

# A Few Choice Tidbits for better health

Robert Koch DSc.

"Behold, verily, thus saith the Lord unto you: In consequence of evils and designs which do and will exist in the hearts of conspiring men in the last days, I have warned you, and forewarn you, by giving unto you this word of wisdom by revelation.

## All Grains

"The staff of life"

## Herbs and fruits

"In the season thereof"

## Meats (beasts and fowls)

"To be used sparingly ...

In times of cold or famine

## Your Maintenance Manual for Good Health

"all saints who remember to keep and do these sayings walking in obedience to the commandments .... "

### Physically

"Shall receive health in their navel and marrow to their bones ... shall run and not be weary, and walk and not faint..."

### Mentally & Emotionally

"shall find wisdom and great treasures of knowledge even hidden treasures .... "

### Spiritually

"and I, the Lord give unto them a promise that the destroying angel shall pass them by and not slay them ..."

**A WORD OF WISDOM**, for the benefit of the council of high priests, assembled in Kirtland, and the church, and also the saints in Zion.

2 To be sent greeting; not by commandment or constraint, but by revelation and the word of wisdom, showing forth the order and will of God in the temporal salvation of all saints in the last days

3 Given for a principle with promise, adapted to the capacity of the weak and the weakest of all saints, who are or can be called saints.

4 Behold, verily, thus saith the Lord unto you: **In consequence of evils and designs which do and will exist in the hearts of conspiring men in the last days**, I have warned you, and forewarn you, by giving unto you this word of wisdom by revelation

5 That inasmuch as any man drinketh wine or strong drink among you, behold it is not good, neither meet in the sight of your Father, only in assembling yourselves together to offer up your sacraments before him.

6 And, behold, this should be wine, yea, pure wine of the grape of the vine, of your own make.

7 And, again, strong drinks are not for the belly, but for the washing of your bodies.

8 And again, tobacco is not for the body, neither for the belly, and is not good for man, but is an herb for bruises and all sick cattle, to be used with judgment and skill.

9 And again, hot drinks are not for the body or belly.

10 And again, verily I say unto you, **all wholesome herbs God hath ordained for the constitution, nature, and use of man**

11 Every herb in the season thereof, and every fruit in the season thereof; all these to be used with prudence and thanksgiving.

12 Yea, flesh also of beasts and of the fowls of the air, I the Lord, have ordained for the use of man with thanksgiving; nevertheless they are to be used sparingly;

13 And it is pleasing unto me that they should not be used, only in times of winter, or of cold, or famine.

14 **All grain is ordained for the use of man** and of beasts, to be the **staff of life**, not only for man but for the beasts of the field, and the fowls of heaven, and all wild animals that run or creep on the earth;

15 And these hath God made for the use of man only in times of famine and excess of hunger.

16 **All grain is good for the food of man; as also the fruit of the vine; that which yieldeth fruit, whether in the ground or above the ground**

17 Nevertheless, wheat for man, and corn for the ox, and oats for the horse, and rye for the fowls and for swine, and for all beasts of the field, and barley for all useful animals, and for mild drinks, as also other grain.

18 **And all saints who remember to keep and do these sayings, walking in obedience to the commandments, shall receive health in their navel and marrow to their bones;**

19 And shall find wisdom and great treasures of knowledge, even hidden treasures;

20 **And shall run and not be weary, and shall walk and not faint,**

21 **And I, the Lord, give unto them a promise, that the destroying angel shall pass by them,** as the children of Israel, and not slay them. Amen.

The Word of Wisdom is a revelation on health given to the Prophet Joseph Smith in 1833. This revelation has warnings for us in these days plus wonderful promises that we can receive if we follow His counsel. The **Word of Wisdom is the Maintenance Manual** given to us by the Creator and Designer of our bodies. Today we spend over 2 trillion dollars on so called health care which in reality is sick care. This is more money than we spend on education. What an indictment as to our foolishness. The processed food companies, fast food industry, diet program companies and drug companies get wealthier and wealthier while we the people get sicker and sicker and financially poorer. The test of the Word of Wisdom is can we run and not be weary, walk and not faint, is the destroying angel passing us by? We spend billions of dollars on research to cure diseases but we haven't really cured very many if any. However disease is increasing at an alarming rate new diseases are moving from animals and birds to humans. The promiscuous use of drugs and antibiotics are causing mutations in bacteria and viruses that are developing strains of super bugs resistant to our drugs and antibiotics. We live longer, but do we really live longer or are we just existing longer? If we would change our lifestyle and our eating habits to coincide with the Word of Wisdom we could in a generation improve health to the point that doctors might have to go into another profession to make a living. The teachings of the Word of Wisdom are as applicable today as they were 150 years ago; in fact research is showing the Word of Wisdom to be absolutely true. I think that in our society today the "tail is wagging the dog," "our children tell the parents what they want for breakfast etc. and because of this the "conspiring men" are winning. We feed our children the heavily sugared cereals, the fast foods for lunch etc. Is it because we are in a hurry or are we too lazy to teach them proper eating habits and discipline, in any event our children are showing signs of atherosclerosis as early as age 4 years. Diabetes has moved back into the 20 year old group. Allergies are on the increase. Arthritis is on the increase. Alzheimer's disease is becoming epidemic in this country. It seems to me that the destroying angel is very active. These are lifestyle degenerative diseases. Drugs can alleviate symptoms but they do not cure the underlying cause. In fact drugs have a tendency to propagate other diseases that are the consequences or side effects of the primary drug.

# YOUR HEALTH IS YOUR RESPONSIBILITY

## It's All Up to You

Good health is made of many facets: Nutrition, exercise, good habits rest, relaxation, love and service. Because of the increasing rate of disease, drug sales and health care costs we are not only as a nation becoming financially bankrupt but we as a people are becoming bankrupt health wise. It's clear to see why the Lord saw fit to give us the word of wisdom.

**"In consequence of evils and designs which do and will exist in the hearts of conspiring men in the last days, I have warned you, and forewarn you, by giving unto you this word of wisdom by revelation."**

The solution to poor health in most cases is to change our lifestyle to coincide with the Lord's Maintenance Manual, the Word of Wisdom.

We can't go into any great detail in this small booklet but following are a few changes that we can make in order to improve our health.

### 1- Control Your Weight

We all need to get very serious about the overweight and obesity problem. It has been linked to almost every common health problem. One of the latest studies analyzed more than 7000 studies to see what could be done to reduce the incidence of cancer. Researchers determined that being overweight or obese is at the top of the list of nutritional causes of cancer. Research has shown that fat cells produce compounds that promote and trigger inflammation, and chronic inflammation sets the stage for cancer growth as well as for other diseases such as diabetes arthritis etc.

### 2- Eliminate most of the Sugar out of Your Diet

One of the very worst forms of sugar is high fructose com syrup (HFCS). It's everywhere in our food supply, and is one of the primary factors in the rise of obesity in the US. When HFCS was introduced in the 1970s, the obesity rate was stable. From then until now the obesity rate has steadily climbed until in the year 2000 it had doubled. It continues to grow as does the incident of degenerative diseases. Unlike sucrose (table sugar) HFCS doesn't trigger the release of the hormones insulin and leptin. These hormones signal the brain to reduce appetite and to reduce fat storage. Unlike table sugar HFCS doesn't suppress the hormone ghrelin which leads to increased hunger and appetite. To reduce the consumption of HFCS is to stop drinking sodas and sweetened drinks. It's almost impossible to totally eliminate HFCS from our diet since it is found in everything from bread and no-fat yogurt to most commercial sauces including ketchup. So read the labels. The more HFCS you can eliminate the better.

### 3- Get Some Exercise

If you're starting from scratch walking is the best way to start. As your fitness improves, you can add simple forms of resistance training or other more strenuous activities. Dr. Steven Blair, at the University of South Carolina, found that walking at an easy 3 miles per hour (20 minute mile) for 30 minutes, 5 times a week protects against cardiovascular events and increases longevity. He also found that you can achieve the same benefits by splitting the 30 minutes into shorter segments, as long as each segment lasted at least ten minutes.

Don't expect to lose a lot of weight on such a light exercise program especially if you're still eating the wrong food or too much of it. However consistent walking does change the waist size, which is very significant. Visceral fat or belly fat is the type of fat that accumulates around your internal organs and is connected to all types of problems. Subcutaneous fat which is the fat just under the skin in areas like the arms, buttocks or legs appears to be fairly harmless; research shows that visceral fat is totally different.

The beer gut, a telltale sign of visceral fat, is directly linked to diabetes, heart disease, stroke, numerous cancers, gallbladder problems, sleep apnea, and liver disease as well as many other problems.

Unlike subcutaneous fat, visceral fat can't be removed by liposuction or some other quick fix. However visceral fat is the first fat to go when you lose weight or exercise.

#### 4- Control Your Blood Sugar

Controlling your blood sugar and insulin levels is one of the major keys to healthy longevity. We need to minimize the consumption of sugar. In particular the high fructose corn syrup (HFCS).

#### 5- Boost your Digestion

Probiotics help keep harmful bacteria in your intestines in check. They promote the health of the walls of your intestines, allowing your intestinal walls to pass the proper digestive products through to the bloodstream and keep the harmful ones out. Eat fermented foods such as yogurt, kefir and sauerkraut to keep the good bacteria healthy. Probiotics are the natural antibiotics of the future without side effects.

#### 6- Fiber Keeps You Fit

High fiber intake is essential for good health. Fiber comes in two different kinds soluble and insoluble. Both kinds are necessary for good health. The soluble fiber helps feed the good bacteria in the colon. The insoluble fiber sweeps the walls of the colon keeping it clean, stopping the formation of polyps and diverticula. Colon cancer is rare in societies that have high fiber diets. Green leafy vegetables, sprouts, fruits, beans and peas, and whole grains seeds and nuts are all good sources of fiber. Some outstanding sources are ground flax seed, and chia seeds.

#### 7- Diet and Nutrition

What we eat provides the fuel and raw materials to keep the body running smooth and able to repair and replace damage that occurs as well as keeping our immune system operating efficiently which protects us from the many hostile elements such as bacteria, viruses, molds, parasites and the infections and diseases caused by these agents.

### We Are What We Eat!

The nutrients that the body requires from food are as follows:

**1- Protein**, which is the building block of tissue such as muscle, skin, hair, our brain, organs etc. Protein is present in most foods. Protein is made up of amino acids and are large highly complex molecules. There are complete proteins and incomplete proteins. Complete proteins are those that contain a good balance of the 8 essential amino acids which are the ones that the body can't synthesize and must come from our food. Incomplete proteins are those that are made up of non-essential amino acids plus some of the essential ones. Non essential amino acids are those that the body can synthesize. An example wheat protein is short of certain essential amino acids but if you eat some corn, beans with it or some peanut

butter then you have a complete protein. Some foods are high in complete protein such as whey, yogurt, chia seeds, meats, fish etc.

The best insurance is a mixed diet of foods as close to natural as possible. Protein should comprise about 20% of our diet.

**2- Fats**, are essential, they are used by the body to protect vital organs, they are used to build cell membranes and are used as messengers in the body, they are essential for the development and maintenance of the brain and nerves. Fats are the raw materials for the synthesis of many chemicals used by the body.

The fats that the body needs most are the fats that are high in essential fatty acids (EFAs), such as seeds, nuts, grains, and fatty fish (sardines, salmon, cod etc.) These EFAs are the fats that contain omega 3, omega 9 and omega 6 fatty acids. Most Americans are deficient of omega 3 fats and have too much omega 6 fats in their diet. The omega 6 fats come from sunflower oil, canola oil, soybean oil, cottonseed oil, safflower oil, peanut oil, etc. Excessive omega 6 fats cause many health problems. We should replace these oils with extra virgin olive oil. For cooking we should use butter or natural coconut oil (not processed). Hydrogenated oils are poisons and are one of the primary causes of many of our degenerative diseases. If a product label shows a product contains partially hydrogenated oils don't buy it. Margarines, Crisco etc all contain Trans fats which are formed during the hydrogenating of oils. These Trans fats interfere with the normal function of our cells thus triggering degenerative processes. Good sources of omega 3s are cod liver oil, flax seeds (ground), walnuts, chia seeds, whole grains, fish, etc. Fats (omega 3, 6, 9 and saturated) should comprise about 10-14% of our dietary intake.

**3- Carbohydrates** are the fuel that keeps the body running. Every cell in the body produces its energy from glucose a simple sugar that comes from the digestion of carbohydrates. Table sugar is a disaccharide made of one molecule of glucose and one molecule of fructose. The brain is a glucose glutton it requires large amounts of glucose. When the diet isn't supplying enough the liver and other cells synthesize glucose and send it to the brain.

The body is fussy about where it gets its glucose; it prefers glucose that comes from complex carbohydrates. Glucose that comes from table sugar and other sources of simple sugars such as drinks sweetened with sugar, large amounts of fruit juices, and deserts etc cause the sugar in the blood stream to go too high causing the pancreas to inject insulin into the blood to transfer the sugar into the cells. Over a period of time consumption of sugar causes glucose levels to spike in the blood causing insulin to be released, as this yo-yo process goes on the pancreas can get tired the cells can build up resistance to insulin. This process ultimately results in diabetes. Also the higher than normal levels of sugar in the blood over time causes a process known as glycation which causes increases of C-reactive protein which results in what we call metabolic syndrome. The result of this syndrome is accelerated aging, atherosclerosis, heart disease, dementia, arthritis, vision problems, various cancers and the list goes on and on. Also the higher levels of insulin the body puts into the blood, trying to get the sugar into the cells, causes nerve damage retinopathy and other problems.

So our carbohydrates should mainly come from complex carbohydrates such as whole grains, seeds, vegetables and fruits.

The body, in order to protect itself from free radical damage, needs antioxidants. Antioxidants are produced in fruits and vegetables as they ripen on the tree or on the plant. A lot of our fruits and vegetables are picked green and artificially ripened thus they lack many of the antioxidants. Good sources of antioxidants are grapes, blueberries, strawberries, oranges, bananas, apples, raspberries, cranberries, fresh green vegetables such as romaine lettuce, onions, garlic and a real good antioxidant is chia seed

and chocolate. There are many supplements that provide antioxidants. However the best source of vitamins, minerals and all of the nutrient needs of the body is from food. However now days we need to be more selective because of processing, insecticides and other problems with our food supply.

If you were temporarily out of work, how long could you sustain yourself and your family in a near-normal manner? If the transportation system were disrupted, how long could you and your family live on the food in your home? To what natural, man caused or personal disasters are you vulnerable.

## STORE WHAT YOU EAT EAT WHAT YOU STORE

### USE IT OR LOSE IT

The following pages will present information on a few products that can be stored and things that we can do that are simple that will provide us with good nutrition and a healthy lifestyle.

### BLACKSTRAP MOLASSES

The thick viscous syrup we call blackstrap molasses that provides the robust bittersweet flavor to baked beans and gingerbread is available throughout the year. Blackstrap molasses is just one type of molasses, the dark liquid by product of the refining of sugar cane into table sugar. It is made from the third boiling of the sugar syrup and is therefore the concentrated by product left over after the sugar's sucrose has been crystallized.

#### Nutrients in Blackstrap Molasses 2.00 tsp (13.67 grams)

Manganese – 18%  
Copper – 14%  
Iron – 13%  
Calcium – 11%  
Potassium – 10%  
Magnesium – 8%  
Vitamin B6 (pyridoxine) – 6%  
Selenium – 5%  
Calories (32)

#### Health Benefits

Blackstrap molasses is a sweetener that is actually good for you. Unlike refined white sugar and corn syrup, which are stripped of virtually all nutrients except simple carbohydrates, or artificial sweeteners like saccharin or aspartame, which not only provide no useful nutrients but have been shown to cause health problems in sensitive individuals, blackstrap molasses is a healthful sweetener that contains significant amounts of a variety of minerals that promote your health.



## Iron for Energy

In addition to providing quickly assimilated carbohydrates, blackstrap molasses can increase your energy by helping to replenish your iron stores. Blackstrap molasses is a very good source of iron. Particularly for menstruating women, who are more at risk for iron deficiency, boosting iron stores with blackstrap molasses is a good idea-especially because, in comparison to red meat, a well known source of iron, blackstrap molasses provides more iron for less calories and is totally fat-free. Iron is an integral component of hemoglobin, which transports oxygen from the lungs to all body cells, and is also part of key enzyme systems for energy production and metabolism. And, if you're pregnant or lactating, your needs for iron increase. Growing children and adolescents also have increased needs for iron. Just 2 teaspoons of blackstrap molasses will sweetly provide you with 13.3% of the daily recommended value for iron.

**A Spoonful of Molasses Helps Your Calcium Needs Go Down** - Blackstrap molasses is a very good source of calcium. Calcium, one of the most important minerals in the body, is involved in a variety of physiological activities essential to life, including the ability of the heart and other muscles to contract, blood clotting, and the conduction of nerve impulses to and from the brain, regulation of enzyme activity, and cell membrane function. Calcium is needed to form and maintain strong bones and teeth during youth and adolescence, and to help prevent the loss of bone that can occur during menopause and as a result of rheumatoid arthritis. Calcium binds to and removes toxins from the colon, thus reducing the risk of colon cancer, and because it is involved in nerve conduction, may help prevent migraine attacks. Two teaspoons of blackstrap molasses will meet 11.8% of your daily needs for calcium.

**An Energizing Mineral-Dense Sweetener** - Molasses is also an excellent source of copper and manganese and a very good source of potassium, and magnesium.

**Copper**, an essential component of many enzymes, plays a role in a wide range of physiological processes including iron utilization, elimination of free radicals, development of bone and connective tissue, and the production of the skin and hair pigment called melanin. Numerous health problems can develop when copper intake is inadequate, including iron deficiency anemia, ruptured **blood** vessels, osteoporosis, joint problems such as rheumatoid arthritis, brain disturbances, elevated LDL (bad) cholesterol and reduced HDL (good) cholesterol levels, irregular heartbeat, and increased susceptibility to infections. Using two teaspoons of blackstrap molasses to sweeten your morning cereal and the milk or cocoa you drink during the day will supply you with 14.0% of the daily recommended value for copper. That same amount of blackstrap molasses will also provide you with 18.0% of the day's needs for manganese. This trace mineral helps produce energy from protein and carbohydrates, and is involved in the synthesis of fatty acids that are important for a healthy nervous system and in the production of cholesterol that is used by the body to produce sex hormones. Manganese is also a critical component of an important antioxidant enzyme called superoxide dismutase. Superoxide dismutase (SOD) is found exclusively inside the body's mitochondria (the oxygen-based energy factories inside most of our cells) where it provides protection against damage from the free radicals produced during energy production.

Like calcium, potassium plays an important role in muscle contraction and nerve transmission. When potassium is deficient in the diet, activity of both muscles and nerves can become compromised. Potassium is an especially important mineral for athletes since it is involved in carbohydrate storage for use by muscles as fuel and is also important in maintaining the body's proper electrolyte and acid-base (pH) balance. When potassium levels drop too low, muscles get weak and athletes tire more easily during exercise, as potassium deficiency causes a decrease in glycogen (the fuel used by exercising muscles) storage. Simply by adding two teaspoons to your morning smoothie, you can supply 9.7% of your potassium needs for the day along with a healthy dose of carbohydrates to burn.

Calcium's balancing major mineral, magnesium is also necessary for healthy bones and energy production. About two-thirds of the magnesium in the human body is found in our bones. Some helps give bones their physical structure, while the rest is found on the surface of the bone where it is stored for the body to draw upon as needed. Magnesium, by balancing calcium, helps regulate nerve and muscle tone. In many nerve cells, magnesium serves as Nature's own calcium channel blocker, preventing calcium from rushing into the nerve cell and activating the nerve. By blocking calcium's entry, magnesium keeps our nerves (and the blood vessels and muscles they enervate) relaxed. If our diet provides us with too little magnesium, however, calcium can gain free entry, and the nerve cell can become over activated, sending too many messages and causing excessive contraction. Insufficient magnesium can thus contribute to high blood pressure, muscle spasms (including spasms of the heart muscle or the spasms of the airways symptomatic of asthma), and migraine headaches, as well as muscle cramps, tension, soreness and fatigue. In two teaspoons of blackstrap molasses, you will receive 7.3% of the daily value for magnesium.

Switching from nutrient-poor sweeteners like white sugar or corn syrup or from potentially harmful fake sweeteners like aspartame or saccharin to nutrient-dense blackstrap molasses is one simple way that eating healthy can sweeten your life.

## **Description**

The truth behind the phrase "slow as molasses" becomes apparent when you reflect on molasses's thick, viscous, syrupy texture. Featuring a robust bittersweet flavor, blackstrap molasses helps create the distinctive taste of dishes such as baked beans and gingerbread. Blackstrap molasses is very dark in color, having a black-brown hue.

Blackstrap molasses is just one type of molasses, the dark liquid that is the byproduct of the process of refining sugar cane into table sugar. Blackstrap molasses is made from the third boiling of the sugar syrup and is therefore the concentrated byproduct left over after the sugar's sucrose has been crystallized.

## **History**

Molasses has been imported into the United States from the Caribbean Islands since the time of the early colonists. In fact, it was the most popular sweetener used until the late 19th century since it was much more affordable than refined sugar, which was very expensive at that time.

In some respects, molasses has had a rather sticky history with at least two important historical events centering around this sweet food product. The first is the Molasses Act of 1733, a tariff passed by England to try to discourage the colonists from trading with areas of the West Indies that were not under British rule. This legislation is thought to be one of the events that catalyzed pre-revolutionary colonial dissent and unrest.

It is not often that a fateful tragedy occurs that centers around a food, but unfortunately, in 1919, one such event did occur. The event is referred to as the Great Molasses Flood and occurred when a molasses storage tank holding over two million gallons of molasses broke, and its sticky content came pouring throughout the city streets of Boston, Massachusetts, traveling as fast as 35 miles per hour and creating a thirty foot tidal wave of sweetener. Unfortunately, this was not a sweet matter as twenty-one people died and significant amounts of property were destroyed.



Blackstrap molasses gained in popularity in the mid- 20th century with the advent of the health food movement. Today, the largest producers of molasses are India, Brazil, Taiwan, Thailand, the Philippines and the United States.

## **How to Select and Store**

Look for blackstrap molasses that is unsulphured since not only does it not contain this processing chemical to which some people are sensitive, but it has a cleaner and more clarified taste. Blackstrap molasses made from organic sugar cane is also available in some markets.

Molasses should be stored in a tightly sealed container in the refrigerator or a cool, dry place. Unopened containers should keep for about one year, while opened containers should keep for about six months.

## **A Few Quick Serving Ideas:**

Adding molasses to baked beans will give them that traditionally robust flavor. Molasses imparts a wonderfully distinctive flavor to cookies and gingerbread cakes. Basting chicken or turkey with molasses will give it both a rich color and rich taste.

## **Safety**

Blackstrap molasses is not a commonly allergenic food and is not known to contain measurable amounts of goitrogens, oxalates, or purines.

## **Nutritional Profile**

### **Introduction to Food Rating System Chart**

The following chart shows the nutrients for which this food is either an excellent, very good or good source. Next to the nutrient name you will find the following information: the amount of the nutrient that is included in the noted serving of this food; the %Daily Value (DV) that that amount represents (similar to other information this DV is calculated for 25-50 year old healthy woman); the nutrient density rating; and, the food's World's Healthiest Foods Rating. Underneath the chart is a table that summarizes how the ratings were devised. Read detailed information on our [Food and Recipe Rating System](#).

<b>Blackstrap molasses</b> <b>2.00 tsp</b> <b>13.67 grams</b> <b>32.12 calories</b>					
Nutrient	Amount	DV %	Nutrient Density	World's Healthiest Foods Rating	
Manganese	0.36 mg	18.0	10.1	Excellent	
Copper	0.28 mg	14.0	7.8	Excellent	
Iron	2.39 mg	13.3	7.4	Very Good	
Calcium	117.53 mg	11.8	6.6	Very Good	
Potassium	340.57 mg	9.7	5.5	Very Good	
Magnesium	29.38 mg	7.3	4.1	Very Good	
Vitamin B6 (pyridoxine)	0.10 mg	5.0	2.8	Good	
Selenium	2.43 mcg	3.5	1.9	Good	
World's Healthiest Foods Rating	Rule				
Excellent	DV >= 75%	OR	Density >= 7.6	AND	DV >= 10%
Very Good	DV >= 50%	OR	Density >= 3.4	AND	DV >= 5%
Good	DV >= 25%	OR	Density >= 1.5	AND	DV >= 2.5%

#### References

- Asian Y, Erduran E, Mocan H, et al. Absorption of iron from grape-molasses and ferrous sulfate: a comparative study In normal subjects and subjects with iron deficiency anemia. Turk J Pediatr 1997 Oct-1997 Dec 31;39(4):465-71. PMID: 16410.
- Ensminger AH, Ensminger, ME, Kondale JE, Robson JRK. Foods & Nutrition Encyclopedia. Pegus Press, Clovis, California 1983.
- Ensminger AH, Ensminger M. K. J. e. al. Food for Health: A Nutrition Encyclopedia. Clovis, California: Pegus Press; 1986. PMID: 15210.
- Fortin, Francois, Editorial Director. The Visual Foods Encyclopedia. Macmillan, New York 1996.
- Wood, Rebecca. The Whole Foods Encyclopedia. New York, NY: Prentice-Hall Press; 1988. PMID:15220.

## RAW HONEY - LIVE FOODS AND ENZYMES

It is not fresh news that the standard American diet (acronym is s.a.d.!) is riot health supportive. For all least four decades, we have been listening to the medical community's advice about the quality and quantity of fat and fiber in our diets. The increased incidence of heart disease, diabetes (particularly Type II adult onset) cancer and obesity among our population indicates there is something missing.

As a result, many people .have shifted their dietary intakes toward a plant-based diet which is rich in vitamins, minerals, fiber, and



antioxidants, just to name a few nutrients. We have improved our diets "in layers" meaning that the initial shift for some people is toward a plant-based diet. Subsequent layers or shifts include incorporating more organic produce and free range poultry- and meats, and what we call "superfoods." Superfoods are called such because they are foods that are naturally rich in vitamins, minerals, and trace minerals. Blue-green algae (e.g., chlorella and spirulina), seaweeds (e.g., kelp and dulse), bee pollen, and **raw honey** are examples of superfoods because of their extraordinarily generous contents of beneficial nutrients. The most recent layer of awareness that has resulted in a shift in dietary improvement is the knowledge that certain foods contain highly beneficial, therapeutic enzymes. Many of us are returning to a way of eating that incorporates the ways of traditional or native peoples. Not only are our choices minimally processed (considered "whole foods") and grown or raised organically, but equally important, many are vital, rich in, and alive with enzymes. In short, they are "live foods." Even though a traditional society/culture might not know what an enzyme is and how it works, these people benefit from eating foods that are rich in enzymes. Their low incidence of modern degenerative and food diseases and their longevity are the result of eating health-supportive diets. Lower stress levels as compared to those of people living in the modern world are a factor we can't ignore as well.

Before we go further, we need to talk about what enzymes are. Enzymes are necessary for our bodies to function optimally. They are substances (protein specifically) that are able to simplify complex elements into simple elements. There are three classes of enzymes: digestive, metabolic, and food enzymes (which are present in raw foods). Enzymes are catalysts for biochemical processes and reactions in the body. When we are talking about digestion, this means that enzymes are necessary for the digestion of or breakdown of foods (like fats, carbohydrates, and proteins) into their simplest form. Enzymes make it possible for proteins to be broken down into amino acids and for complex carbohydrates to be broken down into simple sugars. For example, In addition to supporting digestion and making it possible, enzymes are also metabolic. They are involved in hundreds of metabolic reactions within our bodies which enable our complex biochemistries to work in the miraculous ways that they do, converting foods that we eat into renewing building products and energy.

All humans have what is called "enzyme potential," meaning that we are born with an enzyme-making potential to satisfy the metabolic and digestive needs of the body. Nutrients that we ingest in the form of mostly raw and uncooked foods are also used to manufacture enzymes because our bodies' enzyme reserves can't always meet the demands for enzymes. Our bodies have evolved the natural ability to conserve enzymes by manufacturing them only on demand. We can also arrange for digestive enzymes to come into the body by taking digestive enzymes in capsule form. The virtues of enzymes and their significance in today's diets are exclaimed/appreciated by noted doctors and scientists emphasizing the importance of enzymes in the diet.

What are some sources of these beneficial enzymes? Raw honey is a food noted for its exceptionally high enzyme content. Other enzyme-rich raw foods include sprouts, bee (flower) pollen, vegetables and fruits (especially avocado, banana, papaya, and pineapple), extra virgin olive oil, raw dairy foods; lacto fermented dairy products like yogurt and kefir and cultured or fermented foods such as miso and sauerkraut. (Grains, nuts, legumes, and seeds are rich in enzymes as well as other nutrients, but they also contain enzyme inhibitors like phytic acid. This is why traditional cultures soak and sprout these foods in order to deactivate the enzyme inhibitors.) It needs to be emphasized here that these foods must not be heated so that the enzymes are viable and available. Honey needs to be raw and unheated, thus retaining the maximum enzyme content. Enzymes are destroyed when heated above 120 deg F.

When honey is raw and unheated, the maximum enzyme content and health benefits are present for the consumer. Honey contains more than 75 different compounds, which we know of, among them: enzymes. Minerals and trace minerals, vitamins, proteins, carbohydrates, organic acids, and hydrogen peroxide. The enzymes in raw honey help to initiate the process of digestion and reduce the body's need to produce

digestive enzymes. Because of its high enzyme content, raw honey spares the enzyme reserves of the pancreas and other digestive organs. They won't be constantly stimulated to produce and secrete various digestive enzymes. Wonderful long-term benefits of this enzyme sparing activity are good health, increased longevity and energy, fewer illnesses, and a healthy immune system. In this way, one can see the importance of including raw, unheated honey in the diet.

Honey can be stored and will keep indefinitely if kept cool and dry. If it crystallizes warming it slightly will cause it to liquefy.

Honey is a good antiseptic, bacteria can't grow in honey. It can be used to heal wounds.

So make sure that Raw Honey (unpasteurized) is part of your storage. Store honey in small units so you can keep it rotated by using it thus learning how to benefit from honey.

## Sprouting at Home

*Fresh organic vegetables every day from a square foot of counter space*

### Why Eat Sprouts?

Sprouting seeds into fresh sprouts is a very good way to obtain fresh food that is free of pesticides and other chemicals used in agriculture. It is a very simple procedure that requires very little time, is inexpensive, and provides fresh from the garden food year around.

When a seed absorbs water a wonderful series of chemical processes are initiated. The life force of the seed is turned on and the seed begins to grow. Some of the complex carbohydrates and proteins stored in the seed are transformed into enzymes, essential amino acids, vitamins and many other valuable compounds. The vitamin E content of the seed increases by as high as 1200% vitamin A increases, the vitamin B complex increases and vitamin C which wasn't in the seed is synthesized in high amounts. Many valuable live enzymes are formed that are very beneficial to your digestive tract.

All seeds can be sprouted. Be careful that the seeds you sprout are untreated seeds. The seeds you buy to plant are often treated with various chemicals to protect them. These you don't want for sprouting. Sprouting seeds can be stored for several years and still sprout as long as they are kept cool and dry.

The seeds that I like to sprout are alfalfa, broccoli, and lentils. These seeds are the easiest to sprout and provide some of the greatest benefits. Alfalfa seeds are small, about the size of a pinhead, and tan in color. Often considered to be a grain, but actually a legume, alfalfa was originally grown in North Africa. It is now widely cultivated in various parts of the world. Over 27 million acres in America alone are devoted to alfalfa each year, and organically grown alfalfa seed is easily found in most natural food stores.

Alfalfa sprouts, pound for pound, are one of the most nutritious foods you can eat. The roots of mature alfalfa plants that produce the sprouting seeds can reach very deep into the soil, collecting hard to find trace elements as they grow. Alfalfa sprouts are a good source of B-complex vitamins, along with vitamins A, C, E, and K. They also contain calcium, magnesium, potassium, iron, and many trace minerals including selenium and zinc. If they are grown in indirect light, their nutritional content is further enhanced by the development of chlorophyll. Alfalfa sprouts are among the most versatile. Use them to make sprout drink, salads, sandwiches, green drinks, soups, and sprout loaves.

Lentils, which are native to Central Asia, are small beans with a round, flat shape. Use only green lentils for home sprouting, because red lentils are hulled after harvest, and most of the beans will not sprout. Organically grown lentils are available at most natural food stores.

Lentil sprouts are rich in protein, iron, and vitamin C. Use them in salads, in sprout loaves, in breads, and in green drinks. They also go well with marinated vegetables.

## **Sproutable Seeds**

Most seeds can be sprouted and eaten but avoid sprouting any seeds from plants that may have poisonous parts. Common seeds for sprouting include alfalfa, fenugreek, lentils, peas, radish, and red clover. Mung beans have been sprouted in Asia for thousands of years. Other less common seeds include cabbage, broccoli, garbanzos, mustard seed, and quinoa. Most grains can grow chlorophyll rich grass crops in soil, and grains without hulls can be used as short sprouts. Save garden seeds (radish is easy, just let them go to seed and harvest when dry and ripe). Broccoli sprouts have been found to contain very potent anti-cancer compounds. Studies show there are up to 50 times more anti-cancer chemical in broccoli sprouts than in the mature vegetable - and the sprouts don't taste like broccoli. Three-day-old broccoli sprouts, which are tender shoots topped with two baby leaves, contain large amounts of sulforaphane, a powerful cancer fighter, say researchers at Johns Hopkins University.

Paul Talalay, head of a team at Hopkins that discovered sulforaphane five years ago, said he was surprised the sprouts contained such a high level of this anti-cancer compound.

Earlier studies showed that sulforaphane, found in broccoli, cauliflower, cabbage, brussel sprouts and some other vegetables, prompts the body to make enzymes that prevent tumors from forming. A 1994 study indicated that cancer development was reduced by 60 to 80 percent in laboratory animals fed sulforaphane extracted from broccoli. Talalay said his lab has found that the sulforaphane content in broccoli from a grocery store can vary by a factor of eight or 10, and there is no way to identify a vegetable loaded with the compound from one that is not.

Broccoli sprouts may solve this problem, because the baby plants have a uniformly high level of sulforaphane. Because of the high content of sulforaphane, it is possible to consume far lower quantities of the sprouts and get the same protection. Broccoli sprouts resemble the alfalfa sprouts now common in grocery stores, but they have more flavor. Broccoli sprouts do not taste like broccoli. They taste more like radish sprouts.

## **Food Poisoning and Sprouts**

There have been several recent news stories regarding salmonella contamination in sprouts. These have been combined with warnings from the FDA and the CFIA that sprouts could be contaminated with food poisoning bacteria and advising the very old, the very young, and those with compromised immune systems to avoid raw sprouts.



**ALERT**  
**From the**  
**Center of Disease Control the following:**

Don't eat raw alfalfa sprouts, especially if you are elderly or have an impaired immune system. And don't feed them to young children. These sprouts have caused outbreaks of illness due to salmonella and E. coli. The problem: the seeds themselves may be contaminated (washing them doesn't help), and the bacteria grow as the sprouts germinate. This is a world-wide problem. A recent report from the CDC estimated that more than 20,000 people in North America contracted salmonella infections from these sprouts in 1995 alone. And though people associate tainted ground beef with E. coli, sprouts are one of the leading causes of E. coli illness. In healthy people these bacteria can cause diarrhea, nausea, cramps, and fever for several days, but in high-risk groups the symptoms tend to be more severe and can be life-threatening.

I feel that the stories were far overblown because it made interesting news - the original "health food" might be bad for you?

**What can you do to be extra safe?**

Use certified organic seeds. Organic certification assures that seeds have been grown and handled in a manner that helps minimize possible sources of contamination. Manure used on organic fields, for example, must be composted for a long period. Composting has been shown to reduce or eliminate pathogens in manure. Organic farmers are also required to use rodent and bird proof storage for seeds destined for consumption. Organic sprouting seeds haven't been implicated in any outbreak of food poisoning.

Make sure that any seeds you buy have been handled as a food crop and not a farm planting seed crop. Seeds that have been in contact with animals or animal waste could be contaminated with salmonella or e-coli 0157 H7, leading to food poisoning. Reputable sprouting seed suppliers test all lots of seeds for contamination.

Concerning the alert from the CDC, in all the years (45 yrs) that I have been sprouting and consuming alfalfa sprouts I have not come across a case of salmonella or E.Coli. This alert from the CDC should be taken seriously. However this doesn't mean we should stop sprouting or eating sprouts, it only means we should adjust our sprouting procedures to make sure these bacteria don't cause us a problem.

**HOW TO SPROUT SAFE SPROUTS**

- 1- Be sure you buy untreated seeds that are good for sprouting.
- 2- Pour 1 1/4 cup alfalfa seeds into a quart jar. To 1 cup water add 1 1/4 teaspoon Clorox bleach or 1 1/2 teaspoon of 3 % hydrogen peroxide.

**CAUTION DON'T MIX CLOROX AND HYDROGEN PEROXIDE. USE ONE OR THE OTHER BUT DON'T USE BOTH!**

Pour the water containing the bleach or hydrogen peroxide over the seeds in the jar, swirl around so all of the seeds are wet. Let soak for 10 minutes. After 10 minutes pour off the water then add 1 cup of fresh water without the bleach or peroxide.

Set the jar with the seeds and water on your kitchen counter with a mesh cover on top. The piece of mesh allows air to circulate but keeps out air born mold spores and dust etc. Let the seeds soak in the water for about 6 hours or so then drain the water and rinse the seeds with fresh water, drain and set on the counter. Rinse twice a day. When the seeds have swelled and tiny sprouts appear on most of the seeds, then they can be transferred to the sprouting tray and rinsed twice a day until they are about 1-1 /2 inches long then put in a plastic bag and store in the refrigerator.

### Hints and Options for small seeds

You can grow alfalfa, red clover, radish, fenugreek, and other small seeds up to 4cm (1.5") long. A 250 g bag of alfalfa seed can grow 45 cups of sprouts, or even more. Lentils and peas are best small, with sprouts .5 to 1 cm (1/4 to 1/2") long. They get tougher with more growth. Miss a rinsing? Just continue normally if the sprouts appear alive and show no signs of mold. The sprouts should be fine. If you do see a spot of mold or rot, remove it with a good margin of healthy sprouts and discard. Don't mistake the fuzzy white root hairs of radish, canola, mustards, and other crucifers for mold. Be sure to taste sprouts as you go along; use them when you like them. To green up sprouts, leave them without a cover for a few hours in bright light, but not direct sunlight. Sprouts grow best between 18C and 25C (65F and 75F). Use lukewarm water for soaking and rinsing in cool room temperatures, and cold water in hot room temperatures. Drain the sprouts well before they go in the fridge. Rinse in the morning, cover and refrigerate in the afternoon. Mung beans (for Chinese bean sprouts) grow best in a drainable tray or basket. They like extra rinsing, and are best grown in complete darkness to prevent bitterness.

### Soil Sprouting

Soil sprouting can be used to produce lettuce-like buckwheat greens or pea shoots, crunchy sunflower greens, or chlorophyll rich wheat or barley grass.

- 1- Fill pots, trays, or other containers (with drainage) 1/2 to 2/3 full of soil, compost, or potting mix. Ensure that the growing medium doesn't contain artificial fertilizers or chemicals.
- 2- Soak wheat 8 hr., buckwheat or sunflowers 12-18 hr., and spread on the soil surface just touching. Water the soil well and cover with plastic. Leave one side slightly loose for ventilation.
- 3- Mist or sprinkle daily; uncover after 3 days.
- 4- Put the container(s) in sunlight or bright light for 5-8 days, until the crop is 5-6" tall. Keep growing medium moist. Cut as needed, but before plants become too old and tough.

### Hints and Options for soil sprouting

Wheatgrass may be left for a smaller second crop. Buckwheat, peas and sunflowers cut only once. Spent soil and roots can be composted or dug into the garden. These crops can also be grown in baskets or tray type sprouters. Baskets are more trouble to clean and sanitize. Sunflowers grown in a perforated tray without soil really do well with wet feet. After 2 or three days, when roots have started to form, set the tray in a pan containing about .5cm (1/4") of water. Change or add water as needed until you have delicious 3" or 4" tall shoots.

## Sprout Serving Suggestions

**Grilled Cheese** - liven up a grilled cheese sandwich with your favorite sprouts and a tomato slice.

**Tacos** - Use sprouts instead of shredded lettuce in tacos.

**Hamburgers & Hot dogs** - sprouts can replace lettuce in these kid's favorites.

**Sandwiches, Subs and Pitas** - sprouts are a delicious addition to any of these.

**Salads** - add fresh sprouts to just about any salad, or create your own sprout salad. (hint - radish sprouts are great in **coleslaw or potato salad**, or anyplace you'd use radishes.

**Omelets** - Add a half cup of sprouts to your omelets just before folding. Sprout mixes or alfalfa is great for this.

**Breads** - a half cup of sprouts per loaf makes a tasty, nutritious addition to homemade breads. (Add with the liquids) The sprout nutrients also seem to help the yeast produce a higher loaf

**Soups** - a few sprouts added just before serving are great in many soups.

**Peanut butter sandwiches** - believe it or not, I love sprouts in peanut butter sandwiches! Use your imagination.

## DR. BOB'S SPROUT DRINK

This drink is for the stout of heart. It is easy to prepare and will provide you with a nutritional boost that gives you minerals, trace minerals, vitamins, many live enzymes and chemicals that provide protection against cancer and many degenerative diseases. It's all natural providing nutrients balanced the way nature intended.

In a 5 cup blender jar place the following:

1 - 6 oz can frozen orange juice (can use frozen pineapple or grape etc.)

1 - 6 oz can of water

1 - banana broken into pieces (can be frozen)

8 - Oz Tofu (optional)

2 - Tablespoons of lecithin granules

2 - 3 Tablespoons flax seed oil (1 tablespoon for each adult served) leave out if using flax seed meal or chia seeds or taking cod liver oil.

Enough alfalfa sprouts to fill the jar (don't skimp on the sprouts) 1- 4-5 oz. package if purchased.

Blend the above until smooth

Then add -16 oz Plain non-fat yogurt (be sure that it contains the live cultures)

You can increase or decrease the amounts to serve more or less people or you can drink it all yourself. Drink it fresh. Makes enough for 2-3 people. You can use your imagination and add or change to suit your preferences. When you're supplying your body with its needs you can even have a little ice cream and chocolate cake once in a while. Foods are not only for health but are to gladden the heart and to be an enjoyment.

### NOTE:

The tofu contains many isoflavone components from the soy bean that are known cancer fighters and disease preventers. It is also an excellent source of high quality protein as well as omega 3, and 6 essential fatty acids.

Lecithin is a phospholipid which is an excellent source of phosphorus, essential fatty acids and the "B" vitamin choline. Lecithin is very valuable in helping to keep our livers and gall bladders healthy. It is a brain food that helps maintain efficient operation of the neurons in the brain thus helping to protect against memory loss and senility as we age. Lecithin also helps keep fats from depositing on the arterial walls. The phosphorus content helps in the utilization of calcium.

The plain non-fat yogurt supplies calcium, magnesium and high quality protein. The yogurt also supplies us with billions of live *Acidophilus Lactobacillus* that keep our friendly intestinal bacterial flora healthy. This flora keeps our colon healthy protecting it against cancer, infections from pathogens and candida yeast.

# **This Ancient Seed Lowers Blood Pressure, Blood Sugar, And Heart Attack Risks**

Imagine a food that lowers your blood pressure, prevents blood clots, and protects your heart. Then imagine this same food also fighting cancer, lowering cholesterol, and putting you in a great mood. Would you be interested?

Of course you would. But what if I told you the only way to get this food is to pay an exorbitant amount of money. Your heart would sink, wouldn't it?

Well, that's what a lot of marketers are doing with food these days. You may have heard the latest buzzword in health these days is "superfoods." Magazines, websites, and other newsletters are touting these superfoods.

And rightly so. Most of them are whole food products that are exceptional for your health. So much so that using them daily could dramatically help you regain health. You know that I consider nutrition to be the foundation of all health and the first place to attack "disease." And these superfoods offer super protection against disease and aging.

I want to tell you about a superfood that I have come across in the last few months. This superfood is *Salvia Hispanica* L. However, you have probably seen advertisements by a different name - Chia. These are the seeds made famous by the TV commercials for the Chia Pet.

Chia is a tiny seed (smaller than flax seed) from South and Central America. It was a food treasured by the Aztecs and Mayans as well as the Incas in Peru. At one time they valued the seed so highly that they used it as currency. When I first learned about its nutritional properties Chia instantly zoomed to the top of my food list.

The Aztec warriors used chia seeds during their conquests. Their runners used the seed to enhance stamina and endurance on messenger runs. The seeds came to be known as the "Indian Running Food."

Modern health pioneer Paul Bragg recently noted chia's ability to improve physical performance. He decided to study the seed to see if it really helped endurance. He divided some volunteers into two groups - a chia-eating group and another group that ate whatever they wanted. Then he had them go on a long-distance hike. I was amazed that the group eating only chia seeds finished an endurance hike four hours, 27 minutes before those in the other group, most of who didn't even finish at all.

But that's only the beginning of the research on the amazing chia seed. In another study, researchers took 20 subjects (average age 64) with type-2 diabetes. They randomly assigned the volunteers to eat either chia seeds (about 3 7 grams) or wheat bran daily for 12 weeks. They didn't make any changes to their conventional diabetic therapies. Compared to the wheat bran control group, the chia group had their systolic blood pressure go down by six points. Their C-reactive protein, a good marker for cardio-vascular risk, dropped by some 40 %. And a clotting factor dropped by 21 %. But the best news was that hemoglobin A1C and fibrinogen also dropped significantly. The former means that the chia users had significantly better glucose control. The latter means their blood was less thick, less likely to clot. How can this tiny seed do so much? Chia is packed with nutrition. It possesses 19 -23% complete protein. Compare that to wheat (14%), corn (14%), rice (8. 5%), oats (8. 5%), barley (9. 2%), and amaranth (14.



8%). But, unlike most plant products, and all of the grains above, it contains all the essential amino acids, and in excellent proportions. It's a complete protein! And, none of the protein is gluten, which is toxic to so many people. Chia is loaded with essential fatty acids. In fact, it carries the highest amount of EF As of any known plant, up to 83% by weight! And, most amazingly, it has far more of the hard-to-get omega-3 EFAs than omega-6. The ratio of most plants is somewhere between 6: 1 and 20: 1 of Omega-6 to omega-3. But chia is closer to 1: 3. This beats all of my formerly favorite sources of EFA, including walnuts, flax, and hemp seeds.

Two ounces of chia will give you as much omega-3 as almost 1 3 /4 pounds of salmon!

But the health benefits of chia get even better. Chia is also very rich in antioxidant flavanols. The list includes some of the most potent of these: quercetin, kaempferol, and myricetin. They protect the EF As in chia from oxidizing and becoming rancid, a major problem with other EFA sources.

Furthermore, these compounds are extremely protective against cancer and heart disease. Almost unbelievably, chia has three times more flavanols ounce-for-ounce than my favorite fruit - blueberries. These miraculous compounds will keep ground-up seeds fresh for up to three months in your refrigerator. Left whole, the seeds will keep up to five years on the shelf!

What about minerals? It's fabulously rich. Ounce-for-ounce, it has 15 times more magnesium than broccoli, three times more iron than spinach, six times more calcium than milk, and two times more potassium than bananas. That same two ounces will provide you with 770 mg of calcium, 380 mg of magnesium, and 35 grams of fiber. The calcium/magnesium ratio is about perfect. The seeds are rich in boron, important for your bones and sex hormones.

It's also rich in vitamins including foliate and the B vitamins thiamine, riboflavin, and niacin (vitamins B 1, B2, and B3). And, most surprisingly, even though it's not a fruit or vegetable, those two ounces will provide a stunning 560 mg of vitamin C. And that vitamin C is complete with its flavonoid co-factors, unlike most supplemental vitamin C. Impressed? Well, it gets still better. The chia seed's outer layer is rich in water-loving mucilloid-soluble fiber (about 5% by weight). Each seed can soak up to 10 times its weight in water. Watch what happens when you add a tablespoon of seed to a cup of water. Inside your body, this property helps keep you hydrated longer (which helps with endurance). It will help you keep minerals in your bodily fluids longer. On top of all that, the human body easily digests chia seeds. When mixed with water or stomach juices, the seeds form a gel. This creates a physical barrier between the seeds' carbohydrates and the digestive enzymes that break them down. The carbohydrates are digested slowly and release glucose at a slow, uniform rate. There's no insulin surge or spike needed to lower the blood sugar level. That and its incredible nutritional properties (especially the essential fatty acids) are likely the reasons for the excellent result in the diabetes study. You are now probably wondering if a food this terrific could be palatable. I was surprised to find that the seeds are, in fact, rather tasteless. That makes them a perfect addition to almost any food you're preparing. It will add moistness and a fatty texture to any food you make. And you know that it'll be healthy, unlike adding toxic bottled oils. The seeds are delightfully crunchy and make a great snack on their own. There's no gritty texture. They go down so very easy. You can buy the seeds in two different colors, black and white. The seeds of the native plant are mostly black. However, it does produce a small amount of white seeds. One research team inbred the white seeds and produced a line of chia that yields solely white seeds. They named it Salba, which you've probably read about in some advertisements. The ads claim that Salba is far superior to chia seeds. But is it? The Salba marketers are telling you that the miraculous medicinal properties of Salvia are limited to Salba, and that there's a huge difference between Salba and chia. Well, in a fashion, that is certainly true, Salba is white and Chia is a mixture of white and black.

However, I took a close look at the nutritional content of Salba versus common chia. I couldn't find any difference. Noncommercial research I reviewed shows that there are differences in fat, protein, and other nutrient content.

But the difference is not between black vs. white seeds, or Salba vs. chia. The difference depends upon the location and soil where the seeds are grown.

So why is that important? After I started researching the subject, I was sent a beautifully done marketing piece promoting Salba at about \$26 per pound. I about choked. Why? Because I quickly found sources on the Internet selling chia at less than one-third that price. The biggest difference between the two is color and cost. I'm not discouraging you from purchasing Salba. However, I think your dollars would be better spent getting chia. Unfortunately, you probably won't find chia at your local Whole Foods store.

Salvia/Salba/chia is truly an incredible superfood. You can eat it raw or cooked. You can eat it whole or ground. And you can add it to homemade pastries and breads to make them far healthier. You can even sprinkle the seeds on salads and pasta. Or you can use it to thicken soup, stocks, and gravies. It is an incredible source of complete protein. If you want to reduce your meat consumption, chia could be your trump card. You can eat as much of it as you want. But since the healthiest diet keeps fat calories at 10% of total calories, a typical daily dose is probably around one to three tablespoons per day.

### **Additional Benefits**

The fiber in chia absorbs as much as seven to nine times its weight in water. This added bulk can help one overcome constipation (assuming enough water is consumed) with the added benefit of giving the feeling of "fullness" that helps many people who are trying to lose weight. (Actualization en Nutrition 06;7(1):23-25)

In addition to both having the highest fiber content of any food and being one of the best sources of omega-3 fatty acids, chia is an excellent source of dietary calcium. A daily serving (about 2 tablespoons) contains about 125 mg of calcium, more than 7 grams of fiber, and more than 3 grams of omega-3 fatty acids.

Chia helps restore the omega-3 to omega-6 balance that has become so lopsided from our diets. Omega-3 oils, as you recall, are anti-inflammatory in nature, and excess omega-6s promote inflammation. Chia consumption can help with most types of arthritis, joint pain, and stiffness, along with conditions such as ulcerative colitis.

Chia's ALA gets converted into DHA and EPA which have been shown to be beneficial in the treatment of depression, bipolar disorder, and schizophrenia, and even to improve some cases of Alzheimer's. DHA makes up between 15 and 20 percent of the cerebral cortex and anywhere from 30 to 60 percent of the retina. Deficiencies of this fatty acid can have profound effects on both brain and eye function and development.

As you can see from the following chart, chia gives you a lot of "bang for your buck."

<b><i>Omega-3 Content</i></b>	
<b>Food</b>	<b>Omega-3 Content</b>
Salmon, Farmed Atlantic	3.7 grams
Salmon, Wild Pacific	1.7 grams
Flax	22.8 grams
Chia	24.3 grams
Sardines	1.6 grams

Some sellers claim the best way to take chia is to consume it only after it has been soaked in water. Some companies claim to sell only certified organic chia, which they claim is better. Soaking the seeds in water does release the soluble fiber, turning the liquid into a gel-like compound. It increases the antioxidants when soaked. Chia can be used ground or whole. Unlike flaxseed, chia seeds are easily digested without grinding. If you want to grind the seeds, there's no problem in doing so, but Dr. Coates thinks that this, too, is a waste of time and doesn't improve digestibility.

On the organic issue, Dr. Coates explained that there is no such thing as certified organic chia. As I mentioned earlier, no pesticides are used or needed on chia because insects aren't attracted to it. Dr. Coates also explained that the grain is harvested mechanically using conventional combines and processed mechanically, so there is never any use of solvents, irradiation, et cetera. As a result, all chia available is of comparable purity.

As for the Salba product, Dr. Coates is very familiar with both Salba and the people promoting it. Dr. Coates was the one who actually planted the first seed in Peru where the Salba product is now grown. It's nothing more than white chia, and attempting to differentiate it from "ordinary" chia is basically a marketing ploy. Chia produces both white and black seeds. If you separate and plant the black seeds you get black chia. If you plant the white seeds you get white chia. The composition and content of the two are practically identical. Dr. Coates explains that any content differences in chia, particularly the fatty acid content, are determined by the climate where the product is grown. Higher elevations and colder temperatures tend to increase the omega-3 content. In fact because of the dark color the black chia has a higher antioxidant level.

## **Omega-3 affecting our health**

Scientific studies from around the world demonstrate that Omega-3 have a profound impact on maintaining good health, helping to prevent and control serious health disorders, including heart disease, cardiovascular disease, and numerous autoimmune and inflammatory diseases. Key findings include:

- Heart and Cardiovascular

- Antiarrhythmic (irregular heartbeat)
- Hemodynamics (cardiac mechanics)
- Myocardial infarction (Heart attack)
- Stroke (sudden death of brain cells)
- Cardiac arrhythmia (disturbance of the heart rhythm)
- Atherosclerosis (hardening of the arteries)
- Angina (reduction in blood flow to the heart)

Hypertension (High Blood pressure)  
Preeclampsia (hypertension, swelling, and protein in the urine)  
Raynaud's (disorder of small arteries)

#### Inflammatory & Skeletal

Eczema (skin disorder: itchy and red rash),  
Multiple Sclerosis (autoimmune disease effecting central nervous system)  
Osteoarthritis (Linings of joints fail to maintain normal structure)  
Osteoporosis (brittle bones)  
Psoriasis (Skin disorder, silvery and scaly plaques)  
Rheumatoid arthritis (autoimmune disease effecting joints)  
Ulcerative colitis (bloody diarrhea and an inflamed colon)

#### Respiratory

Asthma (lung disorder)  
Chronic obstructive pulmonary disease (Disorder of bronchitis and emphysema)  
Bipolar disorder (Mood disorder)  
Depression (unhappy feelings of hopelessness)  
Schizophrenia (unhappy feelings of hopelessness).

#### Other Conditions

Crohn's disease (Intestine and colon disorder)  
Diabetes (control disorder of glucose)  
Dysmenorrhea (painful menstruation)  
Lupus (autoimmune illness)  
Migraine headaches (painful headaches)  
Phenylketonuria (Neurological problems)  
Photosensitivity (hypersensitivity to light)

## **What is Omega-3?**

Omega-3 fatty acids are polyunsaturated fatty acids classified as essential because they cannot be synthesized in the body; they must be obtained from food. Important omega-3 fatty acids in human nutrition are: alpha-linolenic acid (ALA), eicosapentaenoic acid (EPA), and docosahexaenoic acid (DHA). Fatty acids and their metabolic products serve three basic functions:

- They act as a highly efficient energy reserve that provides protection against external agents like cold weather.
- They are fundamental constituent of cellular membranes, giving them an elastic cover that protects each cell.
- They are as precursors from which are made an important group of hormonal compounds called prostaglandins, thromboxanes, leukotrienes, which are involved in many physiological processes associated with the central nervous system, hormonal functions, and regulation of blood pressure, cholesterol transport, immunological mechanisms and inflammatory reactions.

# Important Discovery

## Germinating /Soaking Chia Seeds

When germinating the chia seeds for 12 - 24 hours some remarkable changes take place.

The ORAC value and the antioxidant level tripled. Normally the ORAC value of the chia seed is 80 it increased to 220 (vs. blueberries at 70). Just soaking the seeds increased the antioxidant value from 80 to 220.

The Aztecs called this gelatinous liquid "Chia Fresca" .In a one quart jar with lid preferably glass. Add 1 quart water and 2/3 cup chia seeds shake until the liquid starts to thicken and the seeds are suspended and every few hours shake the bottle to keep the seeds suspended.

Soak the seeds at room temperature for a minimum of 12 - 24 hours. Refrigerate the liquid until you use it.

Use the soaked seeds in smoothies, oatmeal, yogurt, soup, bread, cakes or cookie mix. And anything else that you can think of.

I like to put 2/3 of a cup of the chia fresca in a glass and stir in 2/3 of a cup of pomegranate juice this thins the fresca and it is tasty. You can do the same with orange juice apple juice etc.

I even tried it adding Pepsi Free and it was real good. Be an experimenter and use your imagination. Each 2/3 cup of chia fresca will give you 2 tablespoons of chia seeds.



# Bob's Super Banana Chia Bread

## ***Mix together:***

(For Gluten free Use Brown rice flour, buckwheat flour, millet flour or a mixture of the above)

2 - Cups whole wheat flour

1-1/2 teaspoon baking soda

1/2 Teaspoon salt

In a separate bowl mash 6 bananas with 1 table spoon lemon juice and 1 - cup Orange juice. Add and stir in 1 cup plus 2 tablespoons of Chia seeds.

## ***In a Large mixing bowl beat together:***

4 - Eggs

1/2 cup extra virgin olive oil

1 - Teaspoon Stevia powder 90% or 1 cup blackstrap molasses.

Add the mashed banana mixture and mix well

Add the flour mixture and mix well

## ***At this point you can add***

2-1/2 cups walnuts chopped (optional) and/or

2- Cups chocolate chips (optional) and/or

2 - Cups raisins or dried cranberries or dried blueberries (optional)

Bake at 350 degrees for 15 - 20 minutes for regular muffins or 25 - 30 minutes for small loaves of bread.

This recipe makes 24 regular muffins or 4 small loaves of bread or about 50-60 cookies.

Bake cookies at 350 degrees for 8 - 12 minutes

To make chocolate muffins or bread add to the flour mix 3/4 cup cocoa powder mixing well. Also increase the stevia to 1 1/2 tsp.

Each regular size muffin contains 2 tablespoons of chia.

# SUPER HEALTHY OATMEAL CHIA COOKIES

1 - Cup boiling water  
1 - Raisins  
1/2 cup butter or olive oil  
1 - Cup blackstrap molasses or (if diabetic 1 tsp Stevia)  
3 - Eggs beaten  
1 - Cup walnuts chopped (optional)

1-1/4 - cups whole wheat flour  
1 - Cup chia seeds  
1/2 - teaspoon of salt, nutmeg, cloves  
1 - Teaspoon cinnamon, soda, baking powder  
2 - Cups rolled oats (old fashioned)  
1 - Cup chocolate chips (optional)

Pour the boiling water over the raisins, butter or oil, and molasses. When the mix is cool, mix in the beaten eggs and adds the remaining ingredients mixing them in well. Drop by teaspoons onto a cookie sheet and bake at 350 degrees for 8-12 minutes. Determine the right time, all ovens are different. Makes about 40 cookies

# THE KOCH'S SUPER CHIA BREAD

Cream Together

1 /2 cup butter

1/2 olive oil

*You can use all olive oil 1-cup*

1 1/2 tsp stevia or 1 1/2 cup blackstrap molasses

5 eggs

1 tbsp vanilla extract

Mix:

*It is best if the fruit mixture is put in the refrigerator pineapple include the overnight so that the dried juice fruit can take up moisture. This step can be eliminated if you lack time or forgot.*

6 bananas mashed together

2 cups dried blueberries

(1) 20 oz can of crushed

2 cups dried cranberries

3 tbsp lemon juice

1 cup pineapple juice

4 cups whole wheat flour

2 cups chia seed

2 tsp baking soda

2 tsp baking powder

*If a person has gluten intolerance then substitute millet or rice flour for the wheat.*

Add and mix:

2 cups chopped pecans (optional)

Add the fruit mixture to the creamed mixture and then mix in the flour mixture, and then stir in the nuts. . Mix well. Divide the dough equally into 7 3in. x 5 3/4in. x 2in medium size loaf pans that have been sprayed with PAM or equivalent. Bake at 325 degrees for 35 minutes or until a toothpick comes out clean. Remove from pans and when cool put in zip lock bags and refrigerate or freeze.

## VARIATIONS

Replace the can of pineapple with 3 cups unsweetened applesauce.

Replace the dried blueberries and cranberries with 3 cups of raisins.

Replace the pecans with chopped walnuts (optional).

To the flour mixture add 2 tbsp ground cinnamon and 1 tsp ground nutmeg. If you substitute rice or millet for wheat then make into muffins rather than loaves.