Trichomonas vaginalis* and *Giardia*, yeast infections, insect bites, radiation poisoning, and to boost the immune system.

Organic Sulfur is also used to control snoring.²³

Some of the many benefits of organic sulfur crystals include:

- Increasing enzyme production within bodily glands and improving resistance to illness
- Increasing flexibility in muscle tissue
- Increasing blood circulation
- Reducing muscle inflammation and promoting muscle healing
- Promoting the healthy growth of hair and fingernails
- Discouraging the growth of cancer cells through oxygenation
- Reversing osteoporosis, Alzheimer's disease and Parkinson's disease
- Promoting healthy skin production and reducing wrinkles
- Regulating insulin production
- Improving colon function and eliminating colonic parasites²⁴

How it's made

Consumable organic sulfur doesn't occur naturally in nature. It is all made in a chemical plant. Some plants manufacture a more pure Organic Sulfur than others. We refer to this as organic sulfur for two reasons -- (i) it is purchased, packaged, and sold to you in the purest form available / food grade, pharmaceutical quality; and (ii) it is 100% bio-available. Organic sulfur is made of carbon, oxygen, and bio-available sulfur. Your body uses all of it.” -Organic Sulfur²⁵

²³ [http://www.webmd.com/vitamins-supplements/ingredientmono-522-MSM%20\(METHYLSULFONYLMETHANE\).aspx?activeIngredientId=522&activeIngredientName=MSM%20\(METHYLSULFONYLMETHANE\)](http://www.webmd.com/vitamins-supplements/ingredientmono-522-MSM%20(METHYLSULFONYLMETHANE).aspx?activeIngredientId=522&activeIngredientName=MSM%20(METHYLSULFONYLMETHANE))

²⁴ http://www.naturalnews.com/029263_sulfur_joint_health.html

²⁵ http://www.organicsulfur-msm.ca/about_OS_MSM.html

Look for sulfur from pine tree lignan organic source not from petrochemical source so sulfur content is high and also so the manufacturing process does not destroy sulfur molecule.

A synthesis process produces Organic Sulfur that is chemically identical to that which occurs in nature. There is no commercially viable way to "extract" Organic Sulfur in quantity from any organic or plant source. Methyl groups may originate from plant sources, such as the processed pulp of Southern Pine, but the sulfur does not. Although Organic Sulfur is a naturally occurring sulfur compound, the microscopic amounts occurring naturally in food are too small to permit "extraction" sufficient for commercial production of dietary supplements. The most "natural" Organic Sulfur would be that which is closest to what is found in nature (i.e., the purest Organic Sulfur). Purity of Organic Sulfur is achieved by distillation or crystallization. Distillation is universally accepted as the superior purification method.²⁶

Benefits

SKIN AND COLLAGEN PROTEIN

Organic Sulfur is responsible for the flexible bond between cells, including those that make up the skin. It acts to block undesirable chemical and physical cross-linking or bonding of collagen which is associated with tough, aging skin. Consequently, Organic Sulfur enhances tissue pliability and encourages the repair of damaged skin.

Tests conducted among laboratory animals indicated that wound healing occurred faster with a group receiving Organic Sulfur, but the fastest healing was among a group receiving Organic Sulfur plus vitamin C. If there is insufficient Organic Sulfur in our body when new cells are being manufactured, the new cells become rigid.

This rigidity can contribute to cracking, wrinkles, and scar tissue. When sufficient Organic Sulfur is present, it surfaces to make the skin softer, smoother and more flexible, allowing it to stretch easily with movement. Scars are overgrowths of collagenous tissue that appear on skin as the cut or wound heals. Normally, the wound heals flat and firm leaving little sign of the injury.

However, when the body is deficient in Organic Sulfur and vitamin C, the new tissue will be elevated leaving an unattractive, raised scar. With adequate Organic Sulfur along with vitamin C, these unsightly scars have been observed to disappear over time. Some plastic surgeons and dermatologists will recommend collagen injections for minimizing wrinkles and scars. Injected collagen, however, will be broken down by enzymes in about two years.

Money that people spend on cosmetic products with collagen as an ingredient is equally wasted, since skin cannot absorb the protein. Nutritional support of our body's own

²⁶ <http://www.msmsguide.com/facts/faq/#two>

collagen, including Organic Sulfur supplementation, is a much better idea.

Organic Sulfur can stimulate the production of healthy collagen while bringing elasticity back to the skin. The minerals that nourish healthy skin, including nutritional sulfur or Organic Sulfur, and copper can be obtained from eating raw, dark, leafy vegetables, shellfish and whole grains, or via convenient supplements.

Iron is another nutritional mineral important to skin. It is found in poultry, fish and parsley. Vitamin C, required for the production of collagen, is abundant in a variety of fruits and vegetables. A good multiple vitamin and mineral supplement will provide most of your daily requirements, but Organic Sulfur is not included and must be obtained separately. As a daily dietary supplement 750 mg of Organic Sulfur is a must.

SKIN DETOXIFICATION

By keeping cells and tissue soft and permeable, Organic Sulfur allows the skin to serve as an auxiliary kidney. Millions of sweat glands excrete substances that are toxic to the body. With vigorous exercise or at high temperatures our sweat output increases from an average of about a pint a day to several quarts.

There are two types of sweat glands. Eccrine glands eliminate mostly water and excess mineral salts, including sodium chloride, which is why sweat tastes salty. These sweat glands work hardest with exercise, high temperatures or under stress.

Apocrine sweat glands are found in the genital region and the armpits. They excrete nitrogen containing wastes, as well as water and salts through the pores of our skin. Apocrine glands are the ones to blame for body odor. The sweat from these glands creates body odor when mixed with bacteria and is produced at times of stress. Acne involves overproduction of sebum and consequently breaks out in the most dense locations of sebaceous glands. Male sex hormones such as testosterone stimulate production of keratin and sebum, enlarging the sebaceous glands.

Hormone levels increase at puberty in both boys and girls, but are higher in males, which are the reasons why acne afflicts mainly teenagers and is most common in males. Teenagers will be heartened to learn that studies have been conducted which indicate that acne, including the severe acne rosacea, responds favorably to a diet supplemented with Organic Sulfur.

Good nutrition helps the skin carry out its detoxification role and keeps down the levels of toxins it has to manage. Poor diet can be a contributory factor to pores and sweat glands getting clogged.

HEALTHY HAIR

The only side effect of Organic Sulfur, if you want to call it that, is that it will make your hair and nails stronger. That's because the sulfur amino acid cysteine, one of the building blocks of protein, is present in keratin, the main protein found in large amounts in your hair, fingernails and toenails.

While all the B vitamins are important to healthy hair and nails, sulfur-bearing biotin is especially important. Look at the ingredients of many shampoo brands and you'll see biotin listed. Be aware, however, that it will do you more good on the inside than the outside.

Although a biotin deficiency is rare, it can cause hair loss and fragile nails. Like plants in pots, hair grows from tiny sacs called follicles located just below the surface of the skin. On average, a healthy head will number 100,000 hairs. The root of the hair is surrounded by a bulb that feeds each strand the tough, fibrous protein keratin. Just above the bulb and below the skin are sebaceous glands which produce an oily substance called sebum that lubricates and protects the hair.

Every follicle has its own blood supply, which is why good circulation is important for healthy hair. The size of the opening in the follicle determines the thickness of the hair. Attached to each follicle are tiny muscles called erector pili muscles.

When you're cold or scared, they contract. When you're frightened, it's what makes hair stand on end and when you're cold, they'll give you goosebumps. The shaft of hair is made of three layers, the center core or medulla, the thicker middle layer called the cortex, and the tough outer layer called the cuticle.

Relative to its circumference, hair is very strong, stronger than a copper wire of the same thickness. Hair is straight, curly or wavy depending on the shape of the hair shaft. Straight hair has a round shaft, curly hair has a kidney shape and wavy hair has a slightly curved shaft.

NAILS AND KERATIN

The nails are 98 percent composed of a tough protein with a high sulfur content called keratin, produced by the cells under the nail. Fingernails and toenails grow from near the bone about a quarter of an inch past the base of the nail. This area is called the nail root.

Forming a protective barrier between the nail and the skin is a small flap of tissue called the cuticle. Under the nails is the nail bed, which is rich with blood vessels and very sensitive. The pink color of the nails is caused by blood vessels close to the surface.

Fingernails grow about an eighth of an inch per month, and toenails grow about a sixteenth of an inch per month. Once we believed that eating gelatin would create strong nails, but this is not so. Both hair and nails are composed primarily of protein, antigelatin is far from being a total protein. Neither will calcium build stronger nails, because the amount of calcium in nails is minimal.

Actually, there is very little you can do to create hard nails from outside the body. Good nutrition and genetics will determine your nail strength. Nonetheless, if you have brittle

or soft nails, it is important to make sure you're getting plenty of Organic Sulfur and B vitamins not just from dietary sources, but also in supplement form.

Vitamins A and E are key nutrients for healthy skin and hair and nails. One of the signs of vitamin A deficiency is hair loss and soft or brittle nails. If you're eating a balanced diet of yellow and orange vegetables and fruits, and dark green leafy vegetables, chances are good that you're getting sufficient vitamin A.

In supplement form, you should be taking 10,000 to 15,000 International Units of beta carotene in your daily vitamins, which the body will convert to vitamin A as needed. Food sources of vitamin E are olive oil, whole grains, avocados and nuts. As a daily supplement, take 400 IU of vitamin E.

GLUCOSAMINE

Glucosamine is the building block for ligaments, tendons, fluid in the joints, digestive and respiratory tract membranes, heart valves, eyes, nails, skin and bone. It is manufactured in the body when the simple sugar glucose combines through enzyme action with glutamine.

The result of this action is then sulfated by other enzymes to form glucosamine. In this form it gives cartilage its strength, structure and resiliency. Sulfur bonds are required as essential structural components of all connective tissue. While we don't often think about it, the fact is that our connective tissue system is literally what holds us together.

This tissue runs from head to toe, supporting and connecting our internal organs, forms the walls of blood vessels, and attaches muscles to bones. One component of connective tissue is collagen, which holds water and gives connective tissue its flexibility. Proteoglycans are another component of connective tissue, and they are the basic substance of joint cartilage.

GLUTATHIONE & THE ANTIOXIDANT CYCLE

This amino acid is a tripeptide made from the sulfur bearing amino acid cysteine plus glycine and glutamic acid. Glutathione is produced mainly in the liver. It is found in the cells of nearly all living organisms on Earth, and its principal function is waste disposal.

When there are free radicals threatening to start an oxidation reaction, Glutathione neutralizes them and often transfers them to another antioxidant such as vitamin E. In the liver, glutathione attaches to toxic substances and binds to them in a form the liver can excrete without being damaged. Glutathione also prevents red blood cells from being damaged by neutralizing unstable forms of oxygen.

This remarkable antioxidant also plays a role in cellular repair after a stroke, fighting cancer, stabilizing blood sugar and preventing oxidation of LDL cholesterol which damages the arteries. It's also crucial in protecting the lymphatic and digestive systems from unstable fats and oils. When glutathione levels drop, the burden of toxic stress goes up.

A study done in England in a community of elderly people showed that low glutathione levels were associated with a 24 percent higher rate of illness and death, higher cholesterol and higher body weight. Glutathione is known to promote good eye health and low levels accompany almost every type of eye disease. Our level of glutathione drops as we get older.

Levels can also be depleted by excessive intake of polyunsaturated and partially hydrogenated vegetable oils, overexposure to toxic substances such as pesticides, and by pharmaceutical drugs that stress the liver. Since glutathione often passes off its neutralized waste products to antioxidants such as vitamin C and vitamin E, a deficiency of these vitamins can diminish its full function.

According to The Experts Optimal Health Journal, as antioxidant researchers, over the past 38 years have grown increasingly aware of these substances vital role in maintaining health and preventing diseases. The most commonly studied antioxidants are vitamins C and E, selenium, the bioflavonoids and nutrients containing sulfur.

One nutrient that is a particular favorite of famed antioxidant researcher Dr. Passwater, is glutathione pronounced (gloo-ta- thigh-on). This powerful antioxidant is a sulfur containing tripeptide formed in the body from three amino acids, cysteine, glutamnic acid and glycine.

Glutathione helps to both prevent numerous diseases and slow the aging process. In his book, "The GSH (Glutathione) Phenomenon: Nature's most powerful antioxidant and healing agent." Dr. Pressman describes how glutathione "helps in preventing and battling weight gain, hyperactivity, alcohol, sugar and caffeine addictions, allergies, arthritis, cataracts, and lung, skin, prostate and bladder cancers."

He points out that "increasing your glutathione level not only helps combat the aforementioned ailments, but also provides other health benefits including increased energy levels, enhanced brain power and boosted immunity." In the book's preface written by Dr. Passwater, he describes glutathione as foot soldiers in the battle against free radicals and toxins.

Vitamin C is the major blood antioxidant, vitamin E is the vital antioxidant in cell membranes and lipoproteins, and selenium, as an essential component of the antioxidant enzymes called glutathione peroxides, is the principal antioxidant protecting the cell membrane's outer surface.

Although articles in popular books and magazines rarely mention glutathione, it is critical to health in many ways. It assists in keeping the immune system healthy, terminates intracellular free radicals, and detoxifies many harmful chemicals.

Glutathione serves as a substrate for several enzymes, such as the selenium-containing glutathione peroxidases, that mitigate or prevent harmful free-radical reactions.

The antioxidant cycle is a chain interaction in which some antioxidants regenerate and spare other antioxidants. Although they appear to be on different teams, they actually work together in sequence. When antioxidant A is exhausted, antioxidant B regenerates antioxidant A. Antioxidant C then enters the game to regenerate B, and so on. Glutathione plays a key position.

It can regenerate most of the other antioxidants that have been spent deactivating free radicals. Dr. Passwater discovered the biological synergism of the antioxidant nutrients in 1963. More recently, Dr. Lester Packer of the University of California at Berkeley has elucidated the mechanism responsible for a large part of the antioxidant cycle.

A free radical is a molecule or molecular fragment that contains one or more lone or unpaired electrons. Since its more natural and lower-energy state is to have all electrons grouped in pairs, the molecule becomes very reactive as it strives to gain the missing electron. The free radicals quest can damage body components and lead to between 60 and 80 known diseases.

When a molecule of vitamin E comes in contact with a free radical, the vitamin E molecule gives up one of its electrons. The free radical becomes normalized, and is no longer a danger to body components. Having donated an electron, the vitamin E molecule is left with an unpaired electron and is itself now unstable and technically a very weak free radical.

This lone electron condition in an antioxidant such as vitamin E does not contain enough energy to be harmful, and will eventually decompose and be eliminated from the body. If the vitamin E molecule decomposes, the degradation products are eliminated from the body. Although one free radical has been eliminated by the vitamin E, the body has also lost one molecule of vitamin E. Unfortunately, there are many more free radicals than there are molecules of vitamin E in the body. In North America people usually consume less than 10 to 15 milligrams of vitamin E daily.

However, a molecule of vitamin C can regenerate a molecule of vitamin E that has donated its electron to terminate the free radical. As mentioned above, this molecule of vitamin E is technically a very weak free radical because it has an unpaired electron.

The molecule of vitamin C can restore the vitamin E radical to normal vitamin E by donating an electron to it. This restores the molecule of vitamin E, but, since it now lacks an electron, makes the molecule of vitamin C a very weak free radical in the process.

The vitamin C radical is harmless to the body, and will decompose and be lost. Fortunately, there are more molecules of vitamin C in the average diet, typically 30 to 75 milligrams, than vitamin E. The net effect is that vitamin C acts to spare the less present vitamin E.

This cycle continues as long as other antioxidants such as lipoid acid, CoQ10, or carotenoids are available to regenerate the vitamin C. In turn, glutathione can regenerate any of the aforementioned antioxidants. But, as the last dietary nutrient in the chain glutathione will not always be regenerated.

NADH and glutathione reductase can regenerate glutathione, but several grams of glutathione will be sacrificed each day in the battle against free radicals. Thus, we like to call glutathione the foot soldier in the anti oxidant chain. It is the hard working unsung hero of the antioxidant defense network.

Glutathione is the most plentiful antioxidant found inside your cells. It is critical to keep the immune system functioning at peak efficiency. For example, HIV infected cells lose the ability to produce glutathione and will not accept any from the blood.

As glutathione levels decrease, so does the infected persons immune function.

Programs in which HIV positive patients maintain or improve glutathione levels show the progression towards clinical AIDS is either slowed or halted, and overall HIV viral load is reduced.

Not only does glutathione function as a major antioxidant, quenching several free radicals including the very destructive hydroxyl radical. It also plays a key role in several enzyme detoxification pathways. Certain enzyme systems work together in various ways to detoxify potentially harmful compounds.

Glutathione can be utilized by enzymes to make some carcinogens more soluble and thus more easily removed from the body. It can also help eliminate heavy metals such as mercury, lead and cadmium, by binding with them. Glutathione also plays a critical role in stabilizing structural proteins and enzymes, essential to both the structure and function of all body cells.

When teamed with selenium containing glutathione peroxidases, glutathione also protects the proteins in cell membranes that serve as "gates" for the entrance and exit of substances within cells. Thus, a shortage of it can mean cells could either starve for critical nutrients or drown in their own waste products.

Long-term epidemiological studies have associated low levels of glutathione with increased incidence of several diseases. Looking at 33 people over the age of 60, researchers led by Dr. Mona Julius of the University of Michigan noted that those with the highest blood levels of glutathione had fewer illnesses, lower blood cholesterol, lower blood pressures and healthier weights than those with low levels.

The researchers also noted that people with the highest levels of glutathione in their blood also reported feeling great, whereas those with the lowest levels of glutathione did not feel as well. The latter group also had more heart disease, arthritis and diabetes.

Your body must generate large quantities of glutathione from food. If you're healthy and eat plenty of sulfur rich foods, it is possible your system will make enough glutathione to stay healthy. Eating several grams of sulfur containing foods every day will enable you to make sufficient amounts of glutathione to regenerate the small amounts of vitamin E, vitamin C and carotenoids you eat and to regenerate the lipid acid and Coenzyme Q-10 that you consume or make in your body.

Glutathione levels can be increased with several nutritional supplements including selenium, cysteine, methyl sulfonyl methane or Organic Sulfur and, to a lesser extent, glutathione itself. Glutathione supplements are not absorbed intact but are broken down by the digestive process into its components, which are absorbed by the body to increase the production of glutathione.²⁷

Warning/Tips

Stomach upset, diarrhea and headache have been reported in human trials of Organic Sulfur lasting up to 12 weeks.²⁸

Consumers should determine if the Organic Sulfur they use has been appropriately processed to remove microscopic toxins or impurities.

There are a handful of unpublished anecdotes of minor side effects like loose stools, stomach upset or skin rashes, conditions which disappeared immediately after stopping the supplementation.²⁹

Recommended Brands

Organic Sulfur http://www.organicsulfur-msm.ca/order_OS_MSM.html

²⁷ <http://www.familyhealthnews.com/articles-super-sulfur.html>

²⁸ <http://www.mayoclinic.com/health/msm/AN00560>

²⁹ <http://www.msnguide.com/facts/safety/>

Plus: Garlic

Recommended dosage

The following doses are recommended: 2 to 5 g of fresh raw garlic; 0.4 to 1.2 g of dried garlic powder; 2 to 5 mg garlic oil; 300 to 1,000 mg of garlic extract (as solid material). Other preparations should correspond to 4 to 12 mg of alliin or approximately 2 to 5 mg of allicin, an active constituent of garlic. However, dosage is complicated by the volatility and instability of important constituents in various products (eg, aged extracts, deodorized garlic, distilled oils). Administer garlic preparations with food to minimize GI upset. Because garlic is widely consumed, dosage will remain a matter of personal tolerance.³⁰



Ways it helps the body

Garlic is used for many conditions related to the heart and blood system. These conditions include high blood pressure, high cholesterol, coronary heart disease, heart attack, and “hardening of the arteries” (atherosclerosis). Some of these uses are supported by science. Garlic actually may be effective in slowing the development of

³⁰ <http://www.drugs.com/npc/garlic.html>

atherosclerosis and seems to be able to modestly reduce blood pressure.

Some people use garlic to prevent colon cancer, rectal cancer, stomach cancer, breast cancer, prostate cancer, and lung cancer. It is also used to treat prostate cancer and bladder cancer.

Garlic has been tried for treating an enlarged prostate (benign prostatic hyperplasia; BPH), diabetes, osteoarthritis, hayfever (allergic rhinitis), traveler's diarrhea, high blood pressure late in pregnancy (pre-eclampsia), cold and flu. It is also used for building the immune system, preventing tick bites, and preventing and treating bacterial and fungal infections.

Other uses include treatment of fever, coughs, headache, stomach ache, sinus congestion, gout, rheumatism, hemorrhoids, asthma, bronchitis, shortness of breath, low blood pressure, low blood sugar, high blood sugar, and snakebites. It is also used for fighting stress and fatigue, and maintaining healthy liver function.

Some people apply garlic oil to their skin to treat fungal infections, warts, and corns. There is some evidence supporting the topical use of garlic for fungal infections like ringworm, jock itch, and athlete's foot; but the effectiveness of garlic against warts and corns is still uncertain.³¹

How it's made

Garlic is a perennial bulb with a tall, erect flowering stem that grows up to 1 m. The leaf blade is flat, linear, solid, and approximately 1.25 to 2.5 cm wide, with a pointed top. The plant produces pink to purple flowers that bloom from July to September in the Northern Hemisphere. The bulb is strong smelling and contains outer layers of thin sheathing leaves surrounding an inner sheath that encloses the clove. Often the bulb contains 10 to 20 cloves that are asymmetrical in shape, except for those closest to the center.³²

Garlic contains many active constituents, including volatile oil with sulphur-containing compounds (allicin, alliin, and ajoene), enzymes (allinase, peroxidase and myrosinase), glucokinins, B group vitamins, vitamin C and flavonoids, citral, geraniol, linalool, aphellandrene and B phellandrene. Garlic also contains a wide range of trace minerals.

These include copper, iron, zinc, magnesium, germanium, and selenium. The key therapeutic ingredient in garlic is alliin. Alliin is an odorless sulfur-containing chemical derived from the amino acid cysteine. Allicin is formed when alliin, a sulfur-containing amino acid, comes into contact with the enzyme alliinase when raw garlic is chopped, crushed, or chewed. Allicin is what gives garlic its antibiotic properties and is

³¹ http://www.webmd.com/vitamins-supplements/ingredientmono-300-GARLIC.aspx?activeIngredientId=300&activeIngredientName=GARLIC#vit_uses

³² <http://www.drugs.com/npc/garlic.html>

responsible for its strong odor. Allicin is said to be stronger than penicillin and tetracycline, and microbes do not mutate when repeatedly exposed to garlic. Allicin is further broken down to a compound called ajoene. Ajoene contributes to the anticoagulant action of garlic. It may be the substance that inhibits blockage in blood vessels from clots and atherosclerosis.³³

Because allicin is difficult to keep potent without destroying, a popular garlic supplement is aged garlic extract. Garlic extract is made from sliced, macerated garlic and put in water or alcohol for up to two years, according to the Garlic Central website.

According to the University of Maryland Medical Center, most studies are based on aged garlic extract. Though the extract doesn't contain allicin, the phytochemicals present may help with heart health. Both the University of Maryland Medical Center and the World's Healthiest Foods websites, report that garlic may lower cholesterol and triglycerides, aiding in preventing heart disease.³⁴

Benefits

Garlic has antioxidant properties. The antioxidants found in garlic may contribute to this effect by protecting against the cell damage by cancer-causing free radicals.

Antioxidants can neutralize free radicals and may reduce or even help prevent some of the damage they cause over time. Garlic may increase the number of natural killer cells, which destroy white cells that are cancerous or infected by viruses. Garlic blocks the formation of powerful carcinogens, called nitrosamines, which may be formed during the digestion of food. Garlic contains allyl sulfur and other compounds that slow or prevent the growth of tumor cells. Garlic may slow the production of HIV by stimulating natural killer cells. People with HIV often use garlic to prevent infections associated with HIV.

Garlic may have positive effects in preventing cardiovascular diseases, such as heart attack or stroke. Garlic helps to prevent atherosclerosis through the actions of its sulfur compounds and its ability to reduce the fatty substances, such as cholesterol, found in the bloodstream. Garlic acts as a blood thinner. Garlic promotes the regression of fatty deposits in blood vessels, a major cause of atherosclerosis, and can even help reverse arterial blockages caused by the collection of plaque. Garlic can lower and help keep blood sugar stable by helping to increase the amount of insulin available in the bloodstream. Blood clots and plaque block blood flow and contribute to the development of atherosclerosis. Garlic significantly lowers blood levels of triglycerides which have been associated with an increased risk of heart attack.

Garlic works as an immune system stimulant which helps the body fight bacterial, viral and fungal infections. Garlic can be used in the treatment of a variety of bacterial, viral,

³³ <http://www.vitamins-supplements.org/herbal-supplements/garlic.php>

³⁴ <http://www.livestrong.com/article/268340-the-best-garlic-supplements/>

and fungal infections. Garlic inhibits the growth of different species of bacteria, including *Mycobacterium tuberculosis*, the organism responsible for tuberculosis, and *Shigella dysenteriae*, *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Candida albicans*, *Escherichia coli*, *Streptococcus*, *Salmonella*, etc. It is effective for bronchial conditions such as inflammatory disease, tuberculosis, asthma and hepatopulmonary syndrome.³⁵

In a study published in the Proceedings of the National Academy of Sciences, researchers show that eating garlic appears to boost our natural supply of hydrogen sulfide. Hydrogen sulfide is actually poisonous at high concentrations — it's the same noxious byproduct of oil refining that smells like rotten eggs. But the body makes its own supply of the stuff, which acts as an antioxidant and transmits cellular signals that relax blood vessels and increase blood flow.

In the latest study, performed at the University of Alabama at Birmingham, researchers extracted juice from supermarket garlic and added small amounts to human red blood cells. The cells immediately began emitting hydrogen sulfide, the scientists found.

The power to boost hydrogen sulfide production may help explain why a garlic-rich diet appears to protect against various cancers, including breast, prostate and colon cancer, say the study authors. Higher hydrogen sulfide might also protect the heart, according to other experts. Although garlic has not consistently been shown to lower cholesterol levels, researchers at Albert Einstein College of Medicine earlier this year found that injecting hydrogen sulfide into mice almost completely prevented the damage to heart muscle caused by a heart attack.³⁶

Warning/Tips

Garlic may be used safely in pregnancy and breast-feeding. However, consumption by breast-feeding mothers may impact the infant's behavior during breast-feeding, causing prolonged attachment to the breast and increased sucking. An increase in milk production has been documented with garlic.

Garlic may reduce saquinavir plasma concentrations. Patients taking saquinavir should limit ingestion of garlic and to avoid taking garlic supplements without consulting their health care provider. Based on available reports, no special precautions are necessary in patients eating garlic and taking warfarin. However, because warfarin has a narrow therapeutic index, patients should not use alternative medicines without consulting their health care provider and should report any signs of bleeding. Based on an initial study, garlic does not appear to interact with alprazolam, dextromethorphan, docetaxel, or ritonavir.

³⁵ <http://www.vitamins-supplements.org/herbal-supplements/garlic.php>

³⁶ <http://well.blogs.nytimes.com/2007/10/15/unlocking-the-benefits-of-garlic/>

Body odor and bad breath are the most common complaints after ingesting garlic preparations. Mild adverse reactions (eg, bloating, flatulence, nausea) have been commonly reported with use. Ingestion of a single 25 mL dose of fresh garlic extract has caused burning of the mouth, esophagus, and stomach; nausea; sweating; and light-headedness. The safety of repeated doses of this amount has not been defined.

Alterations in coagulation have also been reported. Ingestion of large amounts may increase the risk of postoperative and spontaneous bleeding. Ingestion as a food or supplement or topical use may cause allergic reactions. Topical exposure to crushed, uncooked garlic cloves for 3 to 5 minutes has resulted in toxic contact dermatitis. Repeated exposure to garlic dust can induce asthmatic reactions.³⁷

To maximize the health benefits, you should crush the garlic at room temperature and allow it to sit for about 15 minutes. That triggers an enzyme reaction that boosts the healthy compounds in garlic.³⁸

Most garlic supplements do not contain Allicin itself. Some products are standardized to contain a certain amount of allicin and will list the theoretical Allicin potential. Some supplements claim to contain as much or more Allicin as daily dose of fresh garlic; read the labels to be sure. Tests indicate a wide variation among commercially available supplements.

The content of Allicin the most important indicator and Allicin should be in a defined in terms of microgram (mcg) or milligram (mg) and in a standardized amount.

If Allicin content is not available, try to look for enteric coated garlic products, which have at least a small chance of producing some Allicin, although the amount created will rarely be of therapeutic value.

Allicin powder extract is the only way to get a stable and standardized amount of Allicin that is ready to be used by the body directly.³⁹

Recommended Brands

Fresh! Grow your own organic garlic for the best results. If you don't grow your own, buy locally grown garlic from the farmer's market. If that is not an option, buy fresh garlic from your local grocery store.

Supplements: Nature's Resource® GarLife <http://www.medshopexpress.com/075317.html>

³⁷ <http://www.drugs.com/npc/garlic.html>

³⁸ <http://well.blogs.nytimes.com/2007/10/15/unlocking-the-benefits-of-garlic/>

³⁹ <http://www.allicinfacts.com/allicin05a.htm>

Plus: Iodine



Recommended dosage

When used to maintain the iodine content of the body the dose is small and is taken only on certain days of the week. When the mineral content of the body is analyzed, only a trace of iodine is found. Ten drops of iodine represent more iodine than is found in the entire body. For this reason, the dose of Lugol's solution of iodine is one or two drops (In this article Dr. Jarvis is speaking about Lugol's Solution 5%. When using Lugol's Solution 2% use 2-3 single drops to get the equivalent), depending on your body weight. If you weigh 150 pounds or less, for example, your dose to maintain the normal iodine content of the body is one drop, taken at one meal on Tuesday and Friday of each week. If you weigh more than 150 pounds, the dose should be two drops instead of one. It is useful to remember that the human body works on the minimum of anything it needs. If there should be a rise in sickness in the area where you live, it would be well

to take the Lugol's solution three times a week instead of two, on Monday, Wednesday, and Friday, for the purpose of storing up reserve.⁴⁰

The dose of this medicine will be different for different patients. Follow your doctor's orders or the directions on the label. The following information includes only the average doses of this medicine. If your dose is different, do not change it unless your doctor tells you to do so.

The amount of medicine that you take depends on the strength of the medicine. Also, the number of doses you take each day, the time allowed between doses, and the length of time you take the medicine depend on the medical problem for which you are using the medicine.

For solution dosage form:

To treat overactive thyroid (hyperthyroidism):

Adults and teenagers—250 milligrams (mg) (0.25 milliliters [mL]) three times a day.

Children—Use and dose must be determined by your doctor.

To protect the thyroid gland against radiation exposure:

Adults or teenagers approaching adult weight (greater than 70 kg or 154 lbs of body weight)—130 mg once a day, until significant risk of exposure to radioiodines no longer exists.

Children through 1 month of age—16 mg once a day, until significant risk of exposure to radioiodines no longer exists.

Children over 1 month through 3 years of age—32 mg once a day, until significant risk of exposure to radioiodines no longer exists.

Children and teenagers over 3 years through 18 years of age (less than 70 kg or 154 lbs of body weight) —65 mg once a day, until significant risk of exposure to radioiodines no longer exists.

For syrup dosage form:

To protect the thyroid gland against radiation exposure:

Adults or teenagers approaching adult weight (70 kg or 154 lbs of body weight) greater) —130 mg once a day, until significant risk of exposure to radioiodines no longer exists.

Children through 1 month of age—16 mg once a day, until significant risk of exposure to radioiodines no longer exists.

⁴⁰ <http://www.jcrows.com/iodine.html>

Children over 1 month through 3 years of age—32 mg once a day, until significant risk of exposure to radioiodines no longer exists.

Children and teenagers over 3 years through 18 years of age (less than 70 kg or 154 lbs of body weight)—65 mg once a day, until significant risk of exposure to radioiodines no longer exists.

For tablet dosage form:

To protect the thyroid gland against radiation exposure:

Adults or teenagers approaching adult weight (70 kg or 154 lbs of body weight)—130 mg once a day, until significant risk of exposure to radioiodines no longer exists.

Children through 1 month of age—16 mg once a day, until significant risk of exposure to radioiodines no longer exists.

Children over 1 month through 3 years of age—32 mg once a day, until significant risk of exposure to radioiodines no longer exists.

Children and teenagers over 3 years through 18 years of age (less than 70 kg or 154 lbs of body weight)—65 mg once a day, until significant risk of exposure to radioiodines no longer exists.

Missed Dose

If you miss a dose of this medicine, take it as soon as possible. However, if it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule. Do not double doses.⁴¹

Ways it helps the body

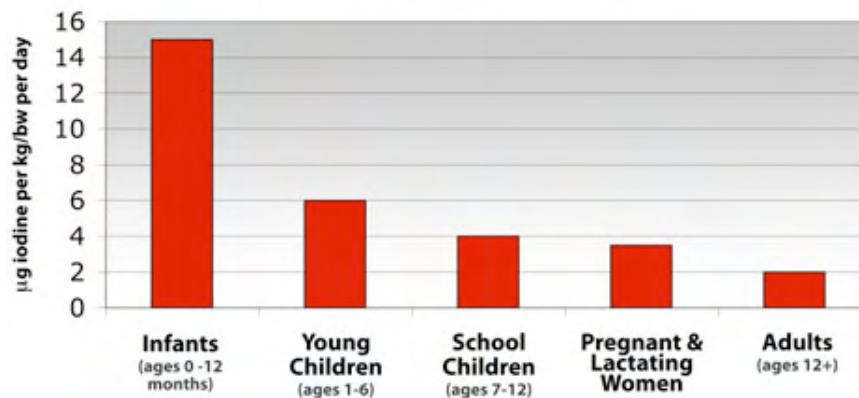
- **Metabolic rates:** Iodine influences the functioning of thyroid glands by assisting in production of hormones, which are directly responsible for controlling the basic metabolic rate. The hormones, like thyroxin and triiodothyronine, influence heart rate, blood pressure, body weight and temperature. The body maintains the BMR (Basic Metabolic Rate) with the help of these hormones, which also helps in protein synthesis.
- **Energy level:** It also plays an important role in maintaining optimum energy levels of the body by ensuring optimum utilization of calories, without allowing them to be deposited as excess fats.
- **Healthy nails, hair and teeth:** The health benefits of iodine include formation of healthy and shiny skin, teeth and hair. Iodine is an important element for haircare as lack of this mineral can result in hair loss. Moreover, it also aids hair growth.

⁴¹ <http://www.mayoclinic.com/health/drug-information/DR601129/DSECTION=proper%2Duse>

- **Reproductive system:** Iodine helps in the normal growth and maturity of reproductive organs. Sufficient quantity of iodine in pregnant women is essential to prevent still births or neurocognitive conditions like cretinism in the babies. It also ensures proper movement and growth, along with speech and hearing in babies.
- **Fibrocystic disease:** Iodine can significantly reduce conditions like fibrosis, turgidity and breast tenderness. Iodine acts as a relief for fibrocystic diseases and is widely used even in therapies.
- **Iodine programmed cell death:** Iodine ensures the apoptosis or the programmed cell death which is essential in the formation of new organs as well as in the removal of malignant cells like cancer cells or diseased cells, which might prove harmful to the individual.
- **Anti-cancer properties:** Probably, the most important health benefits of iodine apart from thyroidal influence are its anti-cancer properties. Studies have shown that cancer cells when administered with iodine shrink.
- **Iodine removes toxic chemicals:** Iodine can flush out chemical toxins like fluoride, lead, mercury etc., apart from biological toxins and can strengthen immune system. It also prevents the proliferation of harmful bacteria in the stomach.
- **Thyroid and Goitre disorders:** Iodine deficiency is the basic cause of Goitre as widely known. You can have eggs, salt, sea food, dairy products to facilitate the reduction of iodine deficiency which works as a cure for enlarged thyroid gland.”⁴²

Infants, children, and pregnant women need more iodine – and are at greater risk for perchlorate-related health effects

The World Health Organization's recommended daily iodine intake per kilogram of bodyweight.



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⁴² <http://www.organicfacts.net/health-benefits/minerals/health-benefits-of-iodine.html>

⁴³ <http://www.ewg.org/node/8610>

How it's made

The iodine used in J.CROW'S® Lugol's Solution is derived from mined crystals, not from shellfish or kelp.⁴⁴

Potassium iodide is ionic, K+I-. It crystallises in the sodium chloride structure. It is produced industrially by treating KOH with iodine.⁴⁵

Benefits

Iodine is necessary for the thyroid gland's proper performance of its work. The human thyroid gland is located in the front of the lower part of the neck. All the blood in the body passes through the thyroid gland every 17 minutes. Because the cells making up this gland have an affinity for iodine, during this 17-minute passage the gland's secretion of iodine kills weak germs that may have gained entry into the blood through an injury to the skin, the lining of nose or throat, or through absorption of food from the digestive tract. Strong, virulent germs are rendered weaker during their passage through the thyroid gland. With each 17 minutes that rolls around they are made still weaker until finally they are killed if the gland has its normal supply of iodine. If it does not, it cannot kill harmful germs circulating in the blood as Nature intended it should. It is well established that the iodine content of the thyroid gland is dependent upon the iodine available in the food and water intake of the individual. If the iodine intake is low the gland is deprived of an element it needs to do its work.

We learn in Vermont folk medicine, however, that this gland performs other functions besides killing harmful germs in the blood. The first is the rebuilding of energy with which to do the day's work. There is a definite relationship between the amount of energy you have and your iodine intake. The first question in the presence of a condition of depleted energy is, Is the soil of the state in which one lives iodine-poor?

Second, is the deficiency being made up by supplementary means? All soils containing granite are iodine-poor and Vermont is one of them. This fact is very important to people living in Vermont and well may be important to those living elsewhere. When energy and endurance run low in relation to doing the day's work, then the taking of iodine needs to be considered.

A second function of iodine is to calm the body and relieve nervous tension. When nervous tension runs high there is irritability and difficulty in sleeping well at night, and the body is continually on a combat basis, organized for fight and flight. All these points stress a body's need for iodine to lessen nervous tension, relax the body and enable it to organize for peace and quiet, by the building and storing of body reserves against time of need. I have learned through Vermont folk medicine that it is possible to

⁴⁴ <http://www.jcrowsmarketplace.com/1ozlugolssolution5valuepriceincludesshipping.aspx>

⁴⁵ Phyllis A. Lyday (2005), "Iodine and Iodine Compounds", Ullmann's Encyclopedia of Industrial

repeatedly change an irritable, impatient, and restless child under ten years of age into a calm, patient individual within two hours' time by giving one drop of Lugol's solution of iodine by mouth in a vegetable or fruit juice or in a glass of water made acid in reaction by adding a teaspoonful of apple cider vinegar. I have repeatedly prescribed this in order to make it possible for a mother of a racehorse-type little boy or girl to be able to live comfortably with the child. I have never seen it fail to calm down a nervous child. A third function of iodine in the human body relates to clear thinking. The mind simply works better when the body is supplied the iodine it needs.

Then there is the matter of the storing of unwanted fat. Iodine is one of the best oxidizing catalyts we have. A catalyst is the match which touches off in the body the fire that burns up the food we take in each day. If this food is not properly burned off, it may be stored as unwanted fat.⁴⁶

Warning/Tips

In general, medical men prescribe iodine to be taken on an empty stomach, preferably 20 minutes before food is taken. During the passing years Vermont folk medicine has worked out a different plan and it is one I like to follow. It has been referred to in another connection elsewhere in this book. To repeat, adding one teaspoonful of apple cider vinegar to a glass of water to make the water acid in reaction, holding the medicine dropper horizontal in order to get a maximum drop, one drop of the Lugol's solution is added to the mixture. The contents are stirred with a spoon and sipped through the course of the meal, as one would drink a cup of coffee or tea.⁴⁷

Iodine overdose of more than 2,000 mg could be dangerous especially in people suffering from kidney ailments or tuberculosis. When taken in excess it might result in thyroid papillary cancer. Pregnant women and nursing mothers should be cautious not to take iodine more than the prescribed dosage.⁴⁸

Drug Interactions

Although certain medicines should not be used together at all, in other cases two different medicines may be used together even if an interaction might occur. In these cases, your doctor may want to change the dose, or other precautions may be necessary. When you are taking this medicine, it is especially important that your healthcare professional know if you are taking any of the medicines listed below. The following interactions have been selected on the basis of their potential significance and are not necessarily all-inclusive.

⁴⁶ <http://www.jcrows.com/iodine.html>

⁴⁷ <http://www.jcrows.com/iodine.html>

⁴⁸ <http://www.organicfacts.net/health-benefits/minerals/health-benefits-of-iodine.html>

Using this medicine with any of the following medicines may cause an increased risk of certain side effects, but using both drugs may be the best treatment for you. If both medicines are prescribed together, your doctor may change the dose or how often you use one or both of the medicines.

- Acenocoumarol
- Anisindione
- Dicumarol
- Phenindione
- Phenprocoumon
- Warfarin

Other Interactions

Certain medicines should not be used at or around the time of eating food or eating certain types of food since interactions may occur. Using alcohol or tobacco with certain medicines may also cause interactions to occur. Discuss with your healthcare professional the use of your medicine with food, alcohol, or tobacco.

Other Medical Problems

The presence of other medical problems may affect the use of this medicine. Make sure you tell your doctor if you have any other medical problems, especially:

- High blood levels of potassium (hyperkalemia) or
- Myotonia congenita or
- Tuberculosis—Potassium iodine may make these conditions worse
- Kidney disease—May cause an increase of potassium in the blood
- Overactive thyroid (unless you are taking this medicine for this medical problem)
—Prolonged use of potassium iodine may be harmful to the thyroid gland

If potassium iodide upsets your stomach, take it after meals or with food or milk unless otherwise directed by your doctor. If stomach upset (nausea, vomiting, stomach pain, or diarrhea) continues, check with your doctor.

For patients taking this medicine for radiation exposure:

Take this medicine only when directed to do so by state or local public health authorities.

Take this medicine once daily until the risk of significant exposure to radiation no longer exists. Do not take more of it and do not take it more often than directed. Taking more of

the medicine will not protect you better and may result in a greater chance of side effects.

For patients taking the oral solution form of this medicine:

This medicine is to be taken by mouth even if it comes in a dropper bottle.

Do not use if solution turns brownish yellow.

Take potassium iodide in a full glass (8 ounces) of water or in fruit juice, milk, or broth to improve the taste and lessen stomach upset. Be sure to drink all of the liquid to get the full dose of medicine.

If crystals form in potassium iodide solution, they may be dissolved by warming the closed container of solution in warm water and then gently shaking the container.

For patients taking the uncoated tablet form of this medicine:

Before taking, dissolve each tablet in ½ glass (4 ounces) of water or milk. Be sure to drink all of the liquid to get the full dose of medicine.⁴⁹

Recommended Brands

1 oz. J.CROW'S® Lugol's Solution 5%

<http://www.voiceofeden.org/products-page/supplements/1-oz-j-crows-lugols-solution-5/>

⁴⁹ <http://www.mayoclinic.com/health/drug-information/DR601129/DSECTION=before%2Dusing>

Plus: Chia Seeds

Recommended dosage

Chia seeds are unique in that there is no recommended dosage or evidence of risks from possibly eating too much. The amount used varies among individuals, how they feel and their needs. According to MyChiaSeeds.com, adults consuming chia for general nutrition and health purposes , such as increased energy, might typically consume 1 tbsp. per day. People who are adding calories to their diet or seeking increased satiety to prevent over-eating may wish to eat more.⁵⁰



Ways it helps the body

Blood Glucose and Lipid Balancer

Chia seeds may have the ability to stabilize blood sugar levels. Chia seeds, when eaten, form a gel inside your stomach during digestion that slows down the conversion of carbohydrates to sugar. This allows your body to feel satiated for longer periods of time, gives it more constant energy, and eliminates blood sugar spikes. Chia seeds may

⁵⁰ <http://www.livestrong.com/article/479503-recommended-dosage-of-chia-seed/>

also stabilize your cholesterol and triglyceride levels. In a study published in the January 2009 issue of "The British Journal of Nutrition," researchers found that consuming chia seeds can help prevent high cholesterol and high triglycerides as well as reduce the amount of overall fat accumulation.

Fluid and Electrolyte Stabilizer

Chia seeds have hydrophilic properties that make them an effective fluid and electrolyte stabilizer. According to the website Living and Raw Foods, chia seeds have the ability to absorb 12 times their weight in water. Therefore, eating chia seeds could help you maintain more nutrients and regulate your bodily fluids, eliminating the possibility of dehydration. Since chia seeds keep you hydrated, they may be a great addition to your diet, especially if you are an athlete or an avid exerciser.⁵¹

Chia is one of the few plant sources of complete protein. Usually, complete protein is only found in animal products. It provides you with healthy, steady energy.

Blood sugar is also important in keeping you energized. It may spike after meals, and leave you feeling run down later. Ever feel like you need an afternoon nap for no real reason? Probably blood sugar is the culprit. Once again, it is the seed's fiber and gelling action to the rescue. The two kinds of fiber present in every seed (soluble and insoluble) slow down the body's conversion of carbohydrates into sugars. This results with blood sugar that's more even throughout the day, and gives you the steady, never jittery or 'crash prone' energy you crave. Caffeine highs and sugary drinks will never provide that kind of long-lasting energy.

When the Chia Seed is exposed to water or other liquids it begins to hydrate. This means that the fibers on the outside of the seed (almost too small to see with the naked eye) begin to trap moisture and form it into a gel. Each seed forms its own big bead of gel, that is not easily removed.

When your body is metabolizing food smoothly, easily, and with enough hydration the toxins that might keep you run down are flushed away. Insoluble fiber does not add calories because it cannot be digested by the body. Instead, it acts as roughage, keeping digested food moving along smoothly. The gel formed by the soluble fibers of the seeds keeps the colon hydrated.

By balancing your vitamins and minerals with chia, you can curb cravings that might tempt you. By weight, chia has more calcium than whole milk. It also has magnesium and boron, essential trace minerals used in the absorption of calcium and other vitamins.⁵²

⁵¹ <http://www.livestrong.com/article/380454-chia-seeds-their-benefits/>

⁵² <http://www.mychiaseeds.com/Articles/LoseWeightChia.html>

Comparison - gram per gram

	700% more Omega-3 than farmed or wild Salmon
	500% more Calcium than milk
	200% more Iron than spinach
	100% more Potassium than bananas
	1400% more Magnesium than broccoli
	100% more Fiber than bran flakes
	500% more Protein than kidney beans
	300% more Selenium than flax seed
	800% more Phosphorus than whole milk
	More Antioxidants than blueberries
	More Folate than asparagus
	More Lignans than Flax

TOTAL ORAC 844 PER SERVING

How it's made

Chia is an edible seed that comes from the desert plant *Salvia hispanica*, grown in Mexico dating back to Mayan and Aztec cultures. "Chia" means strength, and folklore has it that these cultures used the tiny black and white seeds as an energy booster.

That makes sense, as chia seeds are a concentrated food containing healthy omega-3 fatty acids, carbohydrates, protein, fiber, antioxidants, and calcium.

Chia seeds are an unprocessed, whole-grain food that can be absorbed by the body as seeds (unlike flaxseeds). One ounce (about 2 tablespoons) contains 139 calories, 4 grams of protein, 9 grams fat, 12 grams carbohydrates and 11 grams of fiber, plus vitamins and minerals.

The mild, nutty flavor of chia seeds makes them easy to add to foods and beverages. They are most often sprinkled on cereal, sauces, vegetables, rice dishes, or yogurt or mixed into drinks and baked goods. They can also be mixed with water and made into a gel.⁵³

Benefits

Chia seeds were once used by the Aztecs as a superfood to support warriors' conquests and endurance. Chia seeds have a nut-like flavor and the ability to absorb up to nine times their volume in water, says Penni Shelton, author of "Raw Food Cleanse." While they are known to most Americans as the seeds used in the "Chia Pet" plants, chia seeds contain a high concentration of nutrients.

Macronutrients

An ounce of chia seeds contains 4.43g of protein and 12.43g of carbohydrates. Chia seeds provide 8.72g of fat, only .9 of which is saturated. Most of the fat in chia is polyunsaturated -- according to Living and Raw Foods website, chia is the richest vegetable source for omega-3 fatty acids.

Other Nutrients

In 1 oz., chia seeds provide 179mg of calcium -- about 18 percent of the recommended daily allowance. Chia seeds are also a source of magnesium, manganese, copper, iron, molybdenum, niacin and zinc. Chia seeds offer about 38 percent of an adult's needs for phosphorous, which supports bone strength and helps extract energy from food.

Additional Benefits

Chia seeds soaked in water create a gel that can help with hydration. This gel may also enhance feelings of fullness, assisting dieters in managing overeating. A study published in the British Journal of Nutrition in January 2009 reported that consuming

⁵³ <http://www.webmd.com/diet/features/truth-about-chia>

chia seeds reduced visceral fat in rats and helped moderate their cholesterol levels and insulin resistance, even when they were fed a diet rich in sugar.

Fiber Potential

Chia seeds contain 10.7g of fiber per 1 oz. serving. Fiber can help lower your cholesterol levels, keep your digestion working smoothly and enhance the health of your colon, says the Harvard School of Public Health. The cholesterol-lowering effects of chia fiber are even greater than that of oatmeal, says Shelton.

Considerations

Unlike flax seeds, chia do not need to be ground to release their nutritional benefits. Chia seeds do not become rancid easily, so they may be stored for a long period of time. Chia may be blended into smoothies or used as an addition to nut milks but should be soaked 10 minutes before ingesting so they do not use your bodily fluids to expand.⁵⁴

Warning/Tips

People with digestive disorders such as Irritable Bowel Syndrome or Chron's should gradually introduce chia seeds to their diet to avoid adverse flare-ups. This is typically due to the high fiber content of chia seeds. Furthermore, people on blood thinners may need to avoid the seeds as omega-3s present in chia are natural blood thinners.⁵⁵

Recommended Brands

Nutivia Organic Chia Seeds <https://store.nutiva.com/chia-seed/>

⁵⁴ <http://www.livestrong.com/article/273174-chia-seed-nutrients/>

⁵⁵ <http://www.livestrong.com/article/479503-recommended-dosage-of-chia-seed/>

Plus: Dark Chocolate

Recommended dosage

Dark Chocolate - 6-7 g high cocoa content daily⁵⁶⁵⁷



Ways it helps the body

Blood Pressure

Dark chocolate can help reduce blood pressure slightly and improve endothelial function, a Yale Prevention Research Center study reported in the July 2008 "American Journal of Clinical Nutrition." Endothelial cells, which line the arteries, produce nitric acid, a chemical that relaxes and dilates blood vessels to manage blood pressure. The study, reported by lead author Zubaida Faridi, M.D., assistant director of the center, found that dark chocolate in bar form and both sugar-free and regular cocoa powder reduced blood pressure in overweight but otherwise healthy adults. Endothelial function improved more when sugar-free cocoa was taken. This benefit decreases once the daily dose of dark chocolate stops, Harvard Health Publications reports. A 2005 study conducted by the University of L'Aquila and reported in the same journal by lead author Davide Grassi, M.D. found that dark chocolate reduced blood pressure but white chocolate did not.

Cholesterol

As an antioxidant, dark chocolate can improve cholesterol levels by decreasing oxidation of low-density lipoprotein, the so-called "bad" type of cholesterol and raising high-density lipoprotein, the "good" cholesterol. A study in the March 2007 "American

⁵⁶ <http://articles.mercola.com/sites/articles/archive/2008/10/09/how-much-chocolate-should-you-eat.aspx>

⁵⁷ <http://www.livestrong.com/article/392540-how-much-dark-chocolate-do-you-need-to-realize-health-benefits/>

Journal of Clinical Nutrition," by Seigo Baba of the Food and Health R&D Laboratories in Japan, compared lipid levels after 12 weeks of cocoa or placebo. The cocoa group had a 24 increase in HDL levels and a decrease in LDL oxidation.

Insulin Sensitivity

The 2005 study conducted by Dr. Grassi also found that dark chocolate but not white chocolate decreased insulin sensitivity. Insulin sensitivity contributes to development of metabolic resistance, which can lead to type 2 diabetes.

Platelet Aggregation

Platelets are necessary clotting factors in blood. But platelets sticking together to form clots at the site of atherosclerotic plaques in blood vessels can increase the risk of clot formation, which narrows arteries and can increase the risk of heart attack. Clots can break off, traveling to the brain and lodging in blood vessel to cause stroke. A study reported in the August 2003 issue of "Platelets" found that dark chocolate inhibited platelet aggregation. Milk chocolate and white chocolate did not have this effect, lead author Andrew Innes, M.D of Ninewells Hospital and Medical School reported.⁵⁸

Cardiovascular Benefits

Flavonols are bitter-tasting, which gives dark chocolate its less-sweet taste. These chemicals can decrease heart disease and stroke, primarily by decreasing the vascular resistance of blood vessels. This physiological response also lowers blood pressure.

They also may decrease the amount of recovery time required after physical activity or exercise. Platelet clotting time may also be decreased, further decreasing thrombus and embolus formation (blood clots), both leading causes of heart attack and stroke. This can also have a positive effect on diabetics with vascular compromises related to the disease.

Brain Function

Theobromine is a stimulant similar to caffeine. It can also increase memory function. Dark chocolate has a chemical neurotransmitter called anandamide, which can produce euphoria-like sensation. The brain's serotonin increases with consumption, decreasing stress hormones.

Skin Benefits

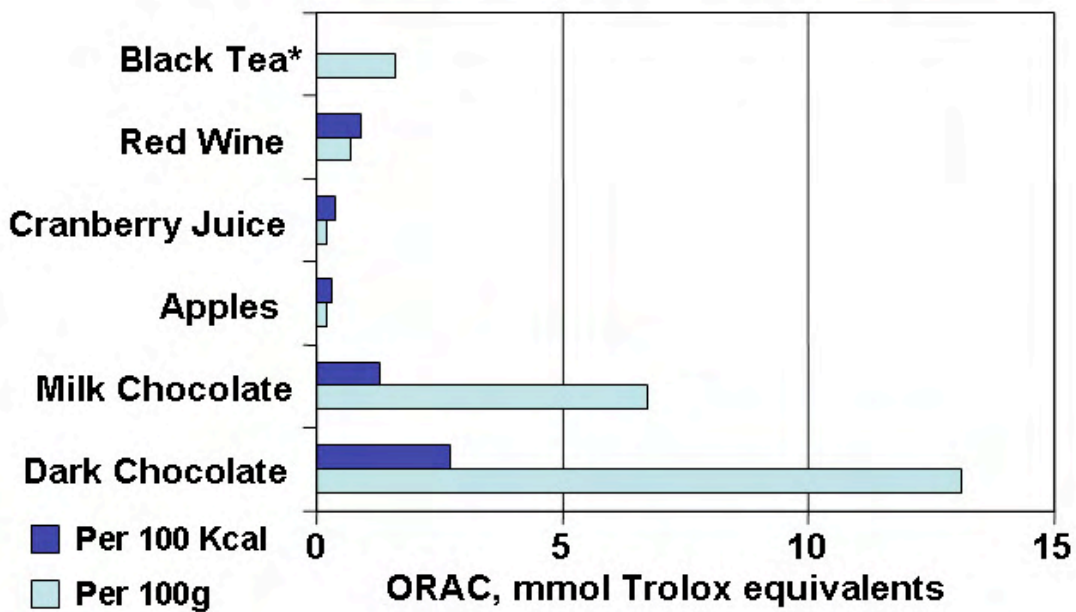
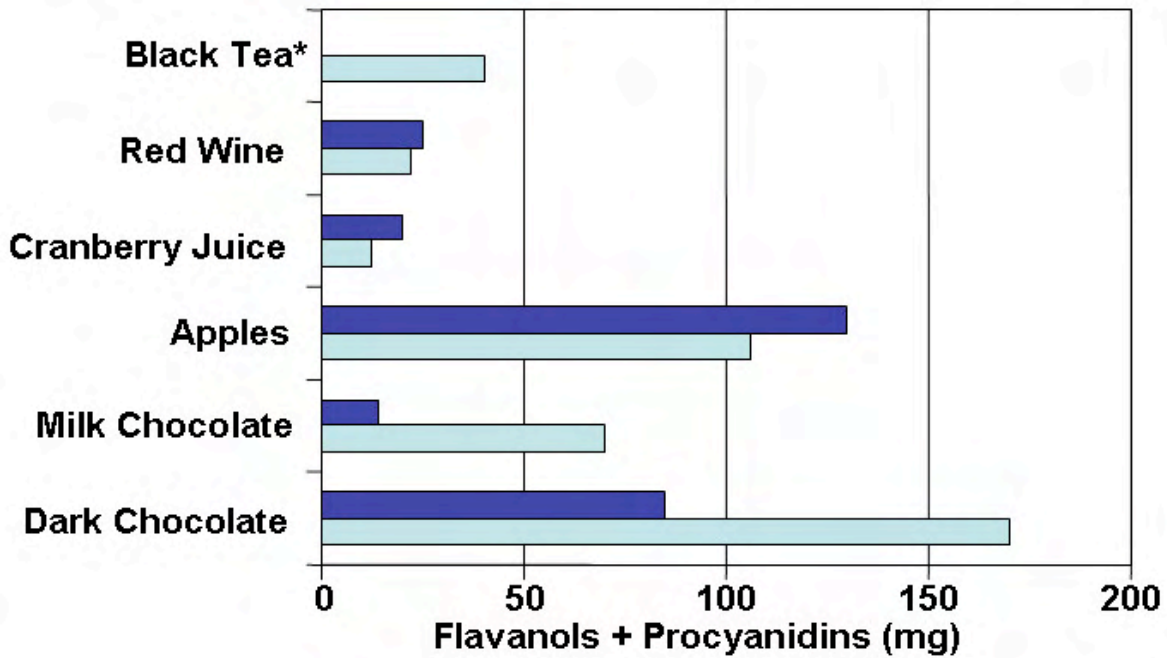
Polyphenols are antioxidants that help the body rid itself of abnormal cells. These also help protect the skin from effects of ultraviolet radiation, therefore assisting in the prevention of aging of the skin, as well as serving as a protective mechanism from skin cancer.

Fats

According to Cleveland Clinic, the fat from chocolate contains equal parts of stearic, palmitic and oleic acids. The stearic and palmitic acids are neutral to cholesterol, not

⁵⁸ <http://www.livestrong.com/article/356867-health-effects-of-dark-chocolate/>

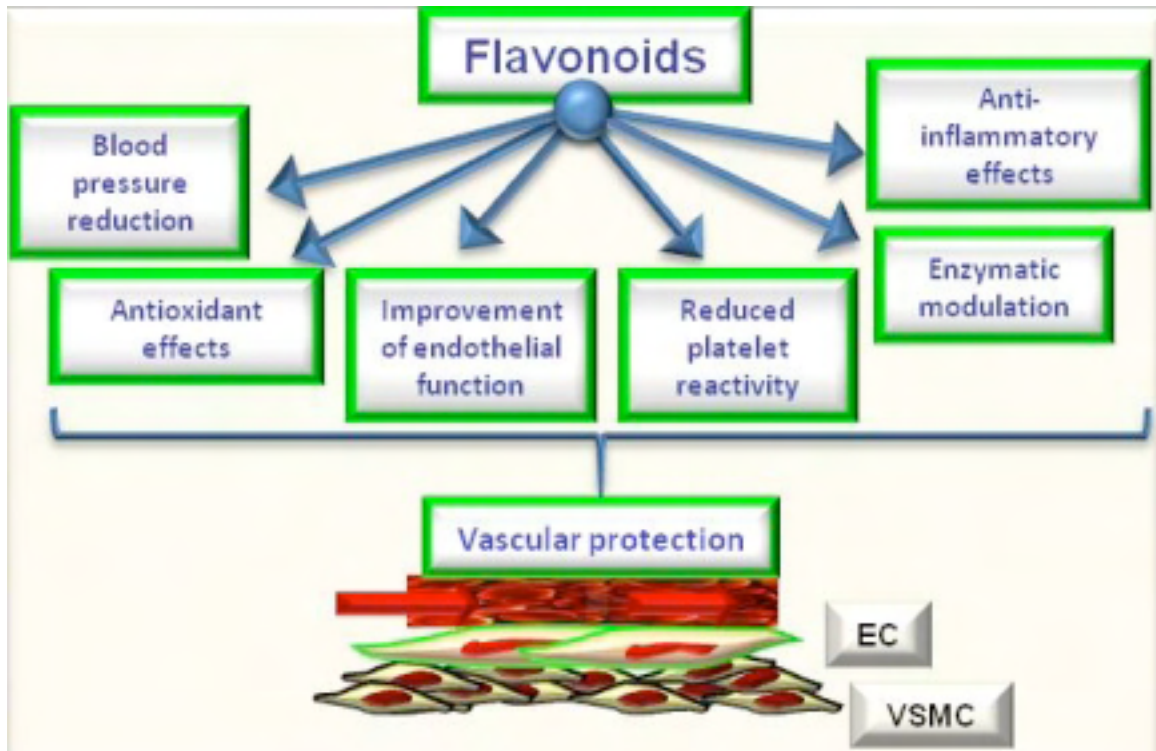
increasing nor decreasing low-density lipoprotein. According to "Chemical & Engineering News," oleic acid is a monounsaturated fat found especially in olive oil, which decreases blood pressure.⁵⁹



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⁵⁹ <http://www.livestrong.com/article/315925-what-makes-dark-chocolate-healthy/>

⁶⁰ <http://www.nutritionandmetabolism.com/content/3/1/2/figure/F2?highres=y>



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How it's made

Cocoa naturally has a very strong, pungent taste, which comes from the flavanols. When cocoa is processed into your favorite chocolate products, it goes through several steps to reduce this taste. The more chocolate is processed (through things like fermentation, alkalizing, roasting, etc.), the more flavanols are lost.

Most commercial chocolates are highly processed. Although it was once believed that dark chocolate contained the highest levels flavanols, recent research indicates that, depending on how the dark chocolate was processed, this may not be true. The good news is that most major chocolate manufacturers are looking for ways to keep the flavanols in their processed chocolates. But for now, your best choices are likely dark chocolate over milk chocolate (especially milk chocolate that is loaded with other fats and sugars) and cocoa powder that has not undergone Dutch processing (cocoa that is treated with an alkali to neutralize its natural acidity).⁶²

Both cocoa powder and dark chocolate bars provide health benefits. Unsweetened cocoa powder actually contains a much higher percentage of nonfat cocoa solids than dark chocolate, with respectively about 82 percent compared to 23 percent, according to Harvard Health Publications. Commercial processing methods, such as roasting, fermenting and alkalizing, can deplete the flavonol content of cocoa, so choose less

⁶¹ <http://www.nursebridgid.com/2012/02/citrus-fruits-can-save-your-life.html>

⁶² <http://my.clevelandclinic.org/heart/prevention/nutrition/chocolate.aspx>

processed cocoa and chocolate bars with a high cocoa percentage. Heart-healthy chocolate should have a bitter flavor, which comes from the beneficial flavonols. The flavonol content of chocolate may not depend as much on its cocoa percentage as on its processing, suggests the Cleveland Clinic. Still, dark chocolate provides a better choice than milk chocolate, and is a much better choice than white chocolate, which doesn't contain flavonols. Choose cocoa powders and chocolate bars with minimal added sugar. Chocolate or cocoa should appear first in the ingredient list, rather than as a form of sugar.⁶³

Benefits

Chocolate has gotten a lot of media coverage in recent years because it's believed that it may help protect your cardiovascular system. The reasoning being that the cocoa bean is rich in a class of plant nutrients called flavonoids.

Flavonoids help protect plants from environmental toxins and help repair damage. They can be found in a variety of foods, such as fruits and vegetables. When we eat foods rich in flavonoids, it appears that we also benefit from this "antioxidant" power.

Antioxidants are believed to help the body's cells resist damage caused by free radicals that are formed by normal bodily processes, such as breathing, and from environmental contaminants, like cigarette smoke. If your body does not have enough antioxidants to combat the amount of oxidation that occurs, it can become damaged by free radicals.

For example, an increase in oxidation can cause low-density lipoprotein (LDL), also known as "bad" cholesterol, to form plaque on the artery walls.

Flavanols are the main type of flavonoid found in cocoa and chocolate. In addition to having antioxidant qualities, research shows that flavanols have other potential influences on vascular health, such as lowering blood pressure, improving blood flow to the brain and heart, and making blood platelets less sticky and able to clot.

The fat in chocolate comes from cocoa butter and is made up of equal amounts of oleic acid (a heart-healthy monounsaturated fat also found in olive oil), stearic and palmitic acids. Stearic and palmitic acids are forms of saturated fat. You may know that saturated fats are linked to increases in LDL cholesterol and the risk of heart disease.

But, research shows that stearic acid appears to have a neutral effect on cholesterol, neither raising nor lowering it. Although palmitic acid does affect cholesterol levels, it only makes up one-third of the fat calories in chocolate. Still, this does not mean you can eat all the dark chocolate you'd like.

⁶³ <http://www.livestrong.com/article/461735-the-best-dark-chocolate-to-eat-to-help-lower-your-blood-pressure/>

Be careful about the type of dark chocolate you choose: chewy caramel-marshmallow-nut-covered dark chocolate is by no means a heart-healthy food option. Watch out for those extra ingredients that can add lots of extra fat and calories.⁶⁴

According to researchers, 6.7 grams of dark chocolate per day -- a bit less than half a bar a week -- represents the ideal amount for a protective effect against inflammation and cardiovascular disease.

The findings come from one of the largest epidemiological studies ever conducted in Europe. The study focused on the complex mechanism of inflammation. Chronic inflammation is a risk factor for the development of cardiovascular diseases ranging from myocardial infarction to stroke.

The study found that people having moderate amounts of dark chocolate regularly had significantly lower levels of C-reactive protein in their blood, which indicates that their inflammatory state was considerably reduced.

Those who ate dark chocolate regularly had a 17% average reduction in C-reactive protein -- enough to decrease the risk of cardiovascular disease by one-third in women and one-fourth in men.

The findings apply to dark chocolate only. Milk chocolate does not have the same effect, since milk interferes with the absorption of polyphenols.⁶⁵

Warning/Tips

To get the maximum benefits of chocolate for the fewest calories, eat dark chocolate bars that have a high percentage of cocoa. Choose chocolate that is at least 60 percent cocoa, and as you become accustomed to the flavor, gradually increase the percentage of the chocolate in your treats, easing up to bars that are 70, 80 or even 90 percent pure cocoa, sometimes spelled "cacao" on packaging.⁶⁶

Keep in mind, too, that chocolate really needs to be high quality and minimally processed to be healthy. Look for varieties that use the least destructive processing techniques and preserve the highest levels of the beneficial polyphenolic bioflavanoids that are naturally present in cocoa.

Generally speaking, dark, organic chocolate contains the most flavonols, but the best choice would be raw cacao, which is relatively bitter because it doesn't have sugar in it.

⁶⁴ <http://my.clevelandclinic.org/heart/prevention/nutrition/chocolate.aspx>

⁶⁵ <http://articles.mercola.com/sites/articles/archive/2008/10/09/how-much-chocolate-should-you-eat.aspx>

⁶⁶ <http://www.livestrong.com/article/447338-how-much-dark-chocolate-a-day-is-good-for-health/>

If you opt for most commercial, processed chocolate (much of which has added soybean oils, sugar and other unsavory ingredients), don't expect it to be healthy. In fact, some processed chocolate can be contaminated with extremely high quantities of lead, which is something to consider when you're deciding what to hand out this year for Halloween.

Finally, if you are struggling with serious disease of any kind (diabetes, high blood pressure, obesity, cancer, etc.) you should hold off on eating chocolate, as most all of it contains a lot of sugar, and sugar depresses your immune system.⁶⁷

Recommended Brands

Green and Black's Dark – 85% Cacao

<http://www.greenandblacks.com/us/our-chocolates/bars/dark-85.html>

⁶⁷ <http://articles.mercola.com/sites/articles/archive/2008/10/09/how-much-chocolate-should-you-eat.aspx>

Plus: Turmeric

Recommended dosage

- Cut root: 1.5 - 3 g per day
- Dried, powdered root: 1 - 3 g per day
- Standardized powder (curcumin): 400 - 600 mg, 3 times per day
- Fluid extract (1:1) 30 - 90 drops a day
- Tincture (1:2): 15 - 30 drops, 4 times per day⁶⁸



⁶⁸ <http://www.umm.edu/altmed/articles/turmeric-000277.htm>

Ways it helps the body

- It is a natural antiseptic and antibacterial agent, useful in disinfecting cuts and burns.
- When combined with cauliflower, it has shown to prevent prostate cancer and stop the growth of existing prostate cancer.
- Prevented breast cancer from spreading to the lungs in mice.
- May prevent melanoma and cause existing melanoma cells to commit suicide.
- Reduces the risk of childhood leukemia.
- Is a natural liver detoxifier.
- May prevent and slow the progression of Alzheimer's disease by removing any plaque buildup in the brain.
- May prevent metastases from occurring in many different forms of cancer.
- It is a potent natural anti-inflammatory that works as well as many anti-inflammatory drugs but without the side effects.
- Has shown promise in slowing the progression of multiple sclerosis in mice.
- Is a natural painkiller and cox-2 inhibitor.
- May aid in fat metabolism and help in weight management.
- Has long been used in Chinese medicine as a treatment for depression.
- Because of its anti-inflammatory properties, it is a natural treatment for arthritis and rheumatoid arthritis.
- Boosts the effects of chemo drug paclitaxel and reduces its side effects.
- Promising studies are underway on the effects of turmeric on pancreatic cancer.
- Studies are ongoing in the positive effects of turmeric on multiple myeloma.
- Has been shown to stop the growth of new blood vessels in tumors.
- Speeds up wound healing and assists in remodeling of damaged skin.
- May help in the treatment of psoriasis and other inflammatory skin conditions.⁶⁹

⁶⁹ <http://www.healthdiaries.com/eatthis/20-health-benefits-of-turmeric.html>

How it's made

The roots, or rhizomes and bulbs, are used in medicine and food. They are generally boiled and then dried, turning into the familiar yellow powder. Curcumin, the active ingredient, has antioxidant properties. Other substances in this herb have antioxidant properties as well.

A relative of ginger, turmeric is a perennial plant that grows 5 - 6 feet high in the tropical regions of Southern Asia, with trumpet-shaped, dull yellow flowers. Its roots are bulbs that also produce rhizomes, which then produce stems and roots for new plants. Turmeric is fragrant and has a bitter, somewhat sharp taste. Although it grows in many tropical locations, the majority of turmeric is grown in India, where it is used as a main ingredient in curry.⁷⁰

Benefits

Now let's look at how it works in your body. One of the main components in turmeric is curcumin, which just happens to be an incredibly powerful antioxidant.

When we breathe, cells use the oxygen we take in and then they spit out free radicals. This is a process called oxidation and it's the same thing that causes iron to rust. Now imagine that happening inside your body. The thing with free radicals is that they have unpaired electrons, which makes them highly unstable. A molecule with unpaired electrons is either going to get rid of an electron, or steal one from somewhere else to become stable. The problem with this is that it can cause a damaging chain reaction. In order for one free radical to become stable, another molecule has to become unstable and so on and so on. This is where antioxidants like curcumin come into play.

Curcumin and other antioxidants neutralize free radicals. They literally hunt them down and stabilize them. This can help in a couple different ways. If a chain reaction has already begun, antioxidants have the ability to put a stop to it or they can prevent it from ever getting started in the first place. Keep in mind that oxidation is a natural process.

There's nothing we can do to stop it. In fact, it's necessary to sustain life. However, by taking antioxidants like curcumin in moderation, we can slow down its degenerative side effects.

Aside from containing powerful antioxidants, turmeric also happens to be an anti-inflammatory. Our bodies produce two prostaglandins, cyclooxygenase-1 and cyclooxygenase-2, known respectively as COX-1 and COX-2. While COX-1 is important in our bodies and necessary for proper blood clotting, COX-2 is only associated with inflammation. Aspirin prevents inflammation by blocking production of both prostaglandins, but turmeric only blocks production of COX-2. It is easy to see how this

⁷⁰ <http://www.umm.edu/altmed/articles/turmeric-000277.htm>

would be beneficial. Turmeric allows us to stop inflammation without affecting other important body functions.

Turmeric happens to have powerful anti-inflammatory, antiseptic and antibiotic properties. It can be made into a paste and applied directly to the skin to help heal sprains, open wounds and other injuries. As a result of its anti-inflammatory properties, it has been used for years to treat patients with many different types of arthritis. And some contend that it not only prevents heart failure but also can repair damage that has already been done. On top of all that, people use it to treat acne as well as other skin conditions like psoriasis and eczema.

Curcumin, the main component in turmeric, has been known to help "clean" the liver, which in turn improves liver function. As a result, the liver is able to get rid of more LDL cholesterol. And yes, that's the bad kind. The same principles applied here could mean that turmeric can be helpful with treating digestive illnesses. Furthermore, many believe its ability to speed up metabolism can assist with weight loss.

Surprisingly, turmeric can also provide relief from diarrhea and it reportedly cures bladder infections. Research regarding its affect on cancer is ongoing; it's shown promise in the area of slowing the spread of cancerous cells. Indian men who ingest turmeric regularly rarely develop colon cancer. New studies are also showing that turmeric may be able to prevent Alzheimer's and slow down the disease's progression in patients who already have it. Studies are currently underway to determine whether or not turmeric can also be used in the fight against HIV and cystic fibrosis.⁷¹

Warning/Tips

Turmeric in food is considered safe.

Turmeric and curcumin supplements are considered safe when taken at the recommended doses. However, taking large amounts of turmeric for long periods of time may cause stomach upset and, in extreme cases, ulcers. People who have gallstones or obstruction of the bile passages should talk to their doctor before taking turmeric.

If you have diabetes, talk to your doctor before taking turmeric supplements. Turmeric may lower blood sugar levels, and when combined with medications for diabetes could cause hypoglycemia (low blood sugar).

Although it is safe to eat foods with turmeric, pregnant and breastfeeding women should not take turmeric supplements.

Because turmeric may act like a blood-thinner, you should stop taking it at least 2 weeks before surgery. Tell your doctor and surgeon that you have been taking turmeric.

⁷¹ <http://tlc.howstuffworks.com/family/turmeric1.htm>

If you are being treated with any of the following medications, you should not use turmeric or curcumin in medicinal forms without first talking to your health care provider.

Blood-thinning Medications

Turmeric may make the effects of these drugs stronger, raising the risk of bleeding. Blood-thinners include warfarin (Coumadin), clopidogrel (Plavix), and aspirin, among others.

Drugs that reduce stomach acid -- Turmeric may interfere with the action of these drugs, increasing the production of stomach acid:

- Cimetidine (Tagamet)
- Famotidine (Pepcid)
- Ranitidine (Zantac)
- Esomeprazole (Nexium)
- Omeprazole
- Lansoprazole (Prevacid)

Diabetes Medications

Turmeric may make the effects of these drugs stronger, increasing the risk of hypoglycemia (low blood sugar).⁷²

Recommended Brands

Organic India Turmeric Formula

<http://shop.mercola.com//product/turmeric-formula-capsules-90-per-bottle-1-bottle.46.htm>

⁷² <http://www.umm.edu/altmed/articles/turmeric-000277.htm>

Plus: Bee Pollen

Recommended dosage

There is not a typical dosage of bee pollen. However, some experts say up to 1 tablespoon of bee granules daily is the usual dosage. For other forms of bee pollen, it's important that you follow the manufacturer's recommendation.⁷³



Ways it helps the body

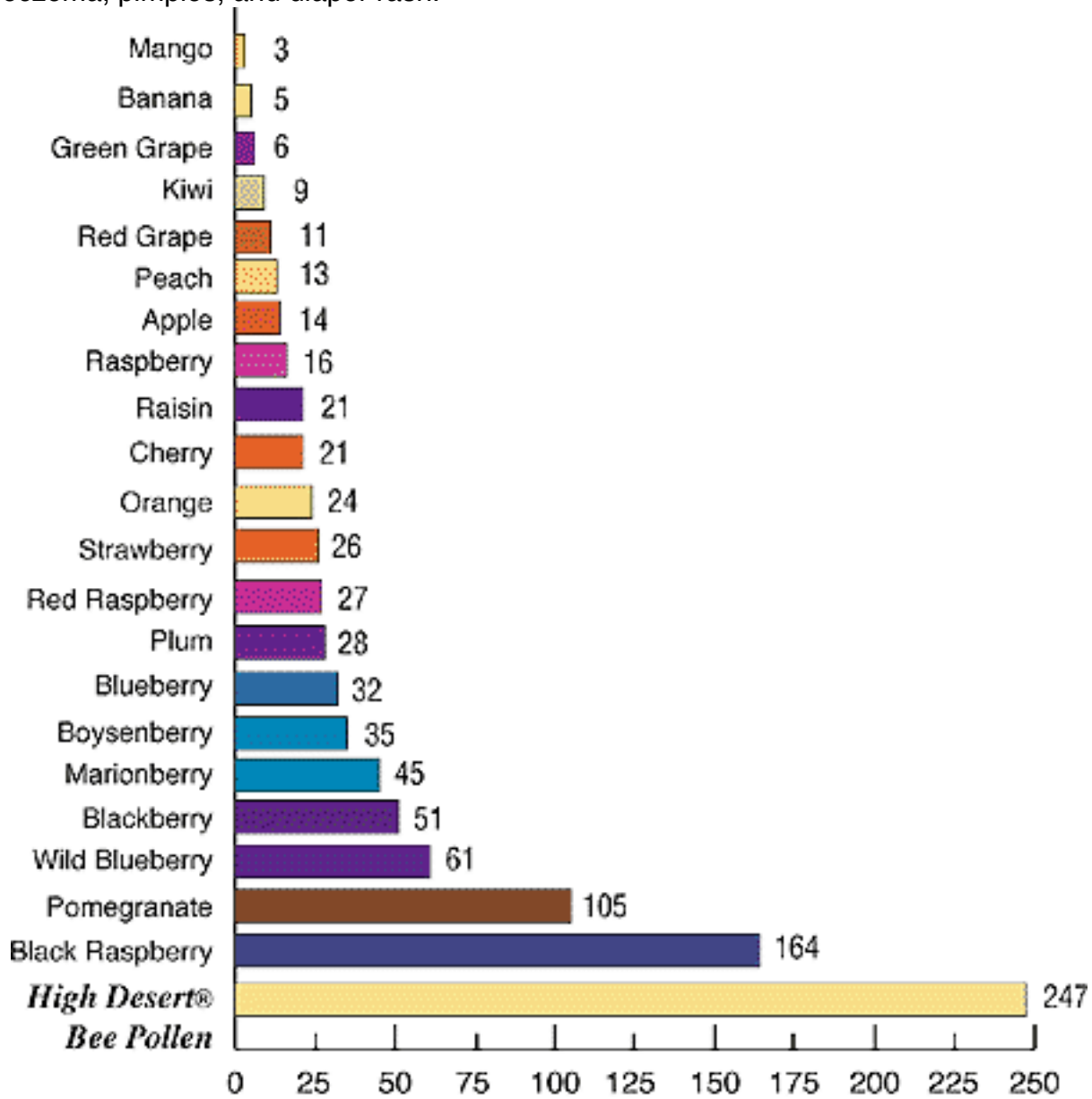
People take bee pollen for nutrition; as an appetite stimulant; to improve stamina and athletic performance; and for premature aging, premenstrual syndrome (PMS), hay fever (allergic rhinitis), mouth sores, joint pain (rheumatism), painful urination, prostate conditions, and radiation sickness.

It is also used for bleeding problems including coughing or vomiting blood, bloody diarrhea, nosebleed, brain hemorrhage, and menstrual problems.

Bee pollen is also used for gastrointestinal (GI) problems including constipation, diarrhea, enteritis, and colitis. Some people use bee pollen as a general tonic, to increase urine flow, and for alcohol intoxication.

⁷³ <http://www.nutritional-supplement-educational-centre.com/bee-pollen-side-effects.html>

Bee pollen is used topically for skin care in skin softening products, and for treating eczema, pimples, and diaper rash.⁷⁴



ORAC Value (umole TE/g) *Values based on limited sample size and fresh weight ⁷⁵

How it's made

⁷⁴ <http://www.webmd.com/vitamins-supplements/ingredientmono-78-BEE%20POLLEN.aspx?activeIngredientId=78&activeIngredientName=BEE%20POLLEN>

⁷⁵ <http://www.health-herbal.com/html/antioxidants.html>

Bee pollen is produced by flowering plant pollens that cling to "worker" bee's hind legs as they buzz around and go about their business gathering nectar. It consists of plant pollens combined with plant nectar and bee salvia. We reap the touted health benefits of bee pollen when it is gathered with a special device placed at the entrance of the hive. As the bee's pass through to enter the hive this device causes much of the pollen to brush off their hind legs where it is trapped.⁷⁶

Benefits

Bee pollen contains 35% protein, 55% carbohydrates, 2% fatty acids, and 3% minerals and vitamins. Consequently, it has been noted to have a high concentration of vitamins A, C, D, and E, and it is extraordinary rich in the B-complex vitamins. However, bee pollen's composition may vary depending on plant sources and geographic region.

First, bee pollen consists of antioxidant compounds such as vitamins C and E, beta carotene, and flavonoids, which makes it a free radical fighter. Antioxidants are compounds that help protect the body from cellular damage caused by free radicals.

The body needs antioxidants because with every breath you take (among others) you generate free radicals, which are highly reactive substances that can attack and damage cells, contributing to premature aging and disease if left unchecked.

For centuries, China used bee pollen as a general health tonic and as a natural medicine. In fact, in recent years Chinese researchers reported results of animal studies suggesting that bee pollen inhibits benign prostate overgrowth, slows the aging process, and lowers cholesterol.

Bee pollen adds to the nutrition benefits with its jam-packed nutrient content, and, as such, it is often used as a general tonic to boost the immune system.

In addition, it is used to boost energy and vitality, which probably stems from the B vitamins. The vitamin B complex family is well prized for its energy boosting abilities and for combating stress.

Bee pollen is very popular among athletes as they often use it to increase endurance, stamina, muscle strength, and mental clarity.

There is some indication that bee pollen may help those who suffer from allergies by having a desensitizing effect on the immune system.

For example, you may be allergic to certain pollens that the "worker" bees collected in small concentrations. As you begin to consume bee pollen, your immune system starts to become desensitized to the point that your body can tolerate more of these allergic pollens.

⁷⁶ <http://www.nutritional-supplement-educational-centre.com/health-benefits-of-bee-pollen.html>

Bee pollen also contains lecithin. Lecithin is a substance that helps flush fat from the body and it stimulates the metabolic processes and, as such, it increases the speed at which calories are burned. Therefore, bee pollen may be helpful for weight control. Lastly, bee pollen is believed to have the ability to eliminate toxins and poisonous materials from the body.⁷⁷

Warning/Tips

Side effects. Generally, bee pollen seems fairly safe. However, it could cause potentially serious allergic reactions in people with allergies to honey, pollen (like ragweed or other plants, depending on where the bee pollen comes from), or bee stings. Symptoms could include itching, redness, swelling, hives, shortness of breath, and even anaphylactic shock.

Risks. If you have any medical conditions, check with a doctor before you start using bee pollen regularly. It might not be safe for people with allergic asthma, blood disorders, or liver disease. People who take bee pollen for allergies could actually aggravate their symptoms if they are allergic to any of the pollens in the supplement. Interactions. If you take any medicines regularly, talk to your doctor before you start using bee pollen supplements.⁷⁸

To maximize you're health benefits of bee pollen we recommend the following:

1. It's important that you exercise extreme caution when purchasing bee pollen supplements. Some products have been found to be tainted with contaminants as a direct result from air pollution. This would include pesticides, herbicides, and environmental chemicals (heavy metals). In addition, there are many companies importing bee products, mostly from China, which is either loosely or completely unregulated and, as such, could be harmful to your health.

Therefore, to ensure your source is pristine, we advise that you purchase your product from pharmaceutical GMP compliant facilities. These manufacturers follow very stringent regulatory guidelines to make sure the product source does not harbor contaminants.

2. Select a bee pollen product from a manufacturer that provides you with information as to where their bee pollen source is being harvested from. Ensure the source is harvested from a pristine clean area.
3. For maximum health benefits of bee pollen, select a supplement that is freeze-dried. This process preserves the vital nutrients and prevents the bee pollen from becoming oxidized, which means it maintains its nutritional potency. Avoid

⁷⁷ <http://www.nutritional-supplement-educational-centre.com/health-benefits-of-bee-pollen.html>

⁷⁸ <http://www.webmd.com/vitamins-and-supplements/lifestyle-guide-11/supplement-guide-bee-pollen>

MMS Plus+

processed or heat dried bee pollen as this destroys the sensitive enzymes and nutrients.⁷⁹

Recommended Brands

Natural Energy with NZ Bee Pollen

http://www.xtend-life.com/product/Natural_Energy_with_NZ_Bee_Pollen.aspx?id=999775

⁷⁹ <http://www.nutritional-supplement-educational-centre.com/health-benefits-of-bee-pollen.html>

Plus: Ginger

Recommended dosage

In general, don't take more than 4g of ginger per day, including food sources. Pregnant women should not take more than 1g per day.

- **Standardized dose:** Take 75 - 2,000 mg in divided doses with food, standardized to contain 4% volatile oils or 5% total pungent compounds including 6-gingerol or 6-shogaol.
- **For nausea, gas, or indigestion:** 2 - 4 grams of fresh root daily (0.25 - 1.0 g of powdered root) or 1.5 - 3.0 mL (30 - 90 drops) liquid extract daily. To prevent vomiting, take 1 gram of powdered ginger (1/2 tsp) or its equivalent, every 4 hours as needed (not to exceed 4 doses daily), or 2 ginger capsules (1 gram), 3 times daily. You may also chew a 1/4 oz piece of fresh ginger when needed.
- **For pregnancy-induced vomiting:** use 250 mg 4 times daily for up to 4 days. Talk to your doctor before taking ginger.
- **For arthritis pain:** 250 mg 4 times daily.⁸⁰



⁸⁰ <http://www.umm.edu/altmed/articles/ginger-000246.htm>

Ways it helps the body

Ginger -- the underground stem, or rhizome, of the plant *Zingiber officinale* -- has been used as a medicine in Asian, Indian, and Arabic herbal traditions since ancient times. In China, for example, ginger has been used to help digestion and treat stomach upset, diarrhea, and nausea for more than 2,000 years. Ginger has also been used to help treat arthritis, colic, diarrhea, and heart conditions.

In addition to being used as a medicine, ginger is used throughout the world as an important cooking spice. It also has been used to help treat the common cold, flu-like symptoms, headaches, and painful menstrual periods.⁸¹

Ginger is commonly used to treat various types of “stomach problems,” including motion sickness, morning sickness, colic, upset stomach, gas, diarrhea, nausea caused by cancer treatment, nausea and vomiting after surgery, as well as loss of appetite.

Other uses include pain relief from arthritis or muscle soreness, menstrual pain, upper respiratory tract infections, cough, and bronchitis. Ginger is also sometimes used for chest pain, low back pain, and stomach pain.

Some people pour the fresh juice on their skin to treat burns. The oil made from ginger is sometimes applied to the skin to relieve pain.

In foods and beverages, ginger is used as a flavoring agent.

In manufacturing, ginger is used as for fragrance in soaps and cosmetics.

One of the chemicals in ginger is also used as an ingredient in laxative, anti-gas, and antacid medications.

Nausea and vomiting following surgery. Most clinical research shows that taking 1 gram of ginger one hour before surgery seems to reduce nausea and vomiting during the first 24 hours after surgery. One study found ginger reduced nausea and vomiting by 38%. However, ginger might not reduce nausea and vomiting in the period 3-6 hours after surgery.

Dizziness. Taking ginger seems to reduce the symptoms of dizziness, including nausea.

Menstrual pain. Some research shows that ginger can reduce symptoms of menstrual pain in some women when taken during menstruation. One study shows that taking a specific ginger extract (Zintoma, Goldaru) 250 mg four times daily for 3 days at the

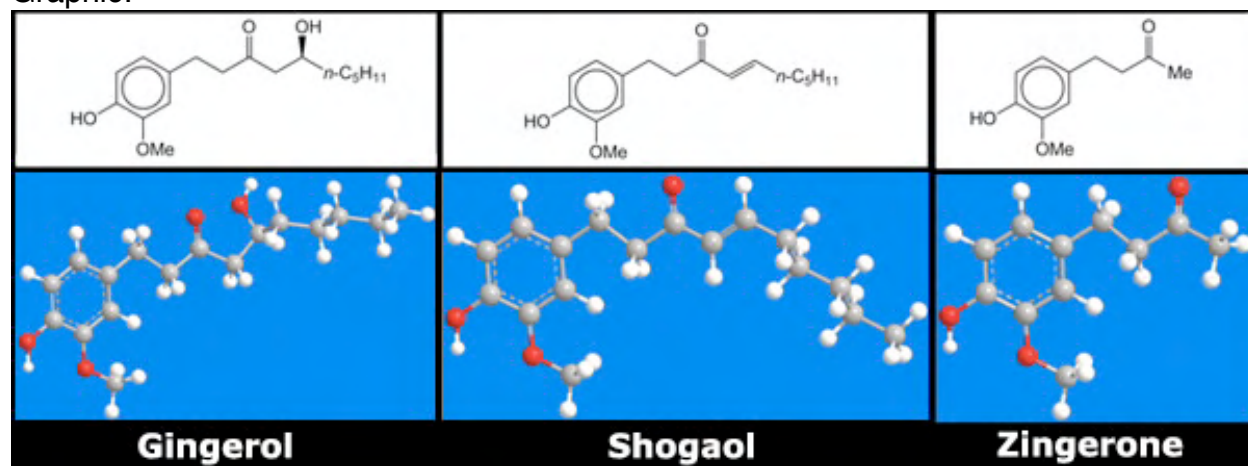
⁸¹ <http://www.umm.edu/altmed/articles/ginger-000246.htm>

beginning of the menstrual period reduces pain symptoms in as many as 62% of people. It seems to work about as well as the medications ibuprofen or mefenamic acid.

Arthritis. Some research shows that taking ginger can modestly reduce pain in some people with a form of arthritis called “osteoarthritis.” One study shows that taking a specific ginger extract (Zintona EC) 250 mg four times daily reduced arthritis pain in the knee after 3 months of treatment. Another study shows that using a different ginger extract (Eurovita Extract 77; EV ext-77), which combines a ginger with alpinia also reduces pain upon standing, pain after walking, and stiffness. Some research has compared ginger to medications such as ibuprofen. In one study, a specific ginger extract (Eurovita Extract 33; EV ext-33) did not work as well as taking ibuprofen 400 mg three times daily for reducing arthritis pain. But in another study, taking ginger extract 500 mg twice daily worked about as well as ibuprofen 400 mg three times daily for hip and knee pain related to arthritis.

Preventing morning sickness (discuss the possible risks with your healthcare provider). Ginger seems to reduce nausea and vomiting in some pregnant women. But taking any herb or medication during pregnancy is a big decision. Before taking ginger, be sure to discuss the possible risks with your healthcare provider.”⁸²

Graphic:



83

⁸² <http://www.webmd.com/vitamins-supplements/ingredientmono-961-GINGER.aspx?activeIngredientId=961&activeIngredientName=GINGER>

⁸³ http://portal.acs.org/portal/acs/corg/content?_nfpb=true&_pageLabel=PP_ARTICLEMAIN&node_id=841&content_id=CNBP_028724&use_sec=true&ec_url_var=region1&uuid=023575cb-e231-42d0-9b0b-59922c188bfe

How it's made

Ginger is a knotted, thick, beige underground stem, called a rhizome. The stem sticks up about 12 inches above ground with long, narrow, ribbed, green leaves, and white or yellowish-green flowers.

Ginger products are made from fresh or dried ginger root, or from steam distillation of the oil in the root. The herb is available in extracts, tinctures, capsules, and oils. Fresh ginger root can also be purchased and prepared as a tea. Ginger is also a common cooking spice and can be found in a variety of foods and drinks, including ginger bread, ginger snaps, ginger sticks, and ginger ale.⁸⁴

Many companies isolate elements from an herb, concentrate them, and then label “whole herb.” New Chapter aims to deliver nature's whole wisdom. Using only chemical solvent-free methods, including supercritical CO2 extraction, natural Force extracts aims to provide each herb's broad spectrum of naturally occurring beneficial compounds.⁸⁵

Benefits

Gingerol from Ginger herb - *Zingiber officinale* Roscoe, Zingiberaceae, review of research studies:

Gingerol is the active constituent of fresh ginger. Gingerol is a relative of capsaicin, the compound from chile peppers. It is normally found as a pungent yellow oil. Cooking ginger turns gingerol into zingerone, which is less pungent and has a spicy-sweet aroma.

Health benefit of gingerol

The oleoresin from rhizomes of ginger contains gingerol (1-[4'-hydroxy-3'-methoxyphenyl]-5-hydroxy-3-decanone) and its homologs which are pungent ingredients that have been found to possess many benefits, such as anti-inflammatory, liver protecting and cardiotoxic effects.

Gingerol lowers body temperature

Systemic administration of [6]- gingerol, a pungent constituent of ginger, induces hypothermia in rats via an inhibitory effect on metabolic rate.

Eur J Pharmacol. 2008 Feb. Ueki S, Miyoshi M, Shido O, Hasegawa J, Watanabe T. Division of Integrative Physiology, Department of Functional, Morphological and Regulatory Science, Tottori University Faculty of Medicine, Yonago, Tottori 683, Japan. We investigated the effects of systemic administrations of ginger (*Zingiber officinale*

⁸⁴ <http://www.umm.edu/altmed/articles/ginger-000246.htm>

⁸⁵ <http://www.newchapter.com/force-of-nature/ginger-force#supplement-facts>

Roscoe, Zingiberaceae) or its pungent constituent, [6] gingerol, on resting body temperature in rats. Rats given ginger-containing rat chow for 5 days showed no changes in their day-night cycle of body temperature or physical activity. However, a single intraperitoneal (i.p.) injection of [6]-gingerol (2.5 or 25 mg/kg) induced a rapid, marked drop in body temperature in a dose-related manner, with no change in physical activity. A significant decrease in metabolic rate was observed immediately after an i.p. injection of gingerol (25 mg/kg), although heat-loss responses underwent no alteration (versus vehicle). These results suggest that in rats: a decrease in metabolic rate is responsible for the gingerol induced hypothermia, and gingerol modulates or interferes with the mechanisms underlying body temperature regulation, while other bioactive constituents of ginger may counteract the hypothermic effect of gingerol.

Gingerol and cancer

Multiple mechanisms are involved in 6-gingerol-induced cell growth arrest and apoptosis in human colorectal cancer cells.

Mol Carcinog. 2008 March. Lee SH, Cekanova M, Baek SJ. The Laboratory of Environmental Carcinogenesis, Department of Pathobiology, College of Veterinary Medicine, University of Tennessee, Knoxville, Tennessee 37996-4542, USA.

6-Gingerol, a natural product of ginger, has been known to possess anti-tumorigenic and pro-apoptotic activities. Our results suggest that 6-gingerol stimulates apoptosis through upregulation of NAG-1 and G(1) cell cycle arrest through downregulation of cyclin D1. Multiple mechanisms appear to be involved in gingerol action, including protein degradation as well as beta-catenin, PKCepsilon, and GSK-3beta pathways.

[6]- Gingerol inhibits metastasis of MDA-MB-231 human breast cancer cells.

J Nutr Biochem. 2007 July. Lee HS, Seo EY, Kang NE, Kim WK. Department of Sports Sciences, Seoul Sports Graduate University, Seoul 150-034, South Korea.

Gingerol (Zingiber officinale Roscoe, Zingiberaceae) is one of the most frequently and heavily consumed dietary condiments throughout the world. We have found that gingerol inhibits cell adhesion, invasion, motility and activities of MMP-2 and MMP-9 in MDA-MB-231 human breast cancer cell lines.”⁸⁶

Antioxidant property

Ginger significantly lowered lipid peroxidation by maintaining the activities of the antioxidant enzymes -- superoxide dismutase, catalase and glutathione peroxidase in rats. The blood glutathione content was significantly increased in ginger fed rats. Similar effects were also observed after natural antioxidant ascorbic acid (100 mg/kg, body wt) treatment. The results indicate that ginger is comparatively as effective as ascorbic acid as an antioxidant. Ginger also protects tissues from radiation damage. You may also consider other supplements with antioxidant benefits such as curcumin and acai berry supplements.

Blood sugar and cholesterol management

Anti-diabetic and hypolipidaemic properties of ginger (Zingiber officinale) in streptozotocin-induced diabetic rats.

⁸⁶ <http://www.5htp5-htp.com/gingerol.html>

Br J Nutr. 2006.

An aqueous extract of raw ginger was administered daily (500 mg/kg, intraperitoneally) for a period of 7 weeks to streptozotocin induced diabetic rats. The STZ-injected rats exhibited hyperglycemia accompanied with weight loss, indicating their diabetic condition. At a dose of 500 mg/kg, raw ginger was significantly effective in lowering serum glucose, cholesterol and triacylglycerol levels in the ginger-treated diabetic rats compared with the control diabetic rats. The ginger treatment also resulted in a significant reduction in urine protein levels. In addition, the ginger-treated diabetic rats sustained their initial weights during the treatment period. Moreover, ginger decreased both water intake and urine output in the STZ-induced diabetic rats.

Blood thinner

Gingerols, the active components of ginger, represent a potential new class of platelet activation inhibitors. Administration of 50 gm of fat to 30 healthy adult volunteers decreased fibrinolytic activity from a mean of 64 to 52 units. Supplementation of 5 gm of ginger powder with fatty meal not only prevented the fall in fibrinolytic activity but actually increased it significantly. This fibrinolytic enhancing property is a further addition to the therapeutic potential of ginger. See also blood clot for information on herbs that have blood thinning potential.

Cataract prevention

Antiglycating potential of *Zingiber officinalis* and delay of diabetic cataract in rats. Mol Vis. 2010.

Advanced glycation end products (AGE) are associated in the development of several pathophysiologies including diabetic cataract. Diabetic animals received either 0.5 or 3% ginger in their diet for a period of two months. At the end of two months slit-lamp examination revealed that feeding of ginger not only delayed the onset but also the progression of cataract in rats. Molecular analyses indicated that feeding of ginger significantly inhibited the formation of various AGE products including carboxymethyl lysine in the eye lens. In addition, it also countered hyperglycemia-induced osmotic stress in the lens.

Chemotherapy induced nausea

This herb may be useful when consumed a few days before and a few days after chemotherapy in order to reduce nausea that can occur from this treatment. Researchers randomly assigned patients with bone cancer to either ginger root powder capsules or placebo capsules as an additional antiemetic to ondansetron and dexamethasone. There was more severe nausea and vomiting in the placebo group compared to the ginger group. Pillai AK, Sharma KK, Gupta YK, et al. Anti-emetic effect of ginger powder versus placebo as an add-on therapy in children and young adults receiving high emetogenic chemotherapy. *Pediatr Blood Cancer*. Sep 2010.

Colon Cancer

Ginger appears to lower some indicators of inflammation in the colon which perhaps may help reduce the risk for colon cancer.

Gastrointestinal motility

This herb may be helpful for conditions that involve slow GI motility.

Inflammation reduction

Cyclooxygenase (COX) is an enzyme responsible for formation of important substances called prostanoids, including prostaglandins, prostacyclin and thromboxane. There are several types including COX-1, 2 and 3. Inhibition of COX can help provide relief from the symptoms of inflammation and pain. Non-steroidal anti-inflammatory drugs, such as aspirin and ibuprofen, exert their effects through inhibition of COX. Celecoxib, rofecoxib, and other members of this drug class inhibit COX-2.

Cyclooxygenase-2 inhibitors in ginger.

Fitoterapia. 2010.

Ginger roots have been used to treat inflammation and have been reported to inhibit cyclooxygenase (COX). Ultrafiltration liquid chromatography mass spectrometry was used to screen a chloroform partition of a methanol extract of ginger roots for COX-2 ligands, and 10-gingerol, 12-gingerol, 8-shogaol, 10-shogaol, 6-gingerdione, 8-gingerdione, 10-gingerdione, 6-dehydro-10-gingerol, 6-paradol, and 8-paradol bound to the enzyme active site. Purified 10-gingerol, 8-shogaol and 10-shogaol inhibited COX-2. No inhibition of COX-1 was detected. This can explain, in part, the anti-inflammatory properties of ginger.

Lymphoma

Dietary ginger constituents, galanals A and B, are potent apoptosis inducers in Human T lymphoma Jurkat cells.

Cancer Lett. 2003.

The effects of the constituents isolated from ginger species including curcumin, 6-gingerol and labdane-type diterpene compounds on cell proliferation and the induction of apoptosis in the cultured human T lymphoma Jurkat cells were studied. Among the tested compounds, Galanals A and B, isolated from the flower buds of a Japanese ginger, myoga (*Zingiber mioga* Roscoe), showed the most potent cytotoxic effect. Exposure of Jurkat human T-cell leukemia cells to galanals resulted in the induction of apoptotic cell death characterized by DNA fragmentation and caspase-3 activation. The results from this study provide biological evidence that ginger-specific constituents other than curcuminoids are potential anticancer agents.

Osteoarthritis

A highly purified and standardized ginger extract had a statistically significant effect on reducing symptoms of osteoarthritis of the knee. This effect was moderate. There was a good safety profile, with mostly mild GI adverse events in the ginger extract group.

Ovarian cancer

Ginger can kill ovarian cancer cells. The study was done using cells in a lab dish, which is a long way from finding that it works in actual cancer patients. Researchers tested ginger powder dissolved in solution by putting it on ovarian cancer cell cultures. Ginger killed the ovarian cancer cells in two different ways -- through a self-destruction process called apoptosis and through autophagy in which cells digest themselves. Ginger spice has been shown to help control inflammation, which can contribute to the development of ovarian cancer cells. In multiple ovarian cancer cell lines, it induced cell death at a similar or better rate than the platinum-based chemotherapy drugs typically used to treat ovarian cancer. Whether the same effects of ginger in test tubes occurs when humans consume ginger is not known.

Pregnancy

Ginger is effective for relieving the severity of nausea and vomiting of pregnancy. Using it to quell morning sickness does not appear to raise the risk of birth defects.

Ginger is an option to try and you can discuss with your OB-GYN doctor whether it is appropriate for your condition.

Ginger appears to help pregnant women who suffer from morning sickness, without side effects to the unborn child, according to a review of the medical literature. In six studies that examined the effects of ginger in reducing nausea and vomiting in expecting mothers, ginger worked better than a placebo, or inactive drug, and as well as Vitamin B6, which has been shown to improve nausea and vomiting in some pregnant women. None of the women who took ginger had problems with their pregnancies, the authors report in the journal *Obstetrics & Gynecology*.

Effect of a ginger extract on pregnancy-induced nausea: a randomised controlled trial. Willetts KE. University of New South Wales, Royal Hospital for Women, Randwick, New South Wales, Australia.

To investigate the effect of a ginger extract (EV.EXT35) on the symptoms of morning sickness. The participants included 120 women less than 20 weeks pregnant, who had experienced morning sickness daily for at least a week and had had no relief of symptoms through dietary changes. Random allocation of 125 mg ginger extract (equivalent to 1.5 g of dried ginger) or placebo given four times per day for 4 days. The nausea experience score was significantly less for the ginger extract group relative to the placebo group after the first day of treatment and this difference was present for each treatment day. Retching was also reduced by the ginger extract although to a lesser extent. No significant effect was observed on vomiting. Follow-up of the pregnancies revealed normal ranges of birthweight, gestational age, Apgar scores and frequencies of congenital abnormalities when the ginger group infants were compared to the general population of infants born at the Royal Hospital for Women for the year 1999-2000. Ginger can be considered as a useful treatment option for women suffering from morning sickness.

Radiation exposure

Ginger, a dietary supplement, protects mice against radiation-induced lethality: mechanism of action.

Cancer Biother Radiopharm. 2004.

The radioprotective effect of hydroalcoholic extract of ginger rhizome was studied in mice administered 250 mg/kg ginger extract orally using oral gavage once daily for 5 consecutive days before exposure to gamma-radiation. The animals were monitored daily up to 30 days postirradiation for the development of symptoms of radiation sickness and mortality. Pretreatment of mice with ginger reduced the severity of symptoms of radiation sickness and mortality at all the exposure doses and also increased the number of survivors in a ginger + irradiation group compared to the concurrent double-distilled water + irradiation group. The ginger treatment protected mice against gastrointestinal-related deaths as well as bone-marrow-related deaths.

The mechanism of action of ginger was determined by evaluating its free-radical scavenging capability. Ginger was found to scavenge *OH , O_2^{*-} and $ABTS^{*+}$ radicals in a dose-dependent manner in vitro. Ginger was nontoxic up to a dose of 1500 mg/kg body weight, the highest drug dose that could be tested for acute toxicity.

Influence of Ginger Rhizome on Survival, Glutathione and Lipid Peroxidation in Mice after Whole-Body Exposure to Gamma Radiation.

Radiat Res. 2003 Nov. Department of Radiobiology, Kasturba Medical College, Manipal, India.

Mice were given ginger intraperitoneally once daily for five consecutive days before exposure to gamma radiation and were monitored daily up to 30 days postirradiation for the development of symptoms of radiation sickness and mortality. Pretreatment of mice with ginger reduced the severity of radiation sickness and the mortality at all doses. The ZOE treatment protected mice from GI syndrome as well as bone marrow syndrome.

The dose reduction factor for ginger was found to be 1.15. The optimum protective dose of 10 mg/kg ginger was (1/50) of the LD(50) (500 mg/kg). Irradiation of the animals resulted in a dose-dependent elevation in the lipid peroxidation and depletion of GSH on day 31 postirradiation; both effects were lessened by pretreatment with ginger. Ginger also had a dose-dependent antimicrobial activity against *Pseudomonas aeruginosa*, *Salmonella typhimurium*, *Escherichia coli* and *Candida albicans*.

Surgery induced nausea

At a dose of at least 1 gram, ginger is effective in preventing the nausea and vomiting that often afflicts patients after undergoing surgery. Ginger has been used as a traditional medicine in China to treat nausea, vomiting, and other gastrointestinal symptoms. In the last decade, several studies have evaluated its effects in preventing nausea and vomiting after surgery. To look at all the evidence available, statisticians from Naresuan University in Phitsanulok, Thailand pooled data from five clinical trials that involved a total of 363 patients. Compared with placebo, ginger cut the risk of

nausea and vomiting in the 24 hours after surgery by 31 percent. That said, a substantial percentage of patients in the ginger arm still had postoperative nausea and vomiting -- 35 percent. The only apparent side effect seen with ginger was abdominal discomfort. American Journal of Obstetrics and Gynecology, 2006.⁸⁷

Warning/Tips

Side effects from ginger are rare, but if taken in high doses the herb may cause mild heartburn, diarrhea, and irritation of the mouth. You may be able to avoid some of the mild stomach side effects, such as belching, heartburn, or stomach upset, by taking ginger supplements in capsules.

People with gallstones should ask their doctor before taking ginger. Make sure to tell your doctor if you are taking ginger and will be having surgery or placed under anesthesia for any reason.

People with heart conditions and people with diabetes should not take ginger without asking their doctors.

Pregnant women or women who are breastfeeding should talk to their doctor before taking ginger.

Do not take ginger if you have a bleeding disorder or if you are taking blood-thinning medications, including aspirin.

Ginger may alter the effects of some prescription and nonprescription medications. If you are currently being treated with any of the following medications, you should not use ginger without first talking to your health care provider.

Blood-thinning medications -- Ginger may increase the risk of bleeding. Talk to your doctor before taking ginger if you take blood-thinners such as warfarin (Coumadin) or aspirin.

Diabetes medications -- Ginger may lower blood sugar, raising the risk of hypoglycemia or low blood sugar.

High blood pressure medications -- Ginger may lower blood pressure, raising the risk of low blood pressure or irregular heartbeat.⁸⁸

To remove the skin from fresh mature ginger, peel with a paring knife. The ginger can then be sliced, minced or julienned. The taste that ginger imparts to a dish depends

⁸⁷ <http://www.raysahelian.com/ginger.html>

⁸⁸ <http://www.umm.edu/altmed/articles/ginger-000246.htm>

upon when it is added during the cooking process. Added at the beginning, it will lend a subtler flavor while added near the end, it will deliver a more pungent taste.⁸⁹

Recommended Brands

Whenever possible, choose fresh ginger over the dried form of the spice since it is not only superior in flavor but contains higher levels of gingerol as well as ginger's active protease (it's anti-inflammatory compound). Fresh ginger root is sold in the produce section of markets. When purchasing fresh ginger root, make sure it is firm, smooth and free of mold. Ginger is generally available in two forms, either young or mature. Mature ginger, the more widely available type, has a tough skin that requires peeling while young ginger, usually only available in Asian markets, does not need to be peeled.

Even though dried herbs and spices like ginger powder are widely available in supermarkets, you may want to explore the local spice stores in your area. Oftentimes, these stores feature an expansive selection of dried herbs and spices that are of superior quality and freshness than those offered in regular markets. Just like with other dried spices, when purchasing dried ginger powder try to select organically grown ginger since this will give you more assurance that it has not been irradiated.

Ginger is also available in several other forms including crystallized, candied and pickled ginger.

Fresh ginger can be stored in the refrigerator for up to three weeks if it is left unpeeled. Stored unpeeled in the freezer, it will keep for up to six months.

Dried ginger powder should be kept in a tightly sealed glass container in a cool, dark and dry place. Alternatively, you can store it in the refrigerator where it will enjoy an extended shelf life of about one year.⁹⁰

Ginger Force <http://www.newchapter.com/force-of-nature/ginger-force>

⁸⁹ <http://www.whfoods.com/genpage.php?tname=foodspice&dbid=72#nutritionalprofile>

⁹⁰ <http://www.whfoods.com/genpage.php?tname=foodspice&dbid=72#nutritionalprofile>

Plus: Hemp Seeds

Recommended dosage

Shelled Hemp Seed - Typically 1 tablespoon (15 grams) of shelled hemp seed is taken twice per day.⁹¹



Ways it helps the body

Learning, Memory and Immune Boost

Hemp seed extract has an unidentified compound in it that may help to promote learning, memory and immune function. It may stimulate the brain enzyme known as calcineurin, according to the University of Michigan. Calcineurin plays an essential role in some brain synapse activities, according to J. Luo, who studied its effect on immune response and memory in mice and found that it improved both. The study was published in the journal *Pharmacology, Biology and Behavior*. In a second study on mice featured in *Acta Pharmacologica Sinica*, Luo noted that calcineurin helped to improve learning and memory that were impaired by chemical drugs.⁹²

⁹¹ <http://www.uofmhealth.org/health-library/hn-4393002>

⁹² <http://www.livestrong.com/article/167905-what-are-the-benefits-of-hemp-seeds/>

Cosmetics and Skincare

BioMatNet.org reports that hemp seed acts as an ideal stabilizer for skincare products due to its high concentration of polyunsaturated fatty acids and high-quality proteins. And since hemp seed is also rich in vitamin E, it acts as an anti-inflammatory and moisturizing ingredient in many skincare products. Many major skincare retailers offer hemp seed-based skincare products such as body butters, hand creams and lip balms.⁹³

Nerve Health

Neurotransmitters keep the electrical nerve impulses firing throughout the body and most importantly in the brain. Essential amino acids from hemp seeds directly effect the chemical process that results in healthy nerve functioning. When incorporating hemp seeds into your diet it is almost as if you are giving the synapses, which are the spaces between the nerves, a booster shot. This may enable your nervous system to respond faster when doing activities such as sports.

Sport Supplement

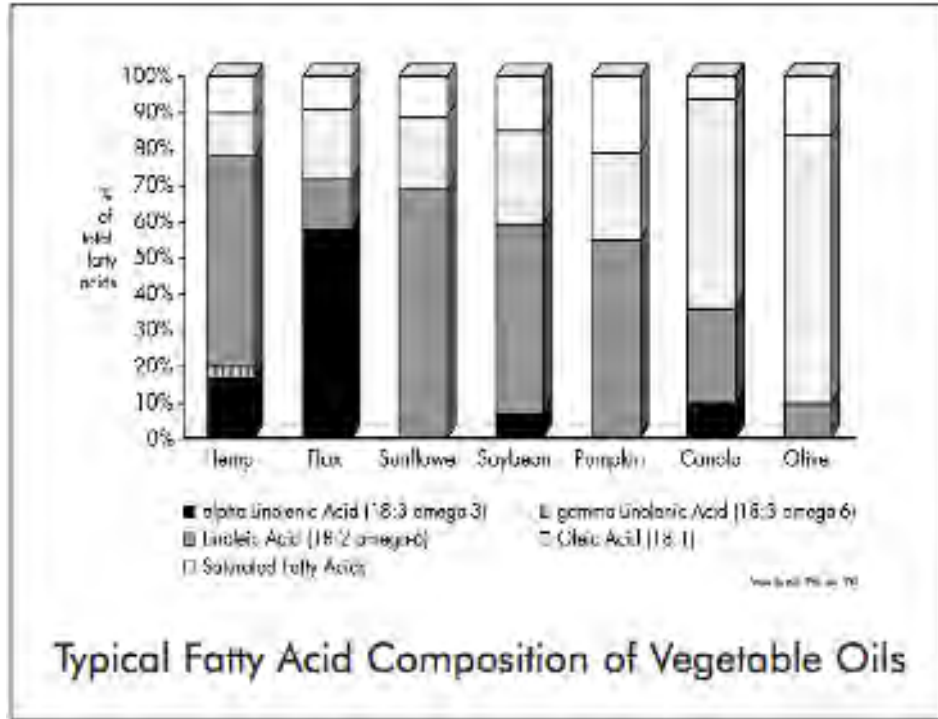
Hemp seeds are a great way to advance your workout or sports performance. Because of their high amino acid content they directly effect muscle performance offering an extra edge when it comes to muscle building, stamina and recovery.

Easy Digestion

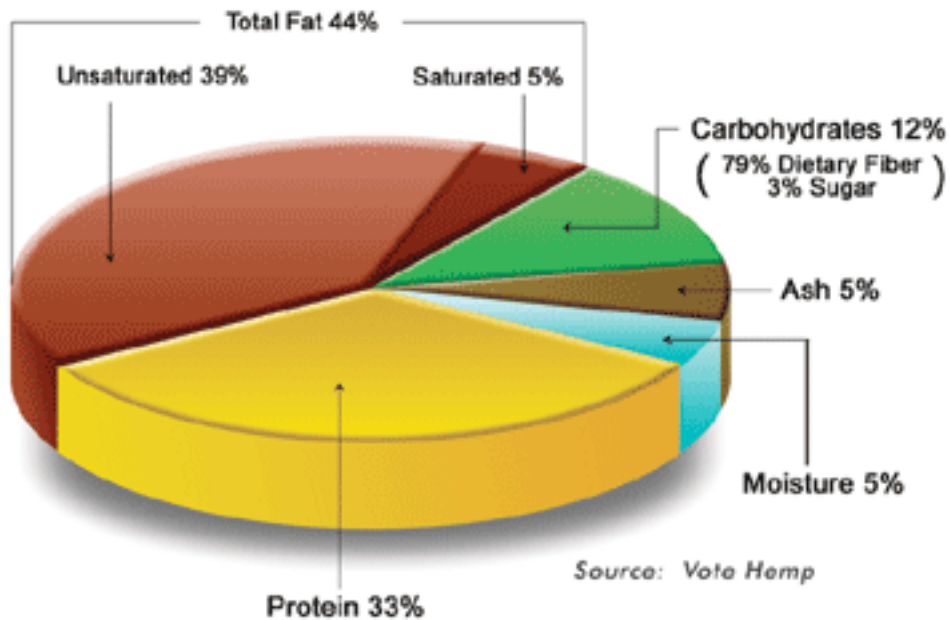
Hemp seed does not cause bloating or gas which is often associated with soy and does not contain phytic acid (also found in soy) which prevents proper mineral absorption.⁹⁴

⁹³ <http://www.livestrong.com/article/99035-benefits-hemp-seed/>

⁹⁴ <http://www.fitday.com/fitness-articles/nutrition/healthy-eating/the-nutrition-of-hemp-seeds.html#b>



Typical Composition of Hemp Nut



95

How it's made

Hemp seeds come from a plant that is similar to the marijuana plant, but has lower levels of psychoactive cannabinoid compounds. The seeds and seed oil are used in

⁹⁵ http://www.hemphesis.net/Nutrition/nutrition_files/hempnutcomposition.gif

cooking and for food. Typically, the seed's hard shell is removed before it is eaten. Seeds also are treated so they can't be planted and grown.

Nutiva's hemp products are cold-processed (under 104°F) from raw, live hemp seeds. Nutiva utilizes a mechanical process to remove the hard shells, yielding our delicious shelled hemp seeds. Our hemp oil is expeller-pressed from the seeds without the use of hexane or other toxic solvents. Our hemp protein powder is made from specially milled hemp seed cake with the oil removed.⁹⁶

Benefits

Hemp seeds contain oil that is relatively rich in essential fatty acids. In particular, hemp oil is a source of both the omega-3 fatty acid alpha-linolenic acid (ALA) and the omega-6 fatty acid gamma-linolenic acid (GLA). A tablespoon of seeds generally contains 3 to 4 grams of total fat, of which 70% are polyunsaturated fats and as much as 15 to 20% are ALA. GLA content is generally much lower at roughly 2 to 5%. ALA and GLA and other plants that contain one or both of these substances, such as flax, borage, evening primrose, and black currant, are known or strongly believed to have benefits for a variety of inflammatory conditions, atherosclerosis, and some neurological problems. However, the benefits of hemp seed for any of these issues has not been studied. Hemp also contains natural vitamin E and a significant amount of protein. An unidentified compound or compounds from an extract of hemp seeds has been shown to promote memory, learning, and immune function in mice. It is believed to act by stimulating a brain enzyme known as calcineurin.⁹⁷

Hemp is a high protein seed containing all nine of the essential amino acids (like flax). It also has high amounts of fatty acids and fiber as well as containing vitamin E and trace minerals. It has a balanced ratio of omega 3 to 6 fats at around a three to one ratio. This won't help correct your omega balance if it's off, but it gives you the right balance to start with.

Further the protein content of the hemp seed is supposed to be very digestible. Many people noted their personal experience of finding that hemp seed protein did not cause bloating or gas, like some of their whey, or other protein shakes did.

And, unlike soy which has super high amounts of phytic acid (that anti-nutrient that prevents us from absorbing minerals), hemp seed doesn't contain phytic acid. At the very least, this makes hemp seed a step up from soy.

Hemp contains:

⁹⁶ <http://nutiva.com/faq/hemp-faq/>

⁹⁷ <http://www.uofmhealth.org/health-library/hn-4393002>

- All 20 amino acids, including the 9 essential amino acids (EAAs) our bodies cannot produce.
- A high protein percentage of the simple proteins that strengthen immunity and fend off toxins.
- Eating hemp seeds in any form could aid, if not heal, people suffering from immune deficiency diseases. This conclusion is supported by the fact that hemp seed has been used to treat nutritional deficiencies brought on by tuberculosis, a severe nutrition blocking disease that causes the body to waste away.³
- Nature's highest botanical source of essential fatty acid, with more essential fatty acid than flax or any other nut or seed oil.
- A perfect 3:1 ratio of Omega-6 Linoleic Acid and Omega-3 Linolenic Acid – for cardiovascular health and general strengthening of the immune system.
- A superior vegetarian source of protein considered easily digestible.
- A rich source of phytonutrients, the disease-protective element of plants with benefits protecting your immunity, bloodstream, tissues, cells, skin, organs and mitochondria.
- The richest known source of polyunsaturated essential fatty acids.

The best way to insure the body has enough amino acid material to make the globulins is to eat foods high in globulin proteins. Since hemp seed protein is 65% globulin edistin, and also includes quantities of albumin, its protein is readily available in a form quite similar to that found in blood plasma. Eating hemp seeds gives the body all the essential amino acids required to maintain health, and provides the necessary kinds and amounts of amino acids the body needs to make human serum albumin and serum globulins like the immune enhancing gamma globulins. Eating hemp seeds could aid, if not heal, people suffering from immune deficiency diseases. This conclusion is supported by the fact that hemp seed was used to treat nutritional deficiencies brought on by tuberculosis, a severe nutrition blocking disease that causes the body to waste away."⁹⁸

Warning/Tips

As the oils in hemp seed are known to inhibit platelets, anyone taking hemp seed oil with anticoagulant drugs should be aware that there is a theoretical possibility that bleeding could occur.

For most people there are no side effects, except sometimes loosening of the stool. However, some people may experience hallucinations or euphoria if they are particularly

⁹⁸ <http://www.thenourishinggourmet.com/2009/03/hemp-seed-nutritional-value-and-thoughts.html>

sensitive to THC or if they happen to use a brand that has somewhat higher THC levels.⁹⁹

When exposed to high temperatures, the polyunsaturated fatty acids in hemp seeds and hemp seed oil can turn into peroxide. Leson reports that hemp seeds and oil should only be used in recipes that keep the food's temperature below boiling---this rules out frying with hemp oil. If you want to use the oil to sauté, Leson suggests using low heat and keeping enough moisture in the bottom of the pan to prevent any "off-flavors" from forming.¹⁰⁰

Recommended Brands

Nutiva <https://store.nutiva.com/hempseed/>

⁹⁹ <http://www.uofmhealth.org/health-library/hn-4393002>

¹⁰⁰ <http://www.livestrong.com/article/222473-hemp-seed-health-benefits/>

Plus: Evening Primrose Oil

Recommended dosage

Evening Primrose Oil - 1000 mg 3 times daily¹⁰¹



Ways it helps the body

- Evening primrose oil has been used since the 1930s for eczema (a condition in which the skin becomes inflamed, itchy, or scaly because of allergies or other irritation).

¹⁰¹ http://www.wholehealthmd.com/ME2/dirmod.asp?sid=&nm=Reference+Library&type=AWHN_Supplements&mod=&mid=&id=8715E6985B0845D091ECFD3F79A381C8&tier=2#Dosage

- More recently it has been used for other conditions involving inflammation, such as rheumatoid arthritis.
- Evening primrose oil is used for conditions affecting women's health, such as breast pain associated with the menstrual cycle, menopausal symptoms, and premenstrual syndrome (PMS).
- Other conditions for which evening primrose oil is used include cancer and diabetes.¹⁰²

Help treat acne and rosacea. By working to dilute sebum, a thick oily substance that is over-secreted in some people with acne, the essential fatty acids (EFA) in EPO may reduce the risk of pores becoming clogged and lesions developing. The oil's EFAs help treat rosacea by reducing inflammation, controlling cells' use of nutrients, and by producing prostaglandins that stimulate the contraction of blood vessels.

Protect against the effects of aging. As the body ages, it loses its ability to convert dietary fats into GLA. Because this essential fatty acid is involved in so many body processes, taking EPO can help to compensate for any deficiencies in GLA. EPO may also benefit wrinkles caused by UVB rays. In one study, female mice were orally administered a mixture of pycnogenol, vitamins C and E, and EPO for ten weeks.

During this time, UVB rays were also administered three times a week. At the end of the study, wrinkle formation from UVB rays was significantly reduced in mice fed the Antioxidant mixture. Human studies are needed to confirm these results.

Prevent alcohol withdrawal symptoms. GLA prompts the brain to produce a specific type of prostaglandin called prostaglandin E, which works to prevent withdrawal symptoms such as depression and seizures by indirectly protecting the liver and nervous system.

Prevent diabetes-associated nerve damage. Research indicates that the GLA in EPO can help prevent--and in some cases even reverse--the nerve damage (neuropathy) so commonly seen with diabetes. In a year-long study, such symptoms as numbness, tingling, and loss of sensation in participants with mild Diabetic neuropathy were less marked in those who took EPO than in those who took a Placebo. Further studies are needed to confirm EPO's efficacy. Additionally, patients should be advised that EPO can potentially interact with other drugs including blood thinners such as Coumadin and with Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) such as ibuprofen.

Reduce the symptoms of eczema. In some cases, eczema develops when the body has problems converting dietary fats into GLA. Getting supplemental GLA from EPO may therefore be helpful. Some studies indicate that this oil can outperform a placebo in relieving eczema-related inflammation, as well as the itching, oozing, and flaking

¹⁰² <http://nccam.nih.gov/health/eveningprimrose>

associated with this condition. By taking GLA, eczema sufferers may be able to reduce doses of steroid creams and drugs--many of which cause unpleasant side effects. Not all studies point to such benefits, however, and many conventional doctors remain skeptical.

Counter impotence and female infertility. In a 2001 animal study, EPO and alpha linolenic acid both improved blood flow and nerve function in diabetic rats. By promoting blood flow, the GLA in EPO may help treat a primary cause of male impotence--compromised circulation leading to impaired penile blood flow. However, in the same study, EPO was associated with increased triglyceride levels and decreased HDL ("good") cholesterol levels. Studies are needed in humans before EPO can be recommended for impotence. Animal studies with female ewes indicated that GLA increased the production of endometrial and placental prostaglandins, which regulate cell function. However, human studies are needed to determine if GLA has a similar effect on female fertility.

Alleviate inflammation associated with lupus. Inflammation in the kidneys, joints, skin, and other areas of the body caused by the condition known as Systemic Lupus Erythematosus (SLE) may subside as a result of EPO's anti-inflammatory actions. Taking the oil may lower elevated cholesterol levels in those suffering from lupus as well.

Nourish nails, scalp, and hair. In one study, 500mg of EPO was administered to healthy adults three times a day for twelve weeks. At the end of the study, the participants showed improvements in skin moisture, roughness, firmness, and elasticity.

This study also suggests that the essential fatty acids in EPO may prevent nails from cracking and help keep them generally healthy. In addition, the essential fatty acids nourish the scalp, making the supplement potentially valuable in treating a variety of hair problems.

Benefit osteoporosis. In a pilot study, sixty-five women (average age 79.5) with a background diet low in calcium were given a combination of GLA with EPA or a coconut oil placebo along with 600mg/day of calcium for a period of eighteen months. The combination of GLA, EPA, and calcium seemed to decrease bone turnover and increase bone Mineral density in the spine and femur. More studies are needed to confirm or refute these findings.

Relieve the discomforts of premenstrual syndrome (PMS), menopause symptoms, and cyclic breast pain. In a 2009 review of studies, no evidence was found to support the use of EPO for the overall symptoms of PMS. However, a 2010 pilot study indicated EPO was effective for relieving premenstrual breast pain. In this study, eighty-five women with premenstrual cyclical breast discomfort were randomly assigned supplements of Vitamin E, EPO, a combination of the two, or placebo. After six months, all supplement groups reported reduction in breast pain compared to placebo. EPO has also been used to alleviate the hot flashes associated with menopause. In one small

study, EPO alleviated nighttime hot flashes but had no effect on daytime hot flashes. However, the evidence to support this use is limited; more studies are needed.

Ease the joint pain and swelling of rheumatoid arthritis. Supplementation with EPO and other sources of GLA has been shown to lessen the joint pain and swelling of this crippling disease. A six-month study reported fewer signs of inflammation in rheumatoid arthritis sufferers taking capsules containing GLA than in those taking a Placebo.

However, larger studies are needed to recommend EPO as a treatment for rheumatoid arthritis.¹⁰³

How it's made

Rejuvenate Foods uses a low-volume industrial oil press, which produces only about 50 pounds per hour. Their vegan, raw, organic oils never exceed 90 to 115 degrees, meaning that they retain their nutritional vitality. They refrigerate our oil right after we make it, and it is freshness-dated and freshly shipped, ensuring that it reaches your door in an optimal state. Their organic oil is made from the finest quality raw, cold processed, organic fresh pressed evening primrose seeds available.¹⁰⁴

Benefits

The whole plant (including the flowers) as well as the root have been used for centuries for medicinal purposes.

The most potent part of the plant is the oil in the seeds of the flowers, which contains gamma-linolenic acid (GLA). GLA is an essential fatty acid that the body converts into prostaglandins, which are hormone-like substances that have many metabolic functions in the body. The GLA in evening primrose oil, when converted into prostaglandins acts as an anti-inflammatory.

GLA is also found in mother's milk, some types of fish and spirulina. It is also found in borage seed oil and black currant seed oil, which actually have higher levels of GLA than evening primrose oil.¹⁰⁵

Warning/Tips

¹⁰³ http://www.wholehealthmd.com/ME2/dirmod.asp?sid=&nm=Reference+Library&type=AWHN_Supplements&mod=&mid=&id=8715E6985B0845D091ECFD3F79A381C8&tier=2#Dosage

¹⁰⁴ <http://www.rawoils.com/epo.htm>

¹⁰⁵ http://www.vitalhealthzone.com/nutrition/other-nutrients/evening_primrose_oil.html

Evening primrose oil is well tolerated by most people. Mild side effects include gastrointestinal upset and headache.¹⁰⁶

Be sure to buy EPO from a reliable manufacturer; cheap substitutes such as soy and safflower oils have been found in some commercial products.

Particularly when treating PMS and related discomforts, it's important to ensure proper conversion of EPO into GLA by taking it with a high-quality multi-vitamin/mineral (it should contain zinc, vitamin C, vitamin B-complex and magnesium).

A small amount of vitamin E added to EPO products reportedly slows the rather rapid breakdown of important fatty acids; opt for vitamin E-enhanced products when possible. It may take two to six months to see effects for skin, hair and nail problems.

EPO may increase the risk of temporal lobe epilepsy in schizophrenic patients taking phenothiazine epileptogenic drugs.

EPO may have anticoagulant properties and could increase the risk of bruising and bleeding when combined with anticoagulant or antiplatelet drugs and herbs. Some of these include aspirin, heparin, warfarin, naproxen, non-steroidal anti-inflammatory drugs (NSAIDs), clove, garlic, ginger, and others. Do not take EPO with any of these drugs and herbs.

Bloating or abdominal upset developed in a small percentage (about 2%) of those participating in EPO studies.

Data to support the safety of long-term use of EPO are not available. However, there have been few or no reports of toxic reactions to EPO over nearly two decades of widespread use as a supplement. In the United Kingdom, it is approved for the treatment of pre-menstrual breast tenderness and eczema. EPO may increase the risk of pregnancy complications including delayed rupture of the amniotic sac and failure of the fetus to descend into the birth canal. Do not take evening primrose oil while pregnant.¹⁰⁷

Recommended Brands

Rejuvenate Foods - <http://www.rawoils.com/epo.htm>

¹⁰⁶ <http://nccam.nih.gov/health/eveningprimrose>

¹⁰⁷ http://www.wholehealthmd.com/ME2/dirmod.asp?sid=&nm=Reference+Library&type=AWHN_Supplements&mod=&mid=&id=8715E6985B0845D091ECFD3F79A381C8&tier=2#Dosage

Plus: Kelp

Recommended dosage

Kelp - 150 micrograms daily dependent on the iodine content¹⁰⁸



Ways it helps the body

Kelp is used for maintaining thyroid function, which regulates metabolism and affects weight control. Kelp is a diuretic and can help to eliminate toxins from the body and relieve excess water retention, which can lower blood pressure. It also is used to

¹⁰⁸ <http://www.livestrong.com/article/430359-kelp-benefits-and-dosage/>

strengthen nails and promote hair growth. Kelp is a good woman's vitamin because it is rich in iron, calcium and potassium, which can be depleted during menstruation and pregnancy. Some use kelp to prevent infections, including colds."¹⁰⁹

Improves Digestive Functions

According to the MedlinePlus, the National Library of Medicine's database of health conditions and treatments, kelp possesses the natural laxative alginic acid. This component is found in many over-the-counter laxatives. According to International Programme on Chemical Safety, a 5 percent dosage of alginic acid can have a laxative effect.

Alginic Acid is also used in the treatment of heartburn or gastroesophageal reflux disease, or GERD. Discovery Health writes that alginic acid, when combined with an over-the-counter antacid, caps the stomach by creating a foam wall that prevents the acid reflux from making its way up the esophagus.

Aides Thyroid Function

Kelp is rich in iodine, a naturally occurring element. Multiple studies have examined the impact of seaweed on the human thyroid, the gland that assists the body's metabolism. A University of New Mexico study published in 2003 showed that kelp stimulated slow metabolisms by boosting the level of thyroid-stimulating hormones in healthy individuals. Published in 2007, University of South Carolina researchers examined the effects of an Asian diet on postmenopausal women. The study found that seaweed had a "small but statistically significant increase" on the thyroid-stimulating hormone.

Antioxidant Benefit

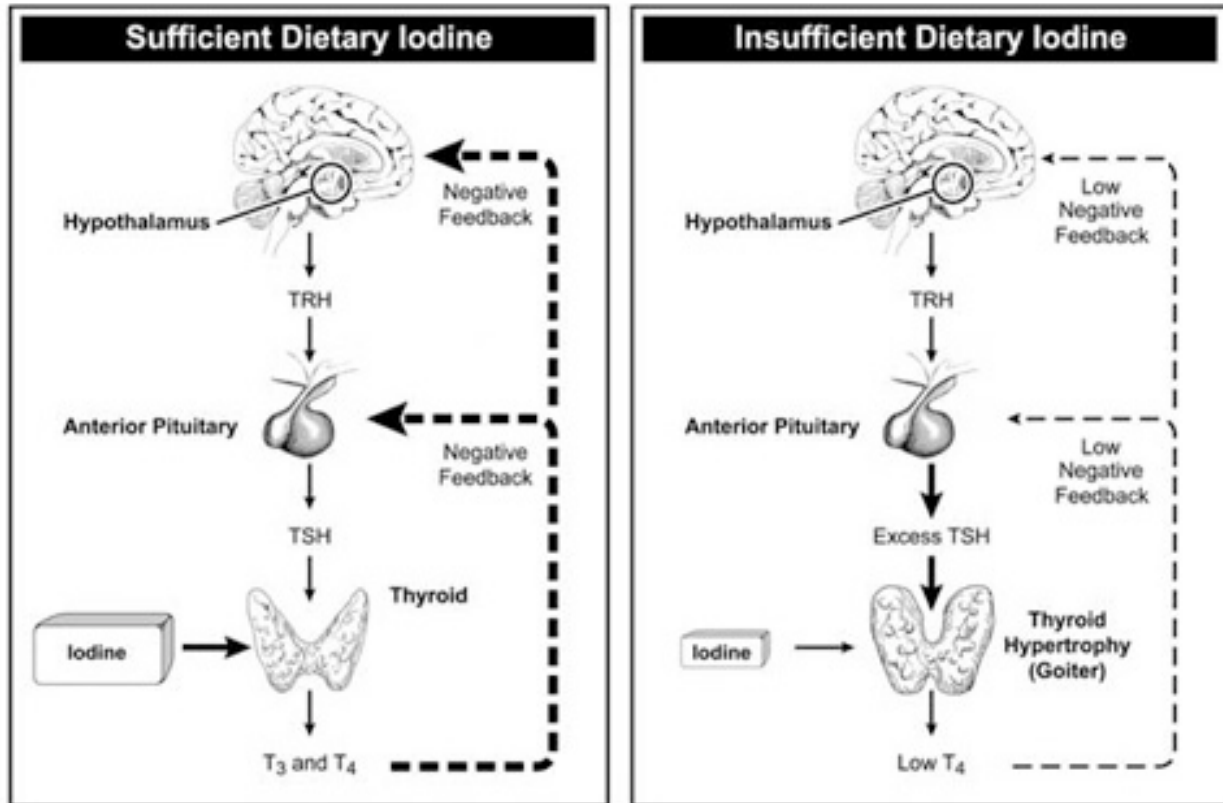
Free radicals are unattached oxygen molecules that float freely through the body, causing damage to healthy cells. These rogue particles mutate cells and inflame healthy tissue. Kelp is a natural antioxidant. Once metabolized, compounds and nutrients from the kelp neutralize the oxygen molecules. According to research from the Mayo Clinic, antioxidants can assist the body in preventing cardiovascular issues, cancer and the physical signs of aging.

Nutritional Benefit

Seaweed is a highly nutritious herb. Vegan Peace, a vegan lifestyle website that draws its data from the U.S. Department of Agriculture, shows that a 2-tbsp. serving of kelp offers at least 1 percent of the daily recommended intake of vitamin C, riboflavin and pantothenic acid. It also has 8 percent of the body's vitamin K need and 5 percent of its folic acid requirement. It also offers calcium, iron, magnesium, zinc, copper and manganese.¹¹⁰

¹⁰⁹ <http://www.livestrong.com/article/430359-kelp-benefits-and-dosage/>

¹¹⁰ <http://www.livestrong.com/article/158817-benefits-of-sea-kelp/#ixzz23FrXZpDM>



How it's made

Kelp grows in shallow, underwater oceanic forests. It depends on cool temperatures between 43-57 degrees F (6-14 degrees C). Some kelp species grow well over a foot a day and can reach heights of 250 ft. These kelp species are easily harvested due to their surface canopy and underwater growth rate.¹¹¹

After harvesting, or collecting, kelp, the plants are dried at temperatures between 165 and 185 degrees F. Kelp is available dried or as a ground powder, granules, capsules, tablets or tinctures. Most commercially processed kelp is taken from kelp beds or kelp forests.¹¹²

Benefits

Kelp is extraordinarily rich in alkaline buffering nutrients such as sodium, potassium, magnesium and calcium. It is also a phenomenal source of chlorophyll to boost blood cell formation and purify the body.

¹¹¹ http://www.naturalnews.com/034055_sea_vegetables_kelp.html

¹¹² <http://www.livestrong.com/article/340891-human-benefits-of-kelp/>

Kelp is considered the world's most potent source of naturally occurring iodine. Some species have been known to concentrate iodine by up to 30,000 times the amount in sea water. Iodine deficiencies are becoming increasingly common throughout the world. The areas with the least amount of iodine deficiencies are typically coastal regions where seaweed is readily available. Iodine deficiencies are known to cause hypothyroidism and goiter formation. Kelp has been used for many years as a remedy for these problems.

The Japanese call several Pacific species of kelp Kombu. These cultures use Kombu in many traditional dishes such as soups, stews & sushi. Kombu is a powerful source of natural glutamic acid, which is a precursor to the body's master anti-oxidant glutathione. Kombu is often used to soften beans during cooking and to help convert challenging sugars into a more digestible form, thus reducing flatulence.

Sea vegetables like kelp are also a great source of the mineral vanadium. Vanadium helps form the haloperoxidase enzymes that help provide a natural antioxidant defense, which has allowed these sea vegetables to flourish.

Vanadium is a critical trace mineral that enhances insulin signaling and blood sugar balance by inhibiting the tyrosine phosphatase enzyme. This process also reduces glucose formation and enhances the body's ability to store sugar in the form of muscle and liver glycogen. This is an important adaptation that helps the body withstand stress more effectively.

Sea vegetables also contain a unique group of polysaccharides called fucoidans. These fucoidans have a characteristic branching pattern with sulfur containing molecules. They are being widely studied for their ability to reduce inflammation within the body. These sulfated fucoidans have been shown to reduce pain, fight viruses and prevent atherosclerosis.

Fucoidans produce their anti-inflammatory effects by blocking selectin production and inhibiting pro-inflammatory prostaglandins and enzymes. Selectins are glycoproteins (sugar-protein molecules) that are often used to signal inflammatory processes in the body. Fucoidans also inhibit the enzyme phospholipase A2 (PLA-2) that turns on inflammatory processes.

These sulfated polysaccharides have also been shown to block the typical binding sites for many viruses such as Herpes. By blocking binding sites the virus is unable to replicate. Without adequate replication, the viruses are unable to survive.

These sulfated polysaccharides are also revered for their powerful ability to reduce blood clots. Popular pharmaceuticals used to reduce clots are also sulfated polysaccharide although they are in synthetically derived form. While these drugs come

with a number of dangerous side effects, naturally occurring sulfated polysaccharides in kelp have no known side effects.¹¹³

Warning/Tips:

Kelp supplements may cause nausea and diarrhea in some individuals. A small percentage of the population is sensitive to iodine and may develop thyroid problems if kelp is consumed in large amounts. If these symptoms occur, consult your physician. Pregnant/nursing women should not take kelp supplements, as they have not been proven safe in this population. Individuals with thyroid abnormalities should consult a physician before consuming a kelp product, as it may interfere with the effectiveness of some medications.¹¹⁴

Kelp, much like other sea vegetables and ocean plant life, absorb the rich minerals from the water. However, along with potassium, sodium, calcium, nitrogen and other minerals, elements like arsenic and lead are also readily available, particularly in polluted waters. The oil spill in the Gulf of Mexico, in the summer of 2010, is a case in point. Even experts are not sure how far-reaching pollutants have traveled and how much has been absorbed by plant life.¹¹⁵

Recommended Brands

Swanson - <http://www.swansonvitamins.com/SW338/ItemDetail>

¹¹³ http://www.naturalnews.com/034055_sea_vegetables_kelp.html

¹¹⁴ http://www.allstarhealth.com/lj_c/kelp.htm

¹¹⁵ <http://www.livestrong.com/article/340891-human-benefits-of-kelp/>

Plus: Noni Juice

Recommended dosage

Noni Juice - 2 oz twice daily, increasing until desired affects are produced.¹¹⁶



Ways it helps the body

People take noni by mouth for colic, convulsions, cough, diabetes, painful urination, stimulating menstrual flow, fever, liver disease, constipation, vaginal discharge during pregnancy, malarial fever, and nausea. It is also used for smallpox, enlarged spleen, swelling, asthma, arthritis and other bone and joint problems, cancer, cataracts, colds, depression, digestive problems, and gastric ulcers. Other uses include high blood pressure, infections, kidney disorders, migraineheadache, premenstrual syndrome, stroke, pain, and sedation.

The fruit juice is used for arthritis, diabetes, high blood pressure, muscle aches and pains, menstrual difficulties, headaches, heart disease, AIDS, cancers, gastric ulcers, sprains, depression, senility, poor digestion, atherosclerosis, circulation problems, and drug addiction.

The leaves have been used in medicines for rheumatic aches and swelling of the joints,

¹¹⁶ <http://www.nothingbutnoni.com/usage-and-instructions.aspx>

stomachache, dysentery, and swelling caused by a parasitic infection called filariasis. The bark has been used in a preparation to aid childbirth.

Noni is sometimes applied to the skin. It is used as a moisturizer and to reduce signs of aging. The leaves are used for arthritis by wrapping around the affected joint; for headache by applying to the forehead; and for burns, sores, and wounds by direct application. A mixture of leaves and fruit is applied to pockets of infection (abscesses), and preparations of the root are used on stonefish and sting-ray wounds, and as a smallpox salve.¹¹⁷

Conditions Reported to respond to noni	# Who took noni for that condition	% Helped*
Cancer, lessened symptoms	847	67%
Heart disease, decreased symptoms	1,058	80%
Stroke	983	58%
Diabetes, Types 1 and 2	2,434	83%
Energy, increased	7,931	91%
Sexuality, enhanced enjoyment	1,545	88%
Muscle, increased body-building	709	71%
Obesity, lost excess weight	2,638	72%
High blood pressure, decreased	721	87%
Smoking, stopped	447	58%
Arthritis, lessened symptoms	673	80%
Pain, including headaches, decreased	3,785	87%
Depression, lessened symptoms	781	77%
Allergy, decreased symptoms	851	85%
Digestion, improved	1,509	89%
Breathing, improved	2,727	78%
Sleep, improved	1148	72%
Fuzzy thinking, helped clear	301	89%
Well-being, increased feeling of	3,716	79%
Mental acuity, increased alertness	2,538	73%
Kidney health, improved	2,127	66%
Stress, helped cope with	3,273	71%

* Pooled percentage of people who experienced objective and/or subjective improvement of their signs and/or symptoms after taking noni. *The majority of noni users who did not get optimal results failed to do so because they took a lesser dose and/or took it for a shorter time than what was recommended, or simply responded for unknowable reasons.*

** Noni can be taken together with all other medications—there are virtually no negative interactions. In some situations, noni can allow other medications to act more efficiently. You should tell your health professional that you are taking noni as your physician might want to decrease the dose of the medication prescribed.

*** Side effects were minimal. Less than 5 percent had loose bowel movements, a slight belch or developed a mild rash. The belch and loose bowel movements disappeared when the dose was decreased. The rash cleared within 72 hours after the person stopped taking noni.

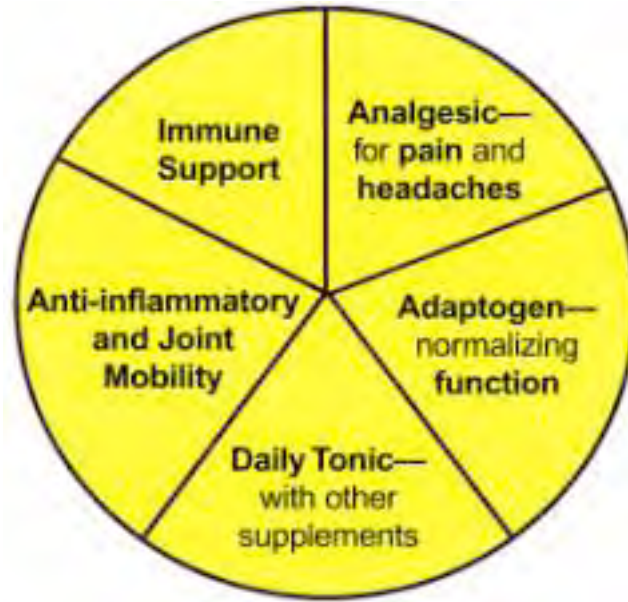
**** Noni was reported to be safe for pregnant and/or nursing mothers.

Table 3: Conditions Helped by People Who Took Noni (n=>8,000)

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¹¹⁷ <http://www.webmd.com/vitamins-supplements/ingredientmono-758-NONI.aspx?activeIngredientId=758&activeIngredientName=NONI>

¹¹⁸ http://www.earths bounty.com/noni_benefits.htm



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How it's made

Noni is a fruit from the morinda citrifolia tree or shrub that is native to Australia, Polynesia and Asia. It grows 7 to 22 feet high and bears potato size yellow-white fruit with an unpleasant odor.¹²⁰

Most of their Noni juice and Noni products are made using the traditional Hawaiian aging and fermentation methods as they have been practiced on our Islands since the arrival of the Polynesians over 1500 years ago. Their Noni juice is fermented and pressed in small batches with careful consideration to Hawaiian traditions and protocol.¹²¹

Benefits

A 100g, 1/2 cup serving of pure noni fruit juice grown in Hawaii contains 15 calories, 10.5mg of sodium, 0.43g of protein, 33.5mg of vitamin C and 10mg of calcium. According to Drugs.Com, the fruit also contain hexoic and octoic acids, paraffin and esters of ethyl and methyl alcohols. It also contains an alkaloid xeronine. Some brands contain other fruits and ingredients to improve the flavor and will change the nutritional values.

Noni is believed to provide anti-cancer properties. Research published in the December 2001, issue of "Annals of the New York Academy of Science" conducted by M.Y. Wang

¹¹⁹ http://www.earths bounty.com/noni_benefits.htm

¹²⁰ <http://www.livestrong.com/article/257129-health-benefits-of-nonni-juice/#ixzz23LT9GKs8>

¹²¹ <http://store.hawaiian-nonniworks.com/info.html>

and C. Su indicated that drinking 10 percent Tahitian noni juice mixed with water and taken for a week was able to prevent some cancer activity as it relates to DNA mutations. It is believed to come about due to the noni's antioxidant property. According to the National Center for Complementary and Alternative Medicine, noni demonstrates antioxidant, tumor fighting and immune-stimulating properties in laboratory tests.¹²²

Some of the health-related ingredients of Noni fruit that have been isolated are Morindone, Morindine, Acubin, Terpene compounds, L. Asperuloside, various Anthraquinones, Alazarin, Caproic Acid, Caprylic Acid, Scopoletin, Damnacanthal, and Alkaloids.

Alkaloids are colorless, complex, bitter organic bases, and they are essential to maintaining healthy stasis in the body. Dr. Ralph Heinicke, a respected biochemist formerly at the University of Hawaii, has dedicated himself to the study of one alkaloid in particular found in Noni called xeronine. The body produces xeronine in order to activate enzymes and to regulate and give structure to proteins. According to Dr. Heinicke, without xeronine, life would not exist. However, extracting xeronine from the human body has been impossible to date. The body's protein molecules consume the alkaloid immediately after it is created; and therefore, there is never an appreciable, insoluble amount in the body.

Even though the noni juice has only negligible amounts of xeronine, the juice does contain very large amounts of a precursor to the essential alkaloid called proxeronine. Proxeronine is a colloid that, unlike most colloids, contains neither sugars, amino acids, nor nucleic acids and thereby has been overlooked by most biochemists. This compound initiates the release of xeronine in the intestinal tract after it comes in contact with a specific enzyme which is also contained in the noni juice. This particular chemical combination is believed to significantly affect cellular function, which can determine a whole host of physiological reactions. The enzymatic reactions that occur with taking noni juice on an empty stomach are what Dr. Heinicke believes set cellular repair into motion.¹²³

Warning/Tips

Noni is high in potassium. People who are on potassium-restricted diets because of kidney problems should avoid using noni.

There have been reports of liver damage from using noni. It should be avoided if you have liver disease because it contains compounds that may make your disease worse.¹²⁴

¹²² <http://www.livestrong.com/article/257129-health-benefits-of-noni-juice/#ixzz23LTLZVkr>

¹²³ <http://store.hawaiian-noniworks.com/info.html>

¹²⁴ <http://nccam.nih.gov/health/noni#cautions>

MMS Plus+

Recommended Brands

Hawaiian Herbal Blessings - <http://store.hawaiian-noniworks.com/10orhanoju32.html>

Plus: Goji Berries

Recommended dosage

Goji Berries - 10 - 30 grams daily¹²⁵



Ways it helps the body

Goji berries have been used for 6,000 years by herbalists in China, Tibet and India to:

- protect the liver
- help eyesight
- improve sexual function and fertility
- strengthen the legs
- boost immune function
- improve circulation
- promote longevity¹²⁶

¹²⁵ <http://recipes.howstuffworks.com/goji-berry1.htm>

¹²⁶ <http://altmedicine.about.com/od/completeazindex/a/goji.htm>

Promoting Human Growth Hormone Production

Levels of human growth hormone decline as we age. A 70-year-old produces only one-tenth of the amount generated by a 20-year-old. This decline parallels physical deterioration, such as lower levels of energy, muscle wasting and a tendency to store more body fat. Boosting the natural production of growth hormone helps us feel, look and function like a more youthful person. Goji berries help our bodies do this in two ways:

- **Potassium:** Goji is a rich source of the mineral, which is vital for health and longevity. Insufficient potassium interferes with the normal function of the pituitary gland, which produces growth hormone.
- **Amino acids:** Certain amino acids promote the production of growth hormone. Goji is a rich source of l-glutamine and l-arginine, two amino acids which may work together to boost growth hormone levels and revitalize youthful appearance and function.

Enhancing Libido and Sexual Function

Diminished sexual function is not an inevitable part of aging. A lower sex drive in both men and women can be associated with decreased production of testosterone. Goji berries can help by increasing its production.

In Asia, goji berries are traditionally regarded as a strong sexual tonic. In addition, goji acts as a general tonic to improve overall stamina, mood and well-being. It can also help to decrease stress. All of these benefits are conducive to a healthy sex life.

Increasing Energy

The goji berry is an "adaptogen," a term used in the world of medicinal plants to describe a substance with a combination of therapeutic actions. An adaptogen invigorates and strengthens the system while helping the body to deal with stress without collapsing. It also supports healthy function of the adrenal glands, which tend to get overworked in times of stress.

Goji berries are considered to be an especially beneficial adaptogen in Asia. The goji is believed to harmonize functions of the entire body, resulting in enhanced stamina, strength and energy.

Improving Vision

The goji berry contains two key nutrients for healthy vision: zeaxanthin and lutein. These are concentrated at the center of the retina and protect the eye from the most common causes of age-related loss of sight, including macular degeneration, cataracts and diabetic retinopathy.

Free radicals also attack the eyes, and zeaxanthin and lutein protect against such damage. Animal research in China has shown that eating goji berries can reduce free radical damage of the retina.

Controlling Cholesterol and Blood Pressure

Super Potassium

A 3-ounce serving of dried goji berries contains 1,600 mg of potassium -- four times the potassium in three ounces of banana.

Goji berries have the ability to combat two key factors that promote heart disease: oxidized cholesterol and elevated blood pressure.

Cholesterol becomes especially dangerous when it oxidizes as a result of free radicals, and the oxidized blood fats then attach to artery walls as plaques. Our bodies have a built-in defense system, an enzyme called superoxide dismutase (SOD). SOD produces antioxidants to prevent cholesterol from oxidizing, but levels of SOD decline as we age.

Chinese research shows that goji berries can increase our production of SOD, reducing oxidation of cholesterol. Goji berries also contain other antioxidants that decrease oxidation of cholesterol and help to control blood pressure.

Keeping Vital Organs Healthy

In addition to helping keep the heart healthy, goji berries help balance blood sugar and enhance the liver, digestive system and skin:

- **Blood sugar:** Goji berries have been used in Asia for the treatment of diabetes and to help regulate high blood sugar, which is a precursor to both diabetes and heart disease.
- **Liver:** Several types of phytonutrients in the fruit enhance the ability of the liver to detoxify and guard against the organ being damaged by carcinogens and the hepatitis virus.
- **Digestion:** Goji berries are helpful for all types of digestive problems and can aid in recovery from digestive illnesses, such as ulcers and irritable bowel syndrome.
- **Skin:** Goji berries contain fatty acids, which can stimulate collagen production and retain moisture, resulting in younger-looking skin.

Improving Sleep

Goji berries are a rich source of two nutrients that are necessary for healthful sleep:

- **Thiamin (B1):** The vitamin is found in the hulls of grains, but it is missing from diets that mostly contain refined grains. Thiamin also improves mood, alleviates depression and increases energy levels.
- **Magnesium:** The mineral reduces the time it takes to fall asleep and improves the quality of sleep.¹²⁷

¹²⁷ <http://recipes.howstuffworks.com/goji-berry3.htm>



Tibet Authentic

**ORAC SCALE
(OXYGEN RADICAL ABSORBANCE CAPACITY)
ANTIOXIDANTS LEVELS**

The ORAC scale is a test used by the US Department of Agriculture to measure the Total Antioxidant Potency of foods and nutritional supplements. It provides a precise means of determining the power of specific foods, supplements and compounds to destroy, or neutralize, free-radicals in the body!!! in other words how well does a certain food I eat help me fight or prevent diseases??? here's how some common foods measure-up on the ORAC scale:



*Per 100 g

How it's made

Goji berries, also called wolfberries, have been grown in the Himalayan valley for hundreds of years. Traditional Chinese folk medicine uses them to cure a variety of ailments. Goji berries have also long been used in various Asian dishes as an ingredient or a garnish. Goji berry bushes grow to be one to three meters high. Because the berries are very delicate when on the plant, they cannot be picked by hand. Instead they are gently shaken from the vine. Frequently they are set out in the sun to dry, whereupon they become slightly chewy. Besides eating the berries, you can also drink the goji berry juice. It is especially popular in the regions where the berries are grown, and can be combined with tea to make a tonic.¹²⁹

Benefits

Goji berries are rich in antioxidants, particularly carotenoids such as beta-carotene and zeaxanthin. One of zeaxanthin's key roles is to protect the retina of the eye by absorbing blue light and acting as an antioxidant. In fact, increased intake of foods containing zeaxanthin may decrease the risk of developing age-related macular degeneration (AMD), the leading cause of vision loss and blindness in people over the age of 65.¹³⁰

Research shows that eating berries -- like blueberries, acai berries, cranberries, strawberries, and cherries -- offers some definite health benefits. Berries like the goji berry are filled with powerful antioxidants and other compounds that may help prevent cancer and other illnesses, including heart disease. Antioxidants may also boost the immune system and lower cholesterol.

Eating foods high in antioxidants may slow the aging process as well. It does this by minimizing damage from free radicals that injure cells and damage DNA. When a cell's DNA changes, the cell grows abnormally. Antioxidants can take away the destructive power of free radicals. By doing so, antioxidants help reduce the risk of some serious diseases.

Goji berries also have compounds rich in vitamin A that may have anti-aging benefits. These special compounds help boost immune function, protect vision, and may help prevent heart disease.

¹²⁸ http://tibetauthentic.com/goji_berries.php

¹²⁹ <http://recipes.howstuffworks.com/goji-berry.htm>

¹³⁰ <http://altmedicine.about.com/od/completeazindex/a/goji.htm>

Some research suggests that goji berry extracts may boost brain health and may protect against age-related diseases such as Alzheimer's.¹³¹

- **Antioxidants in Goji Berries** - Body Functions Supported
- **Vitamin C** - Heart health
- **Beta-carotene** - Immunity
- **Cystine** - Immunity, healthy stomach lining
- **B2 (riboflavin)** - Conversion of carbohydrates into fuel
- **Manganese** - Healthy skin, bone, cartilage
- **Zinc** - Wound healing, fertility, vision, immunity
- **Copper** - Energy, hormonal function, healthy skin
- **Selenium** - Healthy liver, thyroid, immunity, cancer protection”¹³²

Friendly Intestinal Bacteria

Goji berries also support healthy immunity by promoting the growth of beneficial bacteria in our gastrointestinal system. The fruit's combination of fiber content and polysaccharides naturally supports the growth of healthy intestinal bacteria, known as probiotics.

Probiotics have numerous benefits, including:

- enhancing the function of the immune system
- protecting against unhealthy bacteria that cause disease
- aiding in the digestive process
- reducing symptoms of digestive disorders such as irritable bowel syndrome
- helping in recovery from respiratory infections
- reducing the risk of allergies, including respiratory symptoms and allergic skin reactions

Healthy Proteins

¹³¹ <http://www.webmd.com/balance/goji-berries-health-benefits-and-side-effects>

¹³² <http://recipes.howstuffworks.com/goji-berry3.htm>

The protein in goji berries, which makes up 16 percent of the fruit, contains two key amino acids that support the immune system: l-arginine and l-glutamine. Both of these are building blocks for healthy immunity and work to reduce inflammation.”¹³³

Warning/Tips

There may be some possible herb-drug interactions with goji berries. If you take warfarin (a blood thinner), you may want to avoid goji berries. Goji berries may also interact with diabetes and blood pressure drugs.

Also, if you have pollen allergies, you may want to stay away from this fruit. However, when eaten in moderation, goji berries appear to be safe. Ask your doctor if you have any questions.¹³⁴

Drug Interactions

As with any new medication or herbal supplement, patients interested in adding goji to their diet should be aware that possible drug interactions may occur if these patients are already currently taking additional medication. According to Moynihan, the most adverse drug interactions noticed in patients are those individuals who begin treatment with goji berry who already take prescription medication for the treatment of diabetes. This is primarily due to the herb's natural qualities that can affect insulin and pancreas function (two main factors that are affected by diabetes). As a result, Moynihan recommends seeking the advice of a medical professional before starting goji berry consumption or supplement use.

Digestive System

A common side effect seen in most medications or supplements newly introduced to the body is irritation of the digestive system. According to TheHealthCareCenter.org, goji berry users have reported minor digestive problems that resulted from beginning treatment associated with goji berry supplements. These minor disorders include diarrhea, indigestion, nausea, and vomiting (in extreme cases). Allergic reactions to the herb may also cause digestive system distress, especially after prolonged use of the supplement. As a result, goji berry as a supplement is best taken with food or on a full stomach to limit the probability of stomach upset.

Increased Bleeding

Although it is rare, another side effect that supplement users should be aware of before consuming goji is the herb's natural qualities that may affect blood clotting. According to PeaceHealth.org, a case study described on the website documents at least one case where a woman presented with increased bleeding during menstruation after beginning a goji-based supplement program that included the consumption of three to four glasses of goji berry juice a day. While no additional adverse effects related to increased

¹³³ <http://recipes.howstuffworks.com/goji-berry4.htm>

¹³⁴ <http://www.webmd.com/balance/goji-berries-health-benefits-and-side-effects>

MMS Plus+

bleeding have been officially published, users should still check with their doctor if they have a history of blood clot-related disorders.¹³⁵

Recommended Brands

Live Superfoods - <http://livesuperfoods.com/organic-goji-berries.html>

¹³⁵ <http://www.livestrong.com/article/113722-side-effects-goji/>

Plus: Acai Berry Powder

Recommended dosage

Acai Berry - 1,000 mg daily¹³⁶



Ways it helps the body

As a Weight Loss Aid

How can acai promote weight loss? Its high fiber content, omega fatty acids, amino acids, and other vitamins all contribute to promote appetite suppression, increase metabolism, slow down the buildup of body fat, and boost energy to allow you to increase your daily activity and burn more calories. We all know that with regular exercise and the right diet, you can achieve your ideal weight. While acai berry supplements alone won't do much for weight loss, the nutritional makeup of the acai berry may help with your weight loss efforts if you incorporate them into a healthy diet.

¹³⁶ <http://organic-acai-berry.com/order-perfect-acai.html>

As an Energy and Stamina Booster

Do you know that acai is a staple diet component of many Brazilian Jiu-Jitsu fighters, top athletes, and world-class surfers? This is because acai is packed with carbohydrates, proteins and healthy fats that these people believe rejuvenate the body and keep it going through vigorous activities.

As a Fighter of Different Illnesses

Diabetes, heart diseases, and all forms of cancer are some of the leading causes of death worldwide. Acai berry promotes general well-being and some believe it may help fight and prevent these illnesses. The high concentration of antioxidants proven to be found in acai can prevent cells from being damaged. Damaged cells can lead to oxidative stress and consequently, diseases. In addition, acai berry contains healthy fatty acids and phytosterols that are thought to lower blood pressure and prevent heart ailments.

As an Immune System Booster

One of the benefits of acai berry that has drawn more people to its use is that it is said to strengthen one's immune system. Again, antioxidants play a huge role in boosting immune system and acai happens to have antioxidant concentration that is several times higher than other fruits. As an example, blueberries are regarded as one of the most antioxidant-packed fruits but the acai berry has more than twice the amount of antioxidants than blueberries!

As an Aid to a Healthy Digestive System

Of the 52 grams of carbohydrates in a 100-g serving of freeze-dried acai, 84% of that is fiber. High fiber content promotes a healthy digestive system, therefore preventing constipation and hemorrhoids. From the suggested dosage of acai, you can already get the recommended daily allowance of fiber that your body needs.

As an Anti-Aging Product

Free radicals caused by outside pollutants and even those brought about by our daily activities can damage skin and this will show in our looks over time. Acai's abundance of antioxidants may act to help reduce the effects of the aging process. Further, acai contains Vitamin E that is known to promote healthy skin.

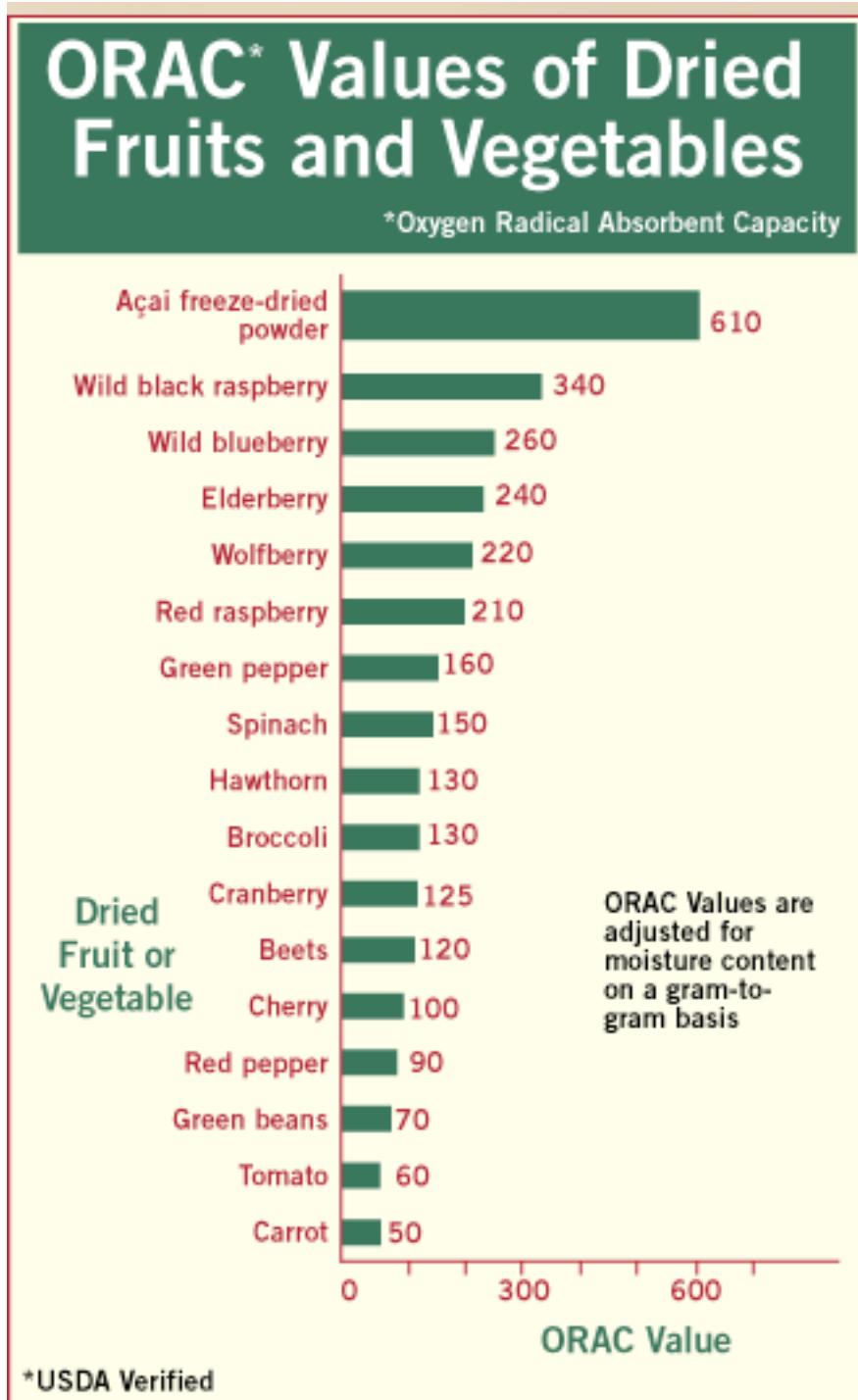
As a Vision Enhancer

Anthocyanins and Vitamin A, both of which are found in acai berry, are believed to improve a person's vision. It is even said that the British fighters of World War II consumed excessive amounts of bilberry which also contain these nutrients.

As a Boost to Libido

Natural viagra, anyone? Increased energy, reduced weight, and a healthy heart all contribute to boosting one's sexual drive. The good fats that acai has also helps in cholesterol metabolism and in producing estrogen and testosterone.

Now knowing the extraordinary potential benefits of acai berry that users attest to, there's no reason why you shouldn't try it out yourself!¹³⁷



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¹³⁷ <http://pureacaiberrysupplements.com/benefits-of-acai-berry/>

¹³⁸ <http://www.planetberries.com/nutritional-supplements.html>

How it's made

Acai powder is created by freeze drying fresh acai berries. The freeze drying process involves carefully removing the moisture from the acai berries in a way that does not destroy the nutritional value of the fruit. In order for the "acai powder" to maintain, it's original nutritional potency it is important that strict procedures be followed in the process, such as maintaining the proper temperature in the freeze drying process.

When the fruit is freeze dried properly, all or almost all of the nutritional integrity of the fruit remains intact resulting in a pure, potent acai powder product. It is also important that the freeze drying process is done in a natural way without the use of potentially toxic chemicals like those which are often used in the 'spray' drying process, and should be avoided. Remember, freeze drying is good and spray drying is not good!

When the freeze drying process is performed correctly, the resulting acai powder becomes one of the only sources for pure acai available to consumers outside the immediate area where the acai berries are grown, which is almost exclusively in the Amazon rainforest area of Brazil.

Once the freeze drying process is properly completed and the acai powder is created, that powder can be used in capsules or sold in jars. The acai powder used in all products offered on this website is from what we believe to be the best and highest quality sources for acai berries in the world.

The best acai product should contain only the best quality pure organic freeze dried acai powder and no additional ingredients. In order to reap the powerful nutritional benefits that acai berries offer, consumers should read ingredients labels to seek out the best possible products.

Our favorite product called Perfect Acai contains pure organic freeze dried acai powder and nothing else. There is not even any filler in the capsules! It's pure stuff. It's well-priced too, offering 120 capsules of 500 mg per bottle, while most competitors offer bottles contain only 60 or even 30 capsules, for around the same price.

And remember that pure acai powder is pure acai fruit in freeze-dried form. There are no chemicals, no strange herbs, and no additional ingredients of any kind. It's just plain fruit! Read the ingredients labels on the back of products and you will see the difference."¹³⁹

Benefits:

“•Acai berry contains many polyphenolic anthocyanin compounds like resveratrol, cyanidin-3-galactoside, ferulic acid, delphinidin, petunidin as well as astringent proanthocyanidin tannins like epicatechin, procatechuic acid and ellagic acid. Scientific studies on these compounds suggests that these compounds have been claimed to act

¹³⁹ <http://organic-acai-berry.com/acai-powder.html>

as anti-aging, anti-inflammatory, anti-cancer functions by virtue of their anti-free radical fighting actions. In addition, tannins are known to have anti-infective, anti-inflammatory and anti-hemorrhagic properties.

- Preliminary research studies suggest that ellagic acid in acai has anti-proliferative properties due to its ability of directly inhibiting the DNA binding of certain carcinogens, including nitrosamines toxins in the food.
- Acai berry is also rich in medium chain fatty acids like oleic acid (omega-9) and linoleic acid (omega-6). These compounds help reduce LDL-cholesterol level and raise good HDL-cholesterol levels in the body as well as help prevent heart disease. In addition, they help prevent skin dryness by maintaining adequate moisture in the skin.
- Acai pulp has good levels of dietary fiber. Good fiber in the diet helps remove cholesterol in the stools.
- ORAC value (oxygen radical absorbance capacity) of acai berry is thought to be at mid-level range for fruits, higher than that of oranges but less than pomegranate. USDA so far not validated exact ORAC value of acai.
- Acai berries contain good amount of minerals like potassium, manganese, copper, iron, and magnesium. Potassium is an important component of cell and body fluids that helps controlling heart rate and blood pressure. Manganese is used by the body as a co-factor for the antioxidant enzyme, superoxide dismutase.
- They are rich in B-complex vitamins and vitamin-K. Contain very good amounts of niacin, vitamin B-6 and riboflavin. These vitamins function as co-factors and help body in the metabolism of carbohydrates, proteins, and fats.¹⁴⁰

Warning/Tips

The only side effect from pure foods would happen only if you have an allergy to the food in question or if you ate too much of it. For instance, if you eat too many apples or strawberries, you will probably get an upset stomach. That said, if you think you may be allergic to the acai berry fruit, consult a licensed physician before taking acai berry or any other food which you think you may be allergic to.¹⁴¹

Recommended Brands

Perfect Acai - <http://organic-acai-berry.com/order-perfect-acai.html>

¹⁴⁰ <http://www.nutrition-and-you.com/acai-berry.html>

¹⁴¹ <http://organic-acai-berry.com/acai-berry-side-effects.html>

Plus: Maca (Peruvian Ginseng)

Recommended dosage

Maca - 450 mg three times daily with food¹⁴²



Ways it helps the body

Peru ginseng extract can for athletes to supply energy. Because of its iron content high, and in the climbers need more oxidation and produce higher hemoglobin of ideal supplies. Peru ginseng also help to increase muscle quality.

Peru ginseng is a can improve the attention and memory of the nervous system stimulant. It is suffering from chronic fatigue and mild depression patients helper, can also help students with is overcome psychological and managers physical pressure to provide help.

Due to the high in vitamins, antioxidants, flavonoids, essential fatty acids, phosphorus and trace elements, Peru ginseng extract can slow down the ageing of the cells

¹⁴² <http://www.livestrong.com/article/415347-peruvian-maca-root-dosage-effects/>

degeneration process, prevent loss of hair, and strengthen organization vigor to keep skin moist.

Peru ginseng extract can enhance sexual desire and effective to male impotence. It also in menopause to ovarian disorders and hot flashes red also have effect."¹⁴³

Maca is thought to regulate the metabolism, and is growing in popularity as a natural way to help the body produce stable energy instead of the temporary energy lift associated with strong stimulants. Athletes find maca useful as a natural way to enhance energy, stamina and endurance. Maca is also used to promote mental clarity which could make it helpful for Alzheimer's disease (AD).

The native people of the Andes used *Lepidium meyenii* as a remedy for anemia, tuberculosis, stomach cancer, sterility and other reproductive and sexual disorders. *Lepidium meyenii* is used for the relief of chronic fatigue syndrome, menstrual disorders, and menopause symptoms. It may relieve menopause symptoms because of its natural ability to help the body balance hormonal levels.¹⁴⁴

How it's made

The tuberose root of *Lepidium meyenii* (Maca) is used both as food and as an herbal remedy. When the root of the maca plant is harvested, the roots are dried by exposing them to sunlight for 4-6 days. The dried root can be stored in a cool, dry place for several years, and is easily rehydrated by boiling in water until soft."¹⁴⁵

Maca Magic brand maca root is cultivated without chemicals at 14,000 feet elevation in the mineral-rich highlands of Peru's Altiplano, higher than any other cultivated crop in the world!

It is here that HERBS AMERICA and their team of traditional farmers proudly work hand in hand to ensure organic purity in each of their bio-active, nutrient-rich products. Their fields are naturally irrigated by glacial ice melt and rainfall born in the thunderclouds of the Amazon basin. The result is 100% maca root, incomparable in potency, freshness, and flavor.

In order to retain their own high organic standards, they oversee every step in the process of creating superior MACA MAGIC - from the planting of the seeds to the packing of the products!

¹⁴³ <http://www.gardeniablue.com/523-peruvian-ginseng-extract.html>

¹⁴⁴ <http://www.herbal-supplement-resource.com/maca-root.html>

¹⁴⁵ <http://www.herbal-supplement-resource.com/maca-root.html>

The HERBS AMERICA COMPANY supports traditional agrarian families and promotes sustainable agricultural practices. Their growers are all indigineous peoples and their culture by supporting traditional farming in the Andes Mountains.

Even today, these growers are living examples of true agrarian clans who still practice age old sustainable traditions seldom seem in today's high tech chemical and machine dependent farming methods.

They maintain intimate relationships with the fertile valleys and strive to keep it pure, and they honor these traditions.

Because of this commitment to farming and a love of the land, they have been able to maintain strains of Maca root in these Peruvian valleys for hundreds of years.

The maca harvests take place in June and July, along with other crops such as corn and potatoes. Festivals celebrating the harvesting of crops are common during this time and symbolically mark the beginning of their long, very cold winters.

Once the maca roots are harvested from the highlands, they are immediately brought to their sorting and packing facilities where they undergo a scrutinous process of quality control...

They are sorted, dehydrated, grinded, and worked into a diversity of products, which are then shipped to our facilities in Oregon for distribution.¹⁴⁶

Benefits

Maca Root is highly nutritious. It is rich in essential nutrients (especially iodine, iron, calcium, selenium and magnesium), essential fatty acids, fibre, sugars, protein, amino acids, vitamins and carbohydrates.

Maca can reduce thyroidal symptoms. If someone has hypothyroidism which is an under-active thyroid, it is more than likely caused by an hormonal imbalance. This is because the thyroid gland does not produce enough thyroid hormones. This in turn, slows down the body's functions and can lead to lots of physical disorders. A leading cause of hypothyroidism is a deficiency of the chemical element iodine which is a major component of thyroid hormones. The high iodine content and hormone balancing properties within Maca can improve hypothyroidism.

The herb's rich iron content means that is considered beneficial to people suffering with anaemia. The immune system can be boosted and strengthened by Maca because of its phytochemical contents and so helps the body fight off harmful or foreign substances

¹⁴⁶ <http://www.macagrower.com/index.html>

that may try to damage it. Serious invasive infection can be combated by the glucosinolates found in Maca Root according to current studies.¹⁴⁷

Maca contains glucosinolates, the strong-smelling compounds that are responsible for the pungent smell and taste of mustard family plants, and isothiocyanates, which have been shown to block the formation of endogenous or exogenous carcinogens and so inhibit carcinogenesis. *Lepidium meyenii* does not contain hormones; instead it provides nutrients that nourish the endocrine system and enable the glands to produce essential hormones in specific amounts that are regulated as needed by the individual. *Lepidium meyenii* is traditionally considered to be anti-fatigue, aphrodisiac, nutritive, immunostimulant, steroidal and tonic. The nutritional value of maca is high because it contains amino acids, complex carbohydrates, starch, glucosides, alkaloids, tannins, and vitamins B1, B12, C, and E. Maca varies between 12% and 14% protein, depending on the variety, and the fertility of the soil where it is grown. Maca is 78% carbohydrate, and is high in calcium (2258 mg) and iron (15.4 mg per 100 g). Maca root has been an important food source for the indigenous peoples of the Andes because so little else will grow in the region. It is eaten baked, dried, mixed with milk, or in juices, porridges and jams.¹⁴⁸

Warning/Tips

Maca root contains more than 50µg of iodine, which worsens the side effects of thyroid disease. It is also high in glucosinolates, which can cause goiter (swollen thyroid gland with decreased activity) if taken in excess combined with a low-iodine diet. As maca has been used as an herbal remedy for hypothyroidism it is very important that people with thyroid diseases consult their health care provider before consuming maca root in any form. Some people are allergic to *Lepidium meyenii*, which can result in hives and fatigue.¹⁴⁹

Recommended Brands

Maca Magic - <http://www.herbdealer.com/macamart/index.php>

¹⁴⁷ http://botanical.com/site/by_you/eating_maca.html

¹⁴⁸ <http://www.herbal-supplement-resource.com/maca-root.html>

¹⁴⁹ <http://www.herbal-supplement-resource.com/maca-root.html>

Plus: Wheat Grass

Recommended dosage

Wheat Grass - 2-3 Tablespoons organic powder daily¹⁵⁰



Ways it helps the body

- Liquid chlorophyll washes drug deposits from the body.
- Chlorophyll neutralizes toxins in the body.
- Chlorophyll helps purify the liver.
- Chlorophyll improves blood sugar problems.

In the American Journal of Surgery (1940), Benjamin Gruskin, M.D. recommends chlorophyll for its antiseptic benefits. The article suggests the following clinical uses for chlorophyll: to clear up foul smelling odors, neutralize Strep infections, heal wounds,

¹⁵⁰ <http://www.amorganics.com/Wheatgrass-8-oz-Powder-p/organic-wheatgrass-powder.htm>

hasten skin grafting, cure chronic sinusitis, overcome chronic inner-ear inflammation and infection, reduce varicose veins and heal leg ulcers, eliminate impetigo and other scabby eruptions, heal rectal sores, successfully treat inflammation of the uterine cervix, get rid of parasitic vaginal infections, reduce typhoid fever, and cure advanced pyorrhea in many cases.²¹ Wheatgrass Juice cures acne and even help to remove scars after it has been ingested for seven to eight months. The diet must be improved at the same time.

Wheatgrass juice acts as a detergent in the body and is used as a body deodorant. A small amount of wheatgrass juice in the human diet helps prevents tooth decay.

Wheatgrass juice held in the mouth for 5 minutes will help eliminate toothaches. It pulls poisons from the gums.

Gargle Wheat grass Juice for a sore throat.

Drink Wheatgrass Juice for skin problems such as eczema or psoriasis.

Wheat grass Juice keeps the hair from graying.

Pyorrhea of the mouth: lay pulp of wheatgrass soaked in juice on diseased area in mouth or chew wheat grass, spitting out the pulp.

By taking Wheat grass Juice, one may feel a difference in strength, endurance, health, and spirituality, and experience a sense of well-being.

Wheatgrass juice improves the digestion.

Wheat grass juice is high in enzymes.

Wheatgrass juice is great for constipation and keeping the bowels open. It is high in magnesium.

Dr. Birscher, a research scientist, called chlorophyll "concentrated sun power." He said, "chlorophyll increases the function of the heart, affects the vascular system, the intestines, the uterus, and the lungs."

Wheat grass juice can dissolve the scars that are formed in the lungs from breathing acid gasses. The effect of carbon monoxide is minimized since chlorophyll increases hemoglobin production.

Wheatgrass Juice reduces high blood pressure and enhances the capillaries.

Wheat grass Juice can remove heavy metals from the body.

Wheatgrass juice is great for blood disorders of all kinds.¹⁵¹

Wheatgrass is used for increasing production of hemoglobin, the chemical in red blood cells that carries oxygen; improving blood sugar disorders, such as diabetes; preventing tooth decay; improving wound healing; and preventing bacterial infections.

It is also used for removing deposits of drugs, heavy metals, and cancer-causing agents from the body; and for removing toxins from the liver and blood.

Some people use wheatgrass for preventing gray hair, reducing high blood pressure, improving digestion, and lowering cholesterol by blocking its absorption.

Wheatgrass is also used to treat various disorders of the urinary tract, including infection of the bladder, urethra, and prostate; benign prostatic hypertrophy (BPH); kidney stones; and in "irrigation therapy," the use of a mild diuretic along with lots of fluids to increase urine flow.

Other uses include treatment of respiratory tract complaints, including the common cold, cough, bronchitis, fever, and sore throat; tendency toward infection; gout; liver disorders; ulcerative colitis; joint pain; and chronic skin problems.

Wheatgrass is used for cancer and arthritis in alternative treatment programs. Wheatgrass contains a lot of chlorophyll, the chemical in plants that makes them green and also allows them to make energy from sunlight through photosynthesis. Some people think chlorophyll might fight cancer and arthritis.

Wheatgrass juice is a popular health drink. It is thought to benefit health only when fresh and taken on an empty stomach immediately after extraction. But there is no research to date that supports this.¹⁵²

¹⁵¹ <http://www.wheatgrasskits.com/40pointsofwheatgrass.htm>

¹⁵² <http://www.webmd.com/vitamins-supplements/ingredientmono-1073-WHEATGRASS.aspx?activeIngredientId=1073&activeIngredientName=WHEATGRASS>

	Dehydrated	Wheatgrass Juice
Protein	850mg	550mg
Chlorophyll	18mg	8mg
Vitamin A	1670 IU	120 IU
Vitamin C	8mg	1mg
Iron	870mcg	660mcg
Calcium	15mg	7mg
Potassium	137mg	42mg
Sugars	< 1%	> 2%
Folic Acid	21mcg	8mcg

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How it's made

Wheatgrass Juice versus Dehydrated Wheatgrass

Fresh wheatgrass juice, also referred to as "tray-grown" wheatgrass, is grown quickly for ten (10) days under artificial conditions and contains far less nutritional content than naturally grown wheatgrass. A.M. Organic's wheatgrass is farm-grown and harvested during the pre-jointing stage when the nutrients are at the maximum level. The whole leaf wheatgrass is then dehydrated at low temperatures to preserve nutrients and as many enzymes as possible (at this stage the wheatgrass is not dead, nor devoid of enzymes). Their wheatgrass is stored as compressed pellets in cool, dry facilities and turned into tablets and powder for human consumption.

There is no substitute for the 200 days of sunlight natural wheatgrass receives out on the farm. Their 100% organic wheatgrass is grown without the use of herbicides, pesticides, or artificial fertilizers. This results in a product that contains an invaluable amount of vitamins, minerals, and amino acids for your body.

However, A.M.Organics' wheatgrass is dehydrated at low temperatures to preserve as many enzymes as possible. The question then becomes, how many enzymes does your body need? Most experts think that your body manufactures all the enzymes it needs, and additional enzymes unneeded by the body are discarded as wasted. Wheatgrass powder can be added to any liquid and is much better value than wheatgrass juice."¹⁵⁴

Benefits

¹⁵³ <http://www.amorganics.com/dehydrated-wheatgrass-vs-wheatgrass-juice-a/141.htm>

¹⁵⁴ <http://www.amorganics.com/dehydrated-wheatgrass-vs-wheatgrass-juice-a/141.htm>

Wheatgrass Juice is one of the best sources of living chlorophyll available. Chlorophyll is the first product of light and, therefore, contains more light energy than any other element.

Wheatgrass juice is a crude chlorophyll and can be taken orally and as a colon implant without toxic side effects.

Chlorophyll is the basis of all plant life.

Wheatgrass is high in oxygen like all green plants that contain chlorophyll. The brain and all body tissues function at an optimal level in a highly-oxygenated environment.

Chlorophyll is anti-bacterial and can be used inside and outside the body as a healer.

Dr. Bernard Jensen says that it only takes minutes to digest wheatgrass juice and uses up very little body energy.

Science has proven that chlorophyll arrests growth and development of unfriendly bacteria.

Chlorophyll (wheatgrass) rebuilds the bloodstream. Studies of various animals have shown chlorophyll to be free of any toxic reaction. The red cell count was returned to normal within 4 to 5 days of the administration of chlorophyll, even in those animals which were known to be extremely anemic or low in red cell count.

Farmers in the Midwest who have sterile cows and bulls put them on wheatgrass to restore fertility. (The high magnesium content in chlorophyll builds enzymes that restore the sex hormones.)

Chlorophyll can be extracted from many plants, but wheatgrass is superior because it has been found to have over 100 elements needed by man. If grown in organic soil, it absorbs 92 of the known 102 minerals from the soil.

Wheatgrass implants (enemas) are great for healing and detoxifying the colon walls. The implants also heal and cleanse the internal organs. After an enema, wait 20 minutes, then implant 4 ounces of wheatgrass juice. Retain for 20 minutes.

According to Dr. Birscher, nature uses chlorophyll (wheatgrass) as a body cleanser, rebuilder, and neutralizer of toxins.

(TO GET THE FULL BENEFIT OF CHLOROPHYLL IT MUST BE FROM A LIVING PLANT)¹⁵⁵

Warning/Tips

¹⁵⁵ <http://www.wheatgrasskits.com/40pointsofwheatgrass.htm>

Wheatgrass can cause nausea, appetite loss, and constipation.¹⁵⁶

Combining it with other foods may cause nausea. Besides detoxification, another reason why one might feel nauseous after drinking wheatgrass juice is if you drank it with or after a meal. Wheat grass juice does not combine well with other foods and should always be taken on an empty stomach.

After you drink wheat grass juice, we suggest waiting an hour before eating; that's about how long it takes for the juice to be assimilated.

What does cause the temporary effects can be disputed although it is widely attributed to "detoxification."

A "detox" effect occurs when the body rapidly undergoes removal of toxins such as heavy metals, bad fats, carcinogens, metabolic waste, and impurities in the human body.

This rapid excretion of toxins subsequently causes headache and nausea, the same effects that have been incorrectly attributed to mold. Once the toxins are removed from the body, the side effects will no longer occur. These "detox effects" usually subside over a short period of time.

Mold and wheat grass: There are a few varieties of mold that commonly grow on wheat grass and are very difficult to avoid. Almost every wheat seed that gets planted produces a small amount of a "blue fuzz" mold. This is a type of "slime mold", a non-pathogenic mold (i.e. not harmful) which does not penetrate the plant.

Usually, this mold can simply be cut above and rinsed off before the grass is juiced. Other varieties (white or brown) can be harmful, however they usually kill the plant, and it is obvious the food is spoiled (just like with any produce).

This is why it is suggested that users use some sort of wheatgrass supplement, instead of trying to manage their own harvest of wheatgrass.¹⁵⁷

Recommended Brands

A.M. Organic - <http://www.amorganics.com/Wheatgrass-8-oz-Powder-p/organic-wheatgrass-powder.htm>

¹⁵⁶ <http://www.webmd.com/vitamins-supplements/ingredientmono-1073-WHEATGRASS.aspx?activeIngredientId=1073&activeIngredientName=WHEATGRASS>

¹⁵⁷ <http://www.wheatgrass.me/side-effects-wheatgrass>

Plus: Aloe Vera

Recommended dosage

Aloe Vera- 300-600 mg powdered gel flakes daily¹⁵⁸; 2-5 Tablespoons fresh aloe vera gel daily¹⁵⁹



Ways it helps the body

Studies have shown that aloe gel might be effective in treating psoriasis, seborrhea, dandruff, and minor burns and skin abrasions, as well as radiation-induced skin injuries. Aloe gel also seems helpful in treating the sores caused by genital herpes in men.

¹⁵⁸ <http://www.goodcausewellness.com/servlet/the-34/aloe-vera-100-powder/Detail>

¹⁵⁹ <http://www.aloe-vera-juice-online.com/how-much-aloe-vera-juice-do-i-take.html>

There's also strong evidence that aloe juice (also called latex) taken by mouth is a powerful laxative. In fact, aloe juice was once sold in over-the-counter constipation drugs. But because aloe's safety was not well-established, the FDA required that aloe be removed from all medicines in 2002.

Other uses of oral and topical aloe vera have been studied, ranging from cancer prevention to diabetes to easing the side effects of radiation therapy. For example, aloe vera gel taken orally seems to help people with diabetes by lowering blood sugar levels. It may also help to lower cholesterol. The results for other medical conditions have been less clear.¹⁶⁰

In a single plant, aloe vera offers potent, natural medicine that:

- Halts the growth of cancer tumors.
- Lowers high cholesterol.
- Repairs "sludge blood" and reverses "sticky blood".
- Boosts the oxygenation of your blood.
- Eases inflammation and soothes arthritis pain.
- Protects the body from oxidative stress.
- Prevents kidney stones and protects the body from oxalates in coffee and tea.
- Alkalizes the body, helping to balance overly acidic dietary habits.
- Cures ulcers, IBS, Crohn's disease and other digestive disorders.
- Reduces high blood pressure natural, by treating the cause, not just the symptoms.
- Nourishes the body with minerals, vitamins, enzymes and glyconutrients.
- Accelerates healing from physical burns and radiation burns.
- Replaces dozens of first aid products, makes bandages and antibacterial sprays obsolete.
- Halts colon cancer, heals the intestines and lubricates the digestive tract.
- Ends constipation.
- Stabilizes blood sugar and reduces triglycerides in diabetics.
- Prevents and treats candida infections.

¹⁶⁰ <http://www.webmd.com/vitamins-and-supplements/lifestyle-guide-11/supplement-guide-aloe-vera>

- Protects the kidneys from disease.
- Functions as nature's own "sports drink" for electrolyte balance, making common sports drinks obsolete.
- Boosts cardiovascular performance and physical endurance.
- Speeds recovery from injury or physical exertion.
- Hydrates the skin, accelerates skin repair.¹⁶¹



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How it's made

Aloe (often called aloe vera) is a plant related to cactus. It produces two substances, gel and latex, which are used for medicines. Aloe gel is the clear, jelly-like substance found in the inner part of the aloe plant leaf. Aloe latex comes from just under the plant's skin

161 <http://www.naturalnews.com/021858.html#ixzz23RTXZu25>

162 <http://mumbai.olx.in/aloe-vera-products-iid-4852352>

and is yellow in color. Some aloe products are made from the whole crushed leaf, so they contain both gel and latex. The aloe that is mentioned in the Bible is an unrelated fragrant wood used as incense.¹⁶³

Benefits

The useful parts of aloe are the gel and latex. The gel is obtained from the cells in the center of the leaf; and the latex is obtained from the cells just beneath the leaf skin.

Aloe gel might cause changes in the skin that might help diseases like psoriasis.

Aloe seems to be able to speed wound healing by improving blood circulation through the area and preventing cell death around a wound.

It also appears that aloe gel has properties that are harmful to certain types of bacteria and fungi.

Aloe latex contains chemicals that work as a laxative.¹⁶⁴

The gel or mucilage obtained from the flesh of the leaf contains quite different compounds from the bitter latex extracted from the leaf lining. Aloe gel is 99% water with a pH of 4.5 and is a common ingredient in many non-prescription skin salves. The gel contains an emollient polysaccharide, glucomannan. It is a good moisturizer, which accounts for its use in many cosmetics. Acemannan, the major carbohydrate fraction in the gel, is a water-soluble long chain mannose polymer which accelerates wound healing, modulates immune function (particularly macrophage activation and production of cytokines) and demonstrates antineoplastic and antiviral effects. The gel also contains bradykininase, an anti-inflammatory, magnesium lactate, which helps prevent itching, and salicylic acid and other antiprostaglandin compounds which relieve inflammation.

The leaf lining (latex, resin or sap) contains anthraquinone glycosides (aloin, aloemodin and barbaloin) that are potent stimulant laxatives. These water soluble glycosides are split by intestinal bacteria into aglycones which effect the laxative action. The laxative effect from aloe is stronger than from any other herb, including senna, cascara or rhubarb root; it also has more severe side effects such as cramping, diarrhea, and nausea. For medicinal use, the leaf lining is dried and the residue is used as an herbal laxative. The products are usually taken at bedtime. They are poorly absorbed after oral administration, but moderately well absorbed after bacterial

¹⁶³ <http://www.webmd.com/vitamins-supplements/ingredientmono-607-ALOE.aspx?activeIngredientId=607&activeIngredientName=ALOE>

¹⁶⁴ <http://www.webmd.com/vitamins-supplements/ingredientmono-607-ALOE.aspx?activeIngredientId=607&activeIngredientName=ALOE>

hydrolysis. They are eliminated in the urine, bile, feces and breast milk. They turn alkaline urine red.¹⁶⁵

Scientific research shows strong immunomodulatory and antitumour properties for aloe vera polysaccharides. That means the gel helps boost immune system function while destroying cancer tumors. One study published in *International Immunopharmacology* (1995) showed that aloe vera polysaccharides exhibited potent macrophage-activating activities including producing increased volumes of nitric oxide (which has antitumor potential).

Using aloe topically is well known to ease inflammation of joints, reducing arthritis pain. But aloe can also be used internally, reducing inflammation throughout the body from the inside out. People who drink aloe vera for two weeks typically begin to experience a significant reduction of inflammation symptoms.

Aloe is one of the most widely-used ingredients in high-grade skin care products. There's a reason for that: It's great medicine for the skin! Aloe soothes the skin, hydrates it, nourishes it and accelerates the regeneration of new skin tissue. (In fact, simply removing the gel from a living aloe vera leaf and placing the raw gel on your face is far superior to even the most expensive eye cream or skin care product on the market.) And while most people are only familiar with using aloe vera externally, aloe also enhances skin health when used internally. Drink more aloe and your skin glows!

Diabetic patients who take aloe vera for 3 months experience a significant drop in fasting blood sugar levels. They also exhibit lower cholesterol levels and slight improvements in total cholesterol. Numerous clinical studies have been published that demonstrate aloe vera's anti-diabetic properties.

Diabetics are also likely to benefit strongly from aloe vera's blood enhancements (see below). Since aloe reverses "sludge blood" and boosts circulation to extremities, diabetics suffering from peripheral neuropathy (hands and feet going numb) are likely to benefit strongly from aloe vera supplements.

Essentially, aloe reduces overall inflammation. Of course, if you continue eating a pro-inflammatory diet (red meat, milk, sugar, white flour, fried foods etc.) then you'll never get rid of all your inflammation with aloe alone, but aloe can help ease your pain while you transition to a healthier lifestyle that eliminates the inflammation for good!

This is an especially interesting effect of aloe: It makes vitamin C, vitamin E and other antioxidants work better! It actually potentiates antioxidants, probably due to its effect on enhancing blood quality and allowing the blood to more effectively transport oxygen and nutrients to the body's cells. In fact, it is my belief that aloe vera makes everything nutritious work better due to its blood-enhancing effects. If I'm right about that, it means aloe can potentiate anti-cancer herbs, too, helping them more effectively target tumors.

¹⁶⁵ <http://www.voiceofeden.org/wp-content/uploads/2012/06/aloe.pdf>

Aloe vera actually contains advanced biochemical technology that the drug companies can only help to understand someday. This technology was built by nature, and it's 100% compatible with the human body. All you have to do to experience this technology for yourself is eat aloe vera gel!

Polysaccharides in the aloe vera plant have curative effects on numerous digestive disorders. The Internet is a storehouse of information and testimonials about aloe vera curing IBS, ulcers, Crohn's disease and other disorders of the digestive tract. This is one of the best-known applications of aloe vera gel.

Taking aloe certainly isn't a magic bullet cure, of course. It won't reverse your disease after drinking one glass of aloe vera gel. It needs to be used regularly. Most people report positive results in 3 - 30 days, depending on the condition.

There's research being done now on the anti-cancer effects of acemannan, a phytonutrient found in aloe vera. In one study, dogs and cats undergoing radiation for cancer were given acemannan as an adjunctive therapy. Not only did the tumors shrink more in the acemannan-treated group, but post-treatment survival was significantly extended.

There are many other benefits that come from eating aloe vera gel, too, such as increased blood flow to the brain, which might mean a reduction in Alzheimer's progression, improved learning, enhanced memory and better cognitive function. These benefits have yet to be proven in studies, but just because the studies haven't been done doesn't mean the aloe isn't already providing these benefits to those who take it.

Since there's no money to be made from studying aloe vera, the science will lag behind reality by several decades. Most of the best healing benefits of herbs remain unstudied because there's no profit motive to fund such studies. So don't expect scientists to be leaping at the opportunity to "prove" that aloe vera has all these health benefits. Just eat it yourself and observe your own health improvements. You get the benefits regardless of whether a journal has published statistics about those benefits.

What's in aloe vera gel:

- Water
- 20 minerals
- 12 vitamins
- 18 amino acids
- 200 active plant compounds (phytonutrients), including:
- Enzymes

- Triterpenes (a phytonutrient that lowers blood sugar)
- Glyconutrients & glycoproteins
- Polysaccharides, including:
 - Acemannan, mannose-6-phosphate polymannans
 - Phenolic glycosides, including:
 - Dihydrocoumarins¹⁶⁶

Warning/Tips

Side effects. Topical aloe vera might cause skin irritation. Oral aloe, which has a laxative effect, can cause cramping and diarrhea. This may cause electrolyte imbalances in the blood of people who ingest aloe for more than a few days. Aloe gel, for topical or oral use, should be free of anthraquinones (primarily the compound aloin). These are the compounds that can be irritating to the gastrointestinal tract.

Risks. Do not apply topical aloe vera to deep cuts or severe burns. People allergic to garlic, onions, and tulips are more likely to be allergic to aloe. High doses of oral aloe are dangerous. Long-term use may increase the risk of colorectal cancer. Don't take oral aloe if you have intestinal problems, heart disease, hemorrhoids, kidney problems, diabetes, or electrolyte imbalances.

Interactions. If you take any medicines regularly, talk to your doctor before you start using aloe supplements. They could interact with medicines and supplements like diabetes drugs, heart medicines, laxatives, steroids, and licorice root."¹⁶⁷

Digoxin (Lanoxin) interacts with ALOE

When taken by mouth aloe latex is a type of laxative called a stimulant laxative. Stimulant laxatives can decrease potassium levels in the body. Low potassium levels can increase the risk of side effects of digoxin (Lanoxin).

Medications for diabetes (Antidiabetes drugs) interacts with ALOE

Aloe gel might decrease blood sugar. Diabetes medications are also used to lower blood sugar. Taking aloe gel along with diabetes medications might cause your blood sugar to go too low. Monitor your blood sugar closely. The dose of your diabetes medication might need to be changed.

Some medications used for diabetes include glimepiride (Amaryl), glyburide (DiaBeta,

¹⁶⁶ <http://www.naturalnews.com/021858.html>

¹⁶⁷ <http://www.webmd.com/vitamins-and-supplements/lifestyle-guide-11/supplement-guide-aloe-vera>

Glynase PresTab, Micronase), insulin, pioglitazone (Actos), rosiglitazone (Avandia), chlorpropamide (Diabinese), glipizide (Glucotrol), tolbutamide (Orinase), and others.

Medications taken by mouth (Oral drugs) interacts with ALOE

When taken by mouth aloe latex is a laxative. Laxatives can decrease how much medicine your body absorbs. Taking aloe latex along with medications you take by mouth might decrease the effectiveness of your medication.

Sevoflurane (Ultane) interacts with ALOE

Aloe might decrease clotting of the blood. Sevoflurane is used as anesthesia during surgery. Sevoflurane also decreases clotting of the blood. Taking aloe before surgery might cause increased bleeding during the surgical procedure. Do not take aloe by mouth if you are having surgery within 2 weeks.

Stimulant laxatives interacts with ALOE

When taken orally aloe latex is a type of laxative called a stimulant laxative. Stimulant laxatives speed up the bowels. Taking aloe latex along with other stimulant laxatives could speed up the bowels too much and cause dehydration and low minerals in the body.

Some stimulant laxatives include bisacodyl (Correctol, Dulcolax), cascara, castor oil (Purge), senna (Senokot), and others.

Warfarin (Coumadin) interacts with ALOE

When taken orally, aloe latex is a type of laxative called a stimulant laxative. Stimulant laxatives speed up the bowels and can cause diarrhea in some people. Diarrhea can increase the effects of warfarin and increase the risk of bleeding. If you take warfarin, do not to take excessive amounts of aloe latex.

Water pills (Diuretic drugs) interacts with ALOE

When taken by mouth aloe latex is a laxative. Some laxatives can decrease potassium in the body. "Water pills" can also decrease potassium in the body. Taking aloe latex along with "water pills" might decrease potassium in the body too much.

Some "water pills" that can decrease potassium include chlorothiazide (Diuril), chlorthalidone (Thalitone), furosemide (Lasix), hydrochlorothiazide (HCTZ, HydroDIURIL, Microzide), and others."¹⁶⁸

Special Precautions & Warnings

Pregnancy or breast-feeding: Aloe -- either gel or latex -- is POSSIBLY UNSAFE when taken by mouth. There is a report that aloe was associated with miscarriage. It

¹⁶⁸ <http://www.webmd.com/vitamins-supplements/ingredientmono-607-ALOE.aspx?activeIngredientId=607&activeIngredientName=ALOE>

could also be a risk for birth defects. Do not take aloe by mouth if you are pregnant or breast-feeding.

Children: Aloe is POSSIBLY UNSAFE for children when taken by mouth. Children younger than 12 years old may experience abdominal pain, cramps, and diarrhea.

Diabetes: Some research suggests aloe might lower blood sugar. If you take aloe by mouth and you have diabetes, monitor your blood sugar levels closely.

Intestinal conditions such as Crohn's disease, ulcerative colitis, or obstruction: Do not take aloe latex if you have any of these conditions. Aloe latex is a bowel irritant. Remember, products made from whole aloe leaves will contain some aloe latex.

Hemorrhoids: Do not take aloe latex if you have hemorrhoids. It could make the condition worse. Remember, products made from whole aloe leaves will contain some aloe latex.

Kidney problems: High doses of aloe latex have been linked to kidney failure and other serious conditions.

Surgery: Aloe might affect blood sugar levels and could interfere with blood sugar control during and after surgery. Stop taking aloe at least 2 weeks before a scheduled surgery.”¹⁶⁹

Recommended Brands

Good Cause Wellness - <http://www.goodcausewellness.com/servlet/the-34/aloe-vera-100-powder/Detail>

¹⁶⁹ <http://www.webmd.com/vitamins-supplements/ingredientmono-607-ALOE.aspx?activeIngredientId=607&activeIngredientName=ALOE>

Plus: Coconut

Recommended dosage

Coconut - Water: 15-25 oz daily¹⁷⁰

Weight in pounds/kilograms	Number of tablespoons of coconut oil daily
175+ / 79+	4
150+ / 68+	3 1/2
125+ / 57+	3
100+ / 45+	2 1/2
75+ / 34+	2
50+ / 23+	1 1/2
25+ / 11+	1

-Oil:
171

-Milk: 1 cup homemade milk daily¹⁷²

-Meat: 50 - 100 grams 3-5 times a week¹⁷³



¹⁷⁰ <http://vitacoco.com/coconut-water-benefits/>

¹⁷¹ <http://healthimpactnews.com/2011/80-uses-for-coconut-oil/>

¹⁷² <http://www.livestrong.com/article/424277-what-are-the-benefits-of-coconut-milk-to-your-health/>

¹⁷³ <http://oneserving.com/oneserving/coconut-chunks/>

Ways it helps the body

People from many diverse cultures, languages, religions, and races scattered around the globe have revered the coconut as a valuable source of both food and medicine. Wherever the coconut palm grows the people have learned of its importance as an effective medicine. For thousands of years coconut products have held a respected and valuable place in local folk medicine.

In traditional medicine around the world coconut is used to treat a wide variety of health problems including the following: abscesses, asthma, baldness, bronchitis, bruises, burns, colds, constipation, cough, dropsy, dysentery, earache, fever, flu, gingivitis, gonorrhea, irregular or painful menstruation, jaundice, kidney stones, lice, malnutrition, nausea, rash, scabies, scurvy, skin infections, sore throat, swelling, syphilis, toothache, tuberculosis, tumors, typhoid, ulcers, upset stomach, weakness, and wounds.

Modern medical science is now confirming the use of coconut in treating many of the above conditions. Published studies in medical journals show that coconut, in one form or another, may provide a wide range of health benefits. Some of these are summarized below:

- Kills viruses that cause influenza, herpes, measles, hepatitis C, SARS, AIDS, and other illnesses.
- Kills bacteria that cause ulcers, throat infections, urinary tract infections, gum disease and cavities, pneumonia, and gonorrhea, and other diseases.
- Kills fungi and yeasts that cause candidiasis, ringworm, athlete's foot, thrush, diaper rash, and other infections.
- Expels or kills tapeworms, lice, giardia, and other parasites.
- Provides a nutritional source of quick energy.
- Boosts energy and endurance, enhancing physical and athletic performance.
- Improves digestion and absorption of other nutrients including vitamins, minerals, and amino acids.
- Improves insulin secretion and utilization of blood glucose.
- Relieves stress on pancreas and enzyme systems of the body.
- Reduces symptoms associated with pancreatitis.
- Helps relieve symptoms and reduce health risks associated with diabetes.
- Reduces problems associated with malabsorption syndrome and cystic fibrosis.

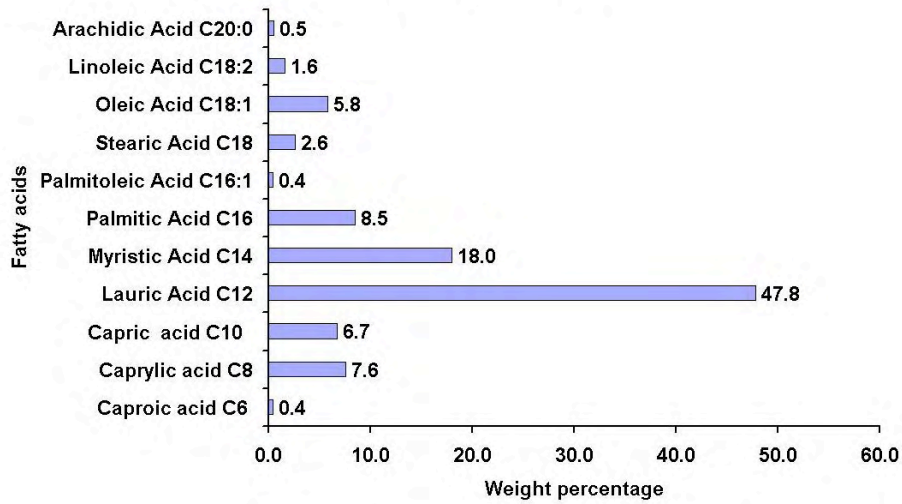
- Improves calcium and magnesium absorption and supports the development of strong bones and teeth.
- Helps protect against osteoporosis.
- Helps relieve symptoms associated with gallbladder disease.
- Relieves symptoms associated with Crohn's disease, ulcerative colitis, and stomach ulcers.
- Improves digestion and bowel function.
- Relieves pain and irritation caused by hemorrhoids.
- Reduces inflammation.
- Supports tissue healing and repair.
- Supports and aids immune system function.
- Helps protect the body from breast, colon, and other cancers.
- Is heart healthy; improves cholesterol ratio reducing risk of heart disease.
- Protects arteries from injury that causes atherosclerosis and thus protects against heart disease.
- Helps prevent periodontal disease and tooth decay.
- Functions as a protective antioxidant.
- Helps to protect the body from harmful free radicals that promote premature aging and degenerative disease.
- Does not deplete the body's antioxidant reserves like other oils do.
- Improves utilization of essential fatty acids and protects them from oxidation.
- Helps relieve symptoms associated with chronic fatigue syndrome.
- Relieves symptoms associated with benign prostatic hyperplasia (prostate enlargement).
- Reduces epileptic seizures.
- Helps protect against kidney disease and bladder infections.
- Dissolves kidney stones.
- Helps prevent liver disease.
- Is lower in calories than all other fats.

- Supports thyroid function.
- Promotes loss of excess weight by increasing metabolic rate.
- Is utilized by the body to produce energy in preference to being stored as body fat like other dietary fats.
- Helps prevent obesity and overweight problems.
- Applied topically helps to form a chemical barrier on the skin to ward off infection.
- Reduces symptoms associated with psoriasis, eczema, and dermatitis.
- Supports the natural chemical balance of the skin.
- Softens skin and helps relieve dryness and flaking.
- Prevents wrinkles, sagging skin, and age spots.
- Promotes healthy looking hair and complexion.
- Provides protection from damaging effects of ultraviolet radiation from the sun.
- Helps control dandruff.
- Does not form harmful by-products when heated to normal cooking temperature like other vegetable oils do.
- Has no harmful or discomforting side effects.
- Is completely non-toxic to humans.¹⁷⁴

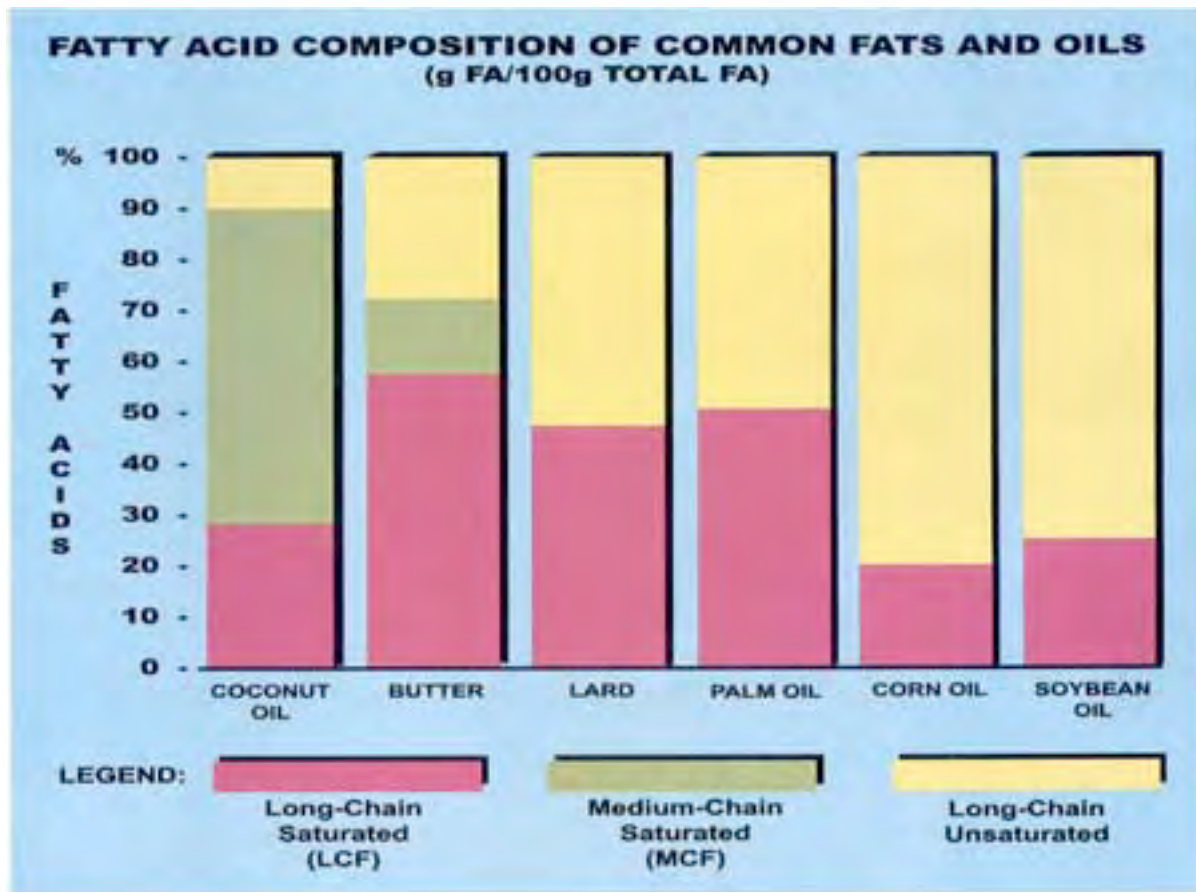
¹⁷⁴ <http://www.coconutresearchcenter.org/>

Fig 1: **Fatty acid composition of *mfonfu oil* is that of the coconut oil**

(Sources: Pantzaris, T P and Mohd Jaaffar Ahmad;
E. M. Goh and Lam Soon Berhad; Nigel Kinbrum)
Dr Daniel Mfonfu November 2007



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¹⁷⁵ <http://mfonfudaniel.blogspot.com/2008/07/coconut-oil-mfonfu-oil-treats-fungal.html>

¹⁷⁶ <http://goldenbarrel.blogspot.com/2012/01/truth-about-coconut-oil.html>

How it's made

There's a big difference between coconut water and coconut milk. Coconut water comes from inside younger coconuts filled with a clear, electrolyte-rich juice that contains zero fat and zero cholesterol. Coconut milk, on the other hand, is what is produced from grating the coconut meat of older, brown coconuts: a white, rich liquid containing oils and fat, and often used as an ingredient in cooking and baking.

Learning how to make coconut milk is easy. Select a ripe coconut by holding it up to your ear and gently shaking it; if you hear the sweet slosh-slosh of liquid, you've got a good one. In this recipe for homemade coconut milk, we call for hot water which produces a richer coconut milk that's higher in coconut oil; however, if you're intent on making an unheated coconut milk, you can use cold filtered water.

Ingredients

- 2 brown coconuts
- 3 to 4 cups filtered water (preferably hot)

Instructions

- Pierce the eyes of the coconut with a sharp knife and drain coconut water into a mixing bowl. Split the coconuts by covering in a kitchen towel and smashing with a rolling pin or hammer.
- With a sharp knife, pry the coconut meat from its husk, then peel off any remaining brown bits of skin that adhere to the coconut meat. Place the coconut flesh and coconut water in a blender, adding three to four cups hot water Blend until the coconut and water forms a smooth slurry.
- Pour coconut mixture through a butter muslin or nut milk bag into a mason jar or pitcher. Squeeze out as much liquid as possible, and transfer the coconut milk to the refrigerator.¹⁷⁷

Refined Coconut Oil

Most commercial grade coconut oils are made from copra. Copra is basically the dried kernel (meat) of the coconut. It can be made by: smoke drying, sun drying, or kiln drying, or derivatives or a combination of these three. If standard copra is used as a starting material, the unrefined coconut oil extracted from copra is not suitable for consumption and must be purified, that is refined. This is because the way most copra is dried is not sanitary. The standard end product made from copra is RBD coconut oil. RBD stands for refined, bleached, and deodorized. High heat is used to deodorize the oil, and the oil is typically filtered through (bleaching) clays to remove impurities. Sodium hydroxide is generally used to remove free fatty acids and prolong shelf life. This is the most common way to mass-produce coconut oil. The older way of producing refined

¹⁷⁷ <http://nourishedkitchen.com/how-to-make-coconut-milk/>

coconut oil was through physical/mechanical refining (see Tropical Traditions Expeller Pressed Coconut Oil.) More modern methods also use chemical solvents to extract all the oil from the copra for higher yields.

RBD oil is also sometimes hydrogenated or partially hydrogenated. This happens mostly in tropical climates, since the natural melting point of coconut oil is about 76 degrees F, and already naturally a solid in most colder climates. Since coconut oil is mostly saturated, there is little unsaturated oil left to hydrogenate. Hydrogenated oils contain trans fatty acids.

You are unlikely to find hydrogenated coconut oil as an edible oil in the market today. It would only exist as an ingredient in tropical cultures, in such things as candy bars where they do not want the coconut oil melting. Hydrogenated coconut oil is virtually non-existent in the US market, since the FDA started requiring trans fats to be listed on labels several years ago.

Virgin Coconut Oil

There is no industry standard definition for "Virgin Coconut Oil" as there is in the olive oil industry for "Virgin" and "Extra Virgin" olive oil. Today, there are many coconut oils on the market that are labeled as "Virgin Coconut Oil." Tropical Traditions was the first company to publish standards for the use of "Virgin Coconut Oil" in terms of edible oils, and here is what we published over ten years ago:

Virgin Coconut Oil can only be achieved by using fresh coconut meat or what is called non-copra. Chemicals and high heating are not used in further refining, since the natural, pure coconut oil is very stable with a shelf life of several years. There are currently two main processes of manufacturing Virgin Coconut Oil:

1. Quick drying of fresh coconut meat which is then used to press out the oil. Using this method, the coconut meat is quick dried, and the oil is then pressed out via mechanical means. This is the most common type of "Virgin" or "Extra Virgin" (see below) coconut oil sold in the market today that you will find in stores. It is mass-produced. (see our Green Label Virgin Coconut Oil)
2. Wet-milling. With this method the oil is extracted from fresh coconut meat without drying first. "Coconut milk" is expressed first by pressing. The oil is then further separated from the water. Methods which can be used to separate the oil from the water include boiling, fermentation, refrigeration, enzymes and mechanical centrifuge. (see our Gold Label Virgin Coconut Oil)

Traditionally-made Virgin Coconut Oils

There has been an abundance of research in recent years in coconut oil producing countries looking at the various methods of producing "virgin coconut oil." What has been discovered is that the traditional wet-milling methods of producing coconut oil using very simple technology, much as has been used for thousands of years, actually produces a very high quality coconut oil. The most quantifiable characteristic that can

be tested in a laboratory test is the amount of antioxidants in the coconut oil. Traditionally-made coconut oils actually test the highest in antioxidants. Traditionally-made coconut oils all use the wet-milling method described above, which would include boiling and fermentation. Enzyme extraction and mechanical centrifuge are modern methods requiring a more sophisticated technology, and not traditional.

Benefits

Nutritive Values

- 1 cup (80 g) serving of shredded coconut contains 283 calories, of which 224 come from fat. There are 27 g of fat in a serving of coconut, 24 of which are saturated fat and the rest consisting of monosaturated fat and Omega-6 fatty acids, which are extremely beneficial for the body. There is no cholesterol in coconut, and only 16 mg of sodium. A serving of coconut consists of 12 g of carbohydrates and 3 g of protein. It also contains 7 g of fiber and 5 g of sugar.

Vitamin and Mineral Content

- Coconut is an excellent source of manganese, and contains 60 percent of the recommended daily intake of that mineral. It also contains 11 percent of the recommended intake for iron, 9 percent of phosphorus and 8 percent of potassium. There are trace amounts of other nutrients in coconut, including zinc, calcium and magnesium.

Physical Benefits

- Coconut is rich in protein. Because of its high calorie and fat content, coconut is a healthy food to consume for those who are trying to gain weight due to emaciation and for body-builders who need high-protein foods to help build muscle. Coconut provides quick and lasting boosts of energy. It also benefits the outward appearance of the body in a number of ways, including softening skin, reducing the appearance of wrinkles and fine lines, controlling dandruff, and keeping the scalp and hair healthy.

Healing Properties

- Coconut meat contains lauric acid, which helps fight bacteria from intestinal parasites and wards off countless infections ranging from HIV to the common cold. Coconut water helps the kidney and bladder maintain proper functioning. Eating coconut helps fight gas, constipation, ulcers, and other digestive and stomach ailments. Coconut also supports thyroid function and can help prevent goiter (an enlarged thyroid) because it naturally contains iodine. Coconut has even been shown to protect the body from cancer and osteoporosis, dissolve

kidney stones, reduce epileptic seizures, and reduce symptoms associated with pancreatic disorders.¹⁷⁸

The coconut provides a nutritious source of meat, juice, milk, and oil that has fed and nourished populations around the world for generations. On many islands coconut is a staple in the diet and provides the majority of the food eaten. Nearly one third of the world's population depends on coconut to some degree for their food and their economy. Among these cultures the coconut has a long and respected history.

Coconut is highly nutritious and rich in fiber, vitamins, and minerals. It is classified as a "functional food" because it provides many health benefits beyond its nutritional content. Coconut oil is of special interest because it possesses healing properties far beyond that of any other dietary oil and is extensively used in traditional medicine among Asian and Pacific populations. Pacific Islanders consider coconut oil to be the cure for all illness. The coconut palm is so highly valued by them as both a source of food and medicine that it is called "The Tree of Life." Only recently has modern medical science unlocked the secrets to coconut's amazing healing powers.

While coconut possesses many health benefits due to its fiber and nutritional content, it's the oil that makes it a truly remarkable food and medicine.

Once mistakenly believed to be unhealthy because of its high saturated fat content, it is now known that the fat in coconut oil is a unique and different from most all other fats and possesses many health giving properties. It is now gaining long overdue recognition as a nutritious health food.

Coconut oil has been described as "the healthiest oil on earth." That's quite a remarkable statement. What makes coconut oil so good? What makes it different from all other oils, especially other saturated fats?

The difference is in the fat molecule. All fats and oils are composed of molecules called fatty acids. There are two methods of classifying fatty acids. The first you are probably familiar with, is based on saturation. You have saturated fats, monounsaturated fats, and polyunsaturated fats. Another system of classification is based on molecular size or length of the carbon chain within each fatty acid. Fatty acids consist of long chains of carbon atoms with hydrogen atoms attached. In this system you have short-chain fatty acids (SCFA), medium-chain fatty acids (MCFA), and long-chain fatty acids (LCFA). Coconut oil is composed predominately of medium-chain fatty acids (MCFA), also known as medium-chain triglycerides (MCT).

The vast majority of fats and oils in our diets, whether they are saturated or unsaturated or come from animals or plants, are composed of long-chain fatty acids (LCFA). Some 98 to 100% of all the fatty acids you consume are LCFA.

¹⁷⁸ http://www.ehow.com/about_5063723_nutritional-benefits-coconut.html

The size of the fatty acid is extremely important. Why? Because our bodies respond to and metabolize each fatty acid differently depending on its size. So the physiological effects of MCFA in coconut oil are distinctly different from those of LCFA more commonly found in our foods. The saturated fatty acids in coconut oil are predominately medium-chain fatty acids. Both the saturated and unsaturated fat found in meat, milk, eggs, and plants (including most all vegetable oils) are composed of LCFA.

MCFA are very different from LCFA. They do not have a negative effect on cholesterol and help to protect against heart disease. MCFA help to lower the risk of both atherosclerosis and heart disease. It is primarily due to the MCFA in coconut oil that makes it so special and so beneficial.

There are only a very few good dietary sources of MCFA. By far the best sources are from coconut and palm kernel oils.”¹⁷⁹

- **Helps Prevent Obesity** by speeding up metabolism, providing an immediate source of energy with fewer calories than other fats. People who consistently use coconut products, report a stronger ability to go without eating for several hours with no affects of hypoglycemia.
- **Improves Heart Health** by providing healthy short chain and medium chain fatty acids (MCFA) that are essential to good health. Close to 98% of all fatty acids consumed are composed of long-chain fatty acids (LCFA), which are very different from MCFA that have no negative effect on cholesterol ratios and help to lower the risk of atherosclerosis and protect against heart disease. Studies have shown that populations in Polynesia and Sri Lanka, where coconuts are a dietary staple, do not suffer from high serum cholesterol or heart disease. Unlike other fats, the unique properties of coconut also contain a large amount of lauric acid, which is the predominant fatty acid found in mother's milk.
- **High in Dietary Fiber** rivaling other fiber sources such as psyllium, wheat bran, oat bran, and rice bran. Coconut supplies an impressive 61% dietary fiber! Foods contain two types of carbohydrates - digestible and non-digestible. Digestible carbohydrates (soluble fiber) consists of starch and sugar and promote calories. Non-digestible carbohydrates (insoluble fiber) contains NO calories. Since the body cannot digest the dietary fiber in coconut, no calories are derived from it and it has no effect on blood sugar.
- **Low Glycemic Index (GI)** measures how fast available carbohydrates in food raise blood sugar levels. Coconut fiber slows down the release of glucose, therefore requiring less insulin to utilize the glucose and transport it into the cell where it is converted into energy. Coconut also assists in relieving stress on the pancreas and enzyme systems of the body, in turn, reducing the risks associated

¹⁷⁹ <http://www.coconutresearchcenter.org/>

with Diabetes. Coconut Nectar and Crystals have a very low GI of only 35 (compared to honey with a GI of 55-83, and sugar with a GI of 65-100.)

- **Reduces Sweet Cravings** and improves insulin secretion and utilization of blood glucose. The healthy fat in coconut slows down any rise in blood sugar and helps to reduce hypoglycemic cravings.
- **Improves Digestion** and many of the symptoms and inflammatory conditions associated with digestive and bowel disorders, by supporting absorption of other nutrients including vitamins, minerals, and amino acids while also providing beneficial dietary fiber.
- **Quick Energy Boost** that provides a super nutritious source of extra energy. Coconut is utilized by the body to actually produce energy, rather than to store it as body fat. It supports improved endurance during physical and athletic performance. As well, it promotes healthy thyroid function and helps to relieve the symptoms of chronic fatigue.

In addition, coconut contains No Trans-Fats, is Gluten-Free, Non-Toxic, Hypoallergenic, and also contains Antibacterial, Antiviral, Antifungal, and Anti-parasitic healing properties. Coconut helps to aid and support overall Immune System functions.”¹⁸⁰

Coconut Water

Coconut water is the liquid that is found inside young coconuts before they mature, at which point the water solidifies to form the flesh of the coconut. Native to the tropics, coconut water can be drunk directly from freshly harvested fruit. The commercial coconut water that you find in the U.S., often sold in bottles and tetra packs, is pasteurized and may have added pulp.

What's in it?

Nutrient content varies slightly from brand to brand, but coconut water is naturally low in calories and fat-free. A serving has about the same amount of potassium as a banana and it is low in sodium. It also has a small amount of calcium, magnesium and phosphorus. Brands that add ascorbic acid as a preservative provide a good source of vitamin C. Fruit-flavored coconut water is also available and these varieties have slightly more calories and sugar due to the added fruit.

Are there any health benefits?

The high potassium and low sodium content of coconut water has a nutrient profile shown to help lower high blood pressure. However, this drink alone isn't going to do the trick. Broader diet and lifestyle changes are needed to curb hypertension. And getting your nutrients from whole foods is usually a better idea anyway, to make sure you get all their health-boosting fiber and antioxidants.

Is Coconut Water Better Than Sports Drinks After Exercising?

¹⁸⁰ <http://www.coconutsecret.com/coconuthealthsecrets2.html>

Some brands of coconut water are marketed as “sports drinks,” claiming to be a low-cal way to replace the electrolytes lost in sweat. While potassium and sodium do need to be replaced after heavy exercise, those of us who go to the gym for an hour or so won’t lose enough to require a special drink – regular tap water works just fine to rehydrate. And, some sports nutritionists say the sodium in coconut water isn’t enough for serious athletes.”¹⁸¹

Coconut milk is a healthy addition to your diet because:

- Compared to cow’s milk it’s easier to digest because the body uses 3 less enzymes for its digestion as opposed to cow’s milk.
- It contains a high level of omega 3, 6 and 9 fats along with high amounts of amino acids. This excellent combination of fats and amino acids make it a complete meal in an of itself.
- The high level of omega 3, 6 and 9 fats and protein in this milk are more bio-available to humans compared to all other animal fats and most vegetable fats. This bio-availability results in the body’s ability to assimilate all its nutrients.
- It’s very healing to the digestive tract and even heals damage done to the system in cases of IBS, Crohn’s disease and severe malnutrition.
- It’s a healthy and dairy free food. Especially helpful for people who want to avoid dairy, are lactose intolerant, or have dairy allergies.
- Helps build strong bones because it contains phosphorus. Phosphorus is a nutrient that is needed along with calcium to prevent bone loss and which supplies the body with phosphates. Phosphates are key for the building of bone.
- Helps maintain balanced blood sugar levels by being a good source of manganese. This mineral is usually deficient in people with blood sugar issues.
- Helps to reduce inflammation in joints by controlling the amount of free radicals in the system. As a result, arthritis sufferers can feel relief.
- Aids in lowering blood pressure levels because of its high level of potassium.
- Keeps the immune system strong and healthy by providing an optimal level of vitamin C.
- Helps prevent anemia. Iron deficient anemia is a very common ailment among people throughout the world. One (1) cup of this milk can provide nearly a quarter of your daily iron needs.
- Helps nerves and muscles relax because it has an abundance of magnesium. This mineral counteracts the hyperactivity of nerves caused by too much calcium

¹⁸¹ <http://www.fyiliving.com/diet/coconut-water-craze-are-the-health-benefits-worth-the-cost/>

and relieves muscle pain and soreness. The B vitamins in coconut milk also benefit nerves by calming them.

- Promotes prostate health because it contains the mineral, zinc. Zinc helps to inhibit the growth of cancer cells.
- Helpful for weight management because when you consume this milk you feel fuller sooner due to its level of fiber.¹⁸²

Medium Chain Fatty Acids

One cup of raw coconut meat contains 283 calories, most of which come from its 26.8 g of fat. While most plant foods contain very little saturated fat, coconut meat contains a large amount, with 23.8 g per cup. However, unlike other saturated fats, which are long chain fatty acids, most of the fat in coconut is a medium chain fatty acid. Medium chain fatty acids are broken down much faster than long chain fatty acids, so they do not contribute to high cholesterol, as long chain fatty acids do. In fact, according to "The Philippine Journal of Cardiology", the fat in coconut may possibly help to lower bad cholesterol levels and increase good cholesterol levels. Despite these possible benefits, if you have high cholesterol or heart disease, you should check with your physician before consuming coconut meat or any other food high in fat.

Fiber

Coconut meat is high in fiber, with one cup containing 7.2 g, which is more than 20 percent of the recommended daily amount for most adults. Fiber assists in the digestion process by adding bulk to the stool, which helps to move food through the digestive tract. Fiber can also help you feel full, which is important if you are trying to eat less to lose weight. The Center for Nutrition Policy and Promotion recommends consuming 14 g of fiber per every 1,000 calories consumed, which means most children need 17 to 25 g per day and most adults need 25 to 36 g per day.

Manganese

Coconut meat is high in the trace mineral manganese, with one cup providing 67 percent of the recommended daily amount for women and 52 percent for men. Manganese helps you metabolize both fat and protein. It also supports both the immune and nervous systems and promotes stable blood sugar levels. Manganese also helps your body use other nutrients such as iron, thiamine and vitamin E.

Potassium and Copper

Coconut meat provides a significant amount of two other minerals: potassium and copper. One cup provides 14 percent of the recommended amount of potassium and 39 percent of copper. Potassium, along with sodium, is essential for proper fluid balance within your cells. It is also necessary for proper heart function and muscle growth.

¹⁸² <http://www.be-healthy-with-coconuts.com/benefits-of-coconut-milk.html>

Copper is important for the production of red blood cells and assists with your sense of taste.”¹⁸³

Warning/Tips

What are the risks of taking coconut water?

Side effects. Coconut water has not been well-studied. But there's no evidence that it poses side effects. Like fruit or vegetable juices, coconut water seems quite safe. However, coconut milk contains a fair amount of sodium, so it may not be a good choice for people who need to reduce their sodium intake.

Risks. Check with a doctor before you begin using coconut water as a treatment if you have any health conditions.

Interactions. If you take regular medicines or supplements, talk to your doctor before you start using coconut water as a treatment.”¹⁸⁴

Coconut oil is safe for most people if used in amounts commonly found in foods. It also appears to be safe when applied to the scalp in combination with other herbs.

Since coconut oil has a high fat content, there is concern that it might increase weight if used in large amounts or that it might increase cholesterol levels. However, these concerns have not been proven in scientific research.¹⁸⁵

People who suffer from food allergies, especially tree nut allergies, should consume coconut with caution. Coconut is considered a tree nut by the U.S. Food and Drug Administration. Manufactured foods that contain coconut generally carry a warning that the product contains tree nuts. Most people who are allergic to coconut react to the proteins in the fruit, not the oil. Coconut oil allergies are rare, but may be life-threatening.¹⁸⁶

Recommended Brands

Coconut Water - Vita Coco - <http://vitacoco.com/buy-now/>

¹⁸³ <http://www.livestrong.com/article/352244-health-nutrition-benefits-of-raw-coconut-meat/>

¹⁸⁴ <http://www.webmd.com/vitamins-and-supplements/lifestyle-guide-11/supplement-guide-coconut-water>

¹⁸⁵ <http://www.webmd.com/vitamins-supplements/ingredientmono-1092-COCONUT%20OIL.aspx?activeIngredientId=1092&activeIngredientName=COCONUT%20OIL>
<http://www.webmd.com/vitamins-supplements/ingredientmono-1092-COCONUT%20OIL.aspx?activeIngredientId=1092&activeIngredientName=COCONUT%20OIL>

¹⁸⁶ <http://www.livestrong.com/article/414461-side-effects-of-coconuts/>

MMS Plus+

Coconut Oil - Tropical Traditions - http://www.tropicaltraditions.com/virgin_coconut_oil.htm

Coconut Milk/Coconut Meat - Coconut milk is best made from fresh organic coconut meat. Coconut meat can be found in the produce section of your local grocery store, or in a health foods specialty store. It would be best if purchased locally.

Plus: Camu Berry

Recommended dosage

Camu Berry - 1/3 tsp-1 tsp one to two times daily on an empty stomach¹⁸⁷



Ways it helps the body

Extraordinary Immune Support

Health care practitioners report the extraordinary nutritional benefits of natural-source vitamin C complex for supporting the body's immune defense against internal invaders. A couple grams of Camu-camu readily outperform the benefits previously achieved with mega doses of ester vitamin C or mega doses of L-lysine.*

¹⁸⁷ <http://www.wholeworldbotanicals.com/blog/1-royal-maca/taking-royal-maca-and-royal-camu-correct-dosage-is-everything/>

The Camu-camu fruit has a surprising range of healthpromoting properties. Best known among these are Camu-camu's potent ability to strengthen the immune system and to help maintain healthy gums, eyes and skin.

Anti-Depressant Treatment

In discussing the holistic treatment of depression, he lists 19 plants containing chemical compounds with antidepressant properties, in order of potency, Camu-camu is number 2 on his list. It appears to provide nutritional support for the brain to optimize its own mood-balancing chemistry.

Anti-Herpes Effect

Dr. Null lists 19 plants which contain anti-herpetic phytochemicals. The plant with the largest amount of these phytochemicals is Camu-camu. Health care practitioners report that Camu-camu has provided effective nutritional support to put shingles into remission, and has cut the expected time for reduction of symptoms in half by supporting the body's natural defenses. Some users have reported that cold sores have resolved in just one day and genital herpes outbreak was resolved in 48 hours. In other cases, the Epstein-Barr type of chronic fatigue has shown improvement in one or two weeks.

On Dr. Duke's website, in a comparative study of hundreds of botanical agents, ranked in order of effectiveness for various health conditions, Camu-camu was ranked as follows:

- anti-viral – No. 6;
- gingivitis-periodontal disease – No. 1;
- antioxidant – No. 4;
- glaucoma – No. 1;
- asthma – No. 1;
- hepatitis – No. 1;
- atherosclerosis – No. 1;
- infertility – No. 1;
- cataracts – No. 1;
- migraine-cluster headaches – No. 1;
- colds – No. 1;
- osteoarthritis – No. 1;
- depression – No. 2;

- painkiller – No. 1;
- edema – No. 1
- Parkinsonís disease – No. 1¹⁸⁸

Some of the extraordinary medicinal properties of this Amazon rain forest fruit are described by Gary Null, Ph.D., a nationally known nutritionist and researcher, (1996). The camu-camu fruit has a surprising range of health-promoting effects. Camu-Camu helps to strengthen the immune system, maintain healthy gums, eyes and skin. Some extraordinary properties of this Amazon rainforest fruit are described by Gary Null, Ph.D., a nationally known nutritionist and researcher. In his Clinician's Handbook of Natural Healing, (1998), Null lists disease conditions and the herbs that have been found effective for their health promoting properties in reference to specific organ/ system weaknesses and problems. In discussing the holistic treatment of mood-support, he lists 19 plants containing chemical compounds with mood-balancing properties, in order of potency. Camu-Camu is no. two on his list.* Anecdotally and in clinical experience, Null's assessment of Camu-Camu has proven to be correct although the Camu-Camu fruit as such has hardly been studied at all, apart from clinical experience there is only indirect inferential evidence from scientific studies on the effect of Vitamin C. it appears to provide nutritional support for the brain to optimize its own mood balancing chemistry. Additionally, published research suggests that Vitamin C supports an increased serotonin level in the brain. Some health care practitioners have reported that Camu-Camu has same day mood-balancing effects. There are no side effects, such as photo-sensitivity or gastrointestinal problems, and it can be used safely in combination with pharmaceutical antidepressants. There have been no reports of its interference with the effectiveness of any pharmaceutical drugs.

The Camu-Camu fruit has a surprising range of medicinal effects as measured both by traditional use and by quantity of a variety of phytochemical compounds which experimentally have demonstrated therapeutic effects. Dr. James Duke retired chief botanist for the U.S.Dept.of Agriculture, pre-eminent New World tropical botanist, and author of many botanical books, including the popular Green Pharmacy, lists some of these effects in his Ethnobotanical website, based on amounts of various phytochemicals which *Myrciaria dubia* contains.”¹⁸⁹

How it's made

The Camu-Camu fruit is about the size of a large grape and has a purplish red skin with a yellow pulp. It grows wild, is harvested directly into a freezer boat, which travels down the river ways of the Amazon where the fruit is picked at the height of its ripeness and flash-frozen. It is then taken to a processing plant where it is thawed, peeled, liquefied

¹⁸⁸ <http://brendanwenzel.com/camu-camu-berry/>

¹⁸⁹ http://www.wholeworldbotanicals.com/herbal_camucamu.html

and spray dried. The resulting powder is a pale pink to yellow beige with very potent effects.¹⁹⁰

Benefits

The Natural Vitamin C Plant

The Camu-camu bush produces an redish-colored fruit that has the highest recorded source of natural vitamin C than any other known plant on the planet.

In addition to vitamin C, Camu-camu contains many other naturally-occurring vitamins, minerals and amino acids, and it has clinically demonstrated far superior benefits over ascorbic acid (synthetic vitamin C tablets), especially over a 3 to 6 week period.

Camu-camu offers astringent, antioxidant, anti-inflammatory, anti-pain, anti-viral, emollient and nutritive properties and contains natural beta-carotene, calcium, iron, niacin, phosphorus, protein, riboflavin, thiamin and the amino acids valine, leucine and serine. This makes Camu-camu invaluable for metabolic processes, including the formation of white blood cells, maintaining a healthy immune system, and support for the brain, lymph glands, heart and lungs. The Camu-camu fruit has a surprising range of therapeutic effects.

Switching to Natural Vitamin C

People experiencing Camu-camu have stopped using large dosages of synthetic vitamin C because they find that just 1 to 2 grams daily of natural vitamin C sources such as Camu-camu is superior in strengthening the immune system, energizing and mood-lifting effects. One to two grams of Camu-camu, once or twice daily, can clear up most cases of bleeding gums and provide remarkable energy-boosting effects.

Although the amount of vitamin C which Camu-camu contains may appear low compared to the amount in synthetically derived vitamin C products, the effects on the human body are incomparable.

Because of its natural nutrient symphony, including bioflavonoids and other synergists, clinical evidence suggests that it is far more effective than any amount of synthetic vitamin C (ascorbic acid) or ester vitamin C, especially over a 3 to 6 week period of use or longer.¹⁹¹

Brain Benefits of Camu Camu

The substances in camu camu have not been widely studied and researchers are unsure of why, but this fruit shows amazing potential to balance brain chemistry and moods. It is suspected that the high Vitamin C content may provide the brain proper nourishment, but the theory is not yet proven. It is thought to increase serotonin levels.

¹⁹⁰ http://www.wholeworldbotanicals.com/herbal_camucamu.html

¹⁹¹ <http://brendanwenzel.com/camu-camu-berry/>

Some suspect the high amount of B Vitamins may also play a role. One thing that is known is that proper levels of Vitamin C are needed to support a healthy nervous system. This fruit provides far more vitamin C than oranges. Adequate levels of vitamin C can support better memory, less depression and anxiety and also sharper vision. Some users claim that after using this fruit for extended periods of time they require less synthetic anti-depressant medications.

Anti-Viral

The indigenous people of South America have found that one benefit from using camu camu is that it is a powerful anti-viral. People suffering from Herpes Simplex and Epstein-Barr viruses have had decreased flare ups while using the fruit. They claim it can also lessen the severity of Shingles (Varicella Virus). These viruses can flare over and over in periods of stress. High vitamin C intake helps the body deal with stressful periods, therefore reducing flare-ups of Herpes viruses.

Anti-Inflammatory

Camu camu also has powerful anti-inflammatory properties and other substances that can help the body repair joint, cartilage, ligament and tendon damage by supporting collagen production. This makes the fruit a helpful joint supplement. People in the rainforests use a tonic made from the fruit to promote healthy hair. It is said to restore shine, strength and vitality to hair. It can repair split ends and give hair a silky texture.¹⁹²

Warning/Tips

To date, very little is known about the possible adverse effects of camu camu consumption. However, there's some concern that camu camu may interact with drugs used in chemotherapy treatments."¹⁹³

Recommended Brands

Whole World Botanicals - <http://store.wholeworldbotanicals.com/>

¹⁹² <http://camucamu.org/>

¹⁹³ <http://altmedicine.about.com/od/herbsupplementguide/a/Camu-Camu.htm>

Plus: Royal Jelly

Recommended dosage

Royal Jelly- 1/2 tsp daily with food¹⁹⁴



Ways it helps the body

Royal Jelly is a wonder-working food that stimulates growth, restores strength, regenerates the organism, refreshes memory and regulates the metabolism. Royal jelly has a therapeutic effect on many ailments, while its effects in strengthening the organism's immunity and improving blood count are especially noteworthy. In recovering patients it speeds the road to health, while it can also improve the condition of patients suffering from Parkinson's disease. In diabetics, royal jelly acts to regulate blood sugar level. Royal jelly also rejuvenates cells by supplying them with matter that disappears over time.

¹⁹⁴ <http://www.bee-pollen-buzz.com/how-to-take-royal-jelly.html>

Royal jelly's invaluable protein composition has a positive effect on children by stimulating growth and development, and strengthening the immunity of a young organism. Royal jelly is the best companion for a long and healthy life."¹⁹⁵

Royal jelly is used for asthma, hay fever, liver disease, pancreatitis, sleep troubles (insomnia), premenstrual syndrome (PMS), stomach ulcers, kidney disease, bone fractures, skin disorders, and high cholesterol. It is also used as a general health tonic, for fighting the effects of aging, and for boosting the immune system.

Some people apply royal jelly directly to the skin as a tonic or to the scalp to encourage hair growth.¹⁹⁶

High cholesterol. There is some evidence that royal jelly might lower cholesterol levels in people with high cholesterol.

Premenstrual syndrome (PMS). Some evidence suggests that a specific combination product (Femal, Natumin Pharma) seems to decrease certain symptoms of PMS including irritability, weight increases, and edema when given over a period of 2 menstrual cycles. Each tablet of this product contains 6 mg of royal jelly, 36 mg of bee pollen extract, and 120 mg of bee pollen plus pistil extract. It is given as 2 tablets twice daily.

Asthma.

Hay fever.

Liver disease.

Pancreatitis.

Trouble sleeping (insomnia).

Stomach ulcers.

Kidney disease.

Bone fractures.

Skin disorders.

Baldness.

Boosting immunity.

Other conditions.¹⁹⁷

Royal jelly is a secretion from honey bees that is used to deliver nutrition to larvae and adult queen bees. Research has found that royal jelly carries several health benefits for humans.

¹⁹⁵ <http://www.tetkaserbia.com/royal-jelly-faqs/>

¹⁹⁶ <http://www.webmd.com/vitamins-supplements/ingredientmono-503-ROYAL%20JELLY.aspx?activeIngredientId=503&activeIngredientName=ROYAL%20JELLY>

¹⁹⁷ <http://www.webmd.com/vitamins-supplements/ingredientmono-503-ROYAL%20JELLY.aspx?activeIngredientId=503&activeIngredientName=ROYAL%20JELLY>

Graves Disease

Royal jelly is believed to be potentially beneficial to patients with Graves' disease.

Brain Health

One study found that royal jelly has the ability to stimulate the growth of neural stem cells and glial cells in the brain, which may mean that it can help prevent diseases such as Alzheimer's and Parkinson's disease.

Cholesterol

Studies have found that royal jelly has the ability to lower total serum cholesterol levels in people with moderately elevated cholesterol levels.

Anti-Aging

It is believed to have anti-aging properties, improving collagen production in skin and overall youthfulness.

Anti-Inflammatory

It has been shown to have anti-inflammatory properties when ingested and when applied topically.

Wound Healing

Research has found that royal jelly has wound healing properties when applied topically to the skin.

Antibiotic

Royal jelly contains an antibiotic called 10-Hydroxy-Dgr2-decenoic acid that is effective against many bacteria.

Cancer Research in Japan suggests that royal jelly has strong anti-cancer properties. Croatian researchers found that royal jelly injected into mice at the same time that they were injected with cancer cells significantly reduced the spread of cancer.

Fertility

Royal jelly is believed to aid in fertility by improving the quality of a woman's eggs and promoting overall youthfulness of her reproductive organs and body.

PMS

Many women find that royal jelly relieves many of the symptoms of PMS. Before you decide to take royal jelly, be aware that people with allergies to bees or honey may have serious allergic reactions to it.¹⁹⁸

How it's made

¹⁹⁸ <http://www.healthdiaries.com/eatthis/10-health-benefits-of-royal-jelly.html>

One of the reasons Royal Jelly is so precious is it can't be duplicated in a laboratory; it can only be hand harvested from beehives in very minute amounts. In more ancient times, Royal Jelly's use was limited to people of royalty or great wealth, because it simply wasn't available. While Royal Jelly is no less precious today, it is more widely available because of advances in the science of bee keeping and cultivation of Royal Jelly. At Bee Alive, they only use fresh Royal Jelly in our products — straight from the bee hive — it's not freeze-dried like most other brands. They believe that using fresh Royal Jelly makes our products superior.

The Queen Bee's story begins in the hive where each little bee starts out genetically identical. But, as nature would have it, only one bee is selected to feed on Royal Jelly ... and that bee grows into a beautiful Queen Bee, who lives for up to approximately six years. Worker bees, which eat only honey and pollen, live for approximately six weeks! The only difference between the two is the Royal Jelly.

Bee Alive purchases all of its Royal Jelly from hand-selected, well-cared-for hives in special areas of Thailand and Asia, researched to be ideal for harvesting premier quality Royal Jelly. Further, their Royal Jelly is independently tested by a third party lab to ensure they receive only the highest quality, pure and potent Royal Jelly."¹⁹⁹

Benefits

Royal Jelly is a natural substance from the bee hive that has been used for many years by people throughout the world for increased energy, stamina, and vitality. The exclusive food of the Queen Bee, Royal Jelly is composed of trace amounts of many wonderful nutrients and nutritious, biologically-active compounds. Some of the naturally occurring nutrients in Royal Jelly are:

- B complex vitamin
- amino acids (building blocks of protein)
- minerals like calcium, magnesium, potassium, and zinc
- lipids, including fatty acids and phospholipids
- peptides
- carbohydrates (monosaccharides and disaccharides)
- nucleic acids
- 10-HDA (a compound unique to Royal Jelly)

Royal Jelly is a natural nutritious complex with many bio-active compounds, including 10-HDA found nowhere else in nature. Within the bee hive, Royal Jelly is produced as

¹⁹⁹ http://www.beealive.com/cms/BenefitsofFreshRoyalJelly_26.aspx

the exclusive food of the Queen Bee.

The number of worker bees in a hive may be in the tens of thousands, but there is only one Queen. Royal Jelly is eaten by the Queen Bee, and because of her exclusive Royal Jelly diet, the Queen Bee becomes different from the other bees in three significant ways:

- The average worker bee lives about 6 weeks, while the Queen Bee lives an astonishing 4 to 6 years.
- The Queen Bee is twice the size of female worker bees.
- The Queen can lay up to 2,000 eggs a day, often laying 100,000 to 200,000 eggs each year.

When it comes to providing the Queen Bee with sustenance, growth, and long life, Royal Jelly can only be described as one of nature's miraculous foods. No where else in nature does the food fed to one member of a species, genetically identical at birth with other members, determine its morphology and lifespan.²⁰⁰

Royal jelly is a milky secretion produced by worker honey bees. It typically contains about 60% to 70% water, 12% to 15% proteins, 10% to 16% sugar, 3% to 6% fats, and 2% to 3% vitamins, salts, and amino acids. Its composition varies depending on geography and climate. This product gets its name from the fact that bees use it for the development and nurturing of queen bees. Some people use royal jelly as medicine. Don't confuse royal jelly with bee pollen or bee venom.²⁰¹

Warning/Tips

Royal jelly in its original state should be stored in a hermetically sealed dark glass pot and be kept in low temperatures (-20°C). It can also be mixed with honey, pollen or with a propolis solution that serves as a natural conservator, thus making it possible to store at higher temperatures. The most effective conservation of royal jelly can be achieved by using a special procedure (lyophilisation) for water extraction that turns it into powder, allowing it to be kept for a long period.²⁰²

An allergy to bee stings means you have a sensitivity to bee venom. Although Royal Jelly is not the same as bee venom, some people who are allergic to bee stings might also be allergic to Royal Jelly. For others, this does not appear to be the case.

²⁰⁰ http://www.beealive.com/cms/FAQs_7.aspx#Q1

²⁰¹ <http://www.webmd.com/vitamins-supplements/ingredientmono-503-ROYAL%20JELLY.aspx?activeIngredientId=503&activeIngredientName=ROYAL%20JELLY>

²⁰² <http://www.tetkaserbia.com/royal-jelly-faqs/>

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However, if you have any concerns about taking Royal Jelly, we recommend you consult with your healthcare professional.²⁰³

Royal jelly is POSSIBLY SAFE for most people when used short-term. It can cause serious allergic reactions including asthma, swelling of the throat, and death. Rarely, it might cause the colon to bleed, accompanied by stomach pain and bloody diarrhea ²⁰⁴

Recommended Brands

Bee Alive - http://www.beealive.com/prod/Royal-Jelly-and-Bee-Products_42/Royale--Raw-Royal-Jelly-_39.aspx

²⁰³ http://www.beealive.com/cms/FAQs_7.aspx#Q1

²⁰⁴ <http://www.webmd.com/vitamins-supplements/ingredientmono-503-ROYAL%20JELLY.aspx?activeIngredientId=503&activeIngredientName=ROYAL%20JELLY>