

Pulse

Hemp Cherry

Hemp Blueberry

Hemp Raspberry

Hemp Cherry Bars

Ingredients: Dates, Raisins, Oats, Whole Cherries, Hemp Seeds, 11 Grain Mix (Barley Flour, Buckwheat Flour, Millet, Rice Flour, Teff, Flax Seeds, Amaranth, Quinoa, Sesame Seeds, Sunflower Seeds, Chia Seeds) Cashews, Almonds, Walnuts, Pecans, Hazelnuts, (Filberts), Prunes, Figs, Cherry Granules, Cherry Powder, Beetroot Powder, Coconut Oil, Honey, Grapefruit Concentrate. With sprouted seeds and nuts.

Hemp Blueberry Bars

Ingredients: Dates, Raisins, Oats, Whole Blueberries, Hemp Seeds, 11 Grain Mix (Barley Flour, Buckwheat Flour, Millet, Rice Flour, Teff, Flax Seeds, Amaranth, Quinoa, Sesame Seeds, Sunflower Seeds, Chia Seeds) Cashews, Almonds, Walnuts, Pecans, Hazelnuts, (Filberts), Prunes, Figs, Blueberry Powder, Beetroot Powder, Coconut Oil, Honey, Grapefruit Concentrate. With sprouted seeds and nuts.

Hemp Raspberry Bars

Ingredients: Dates, Raisins, Oats, Whole Raspberries, Hemp Seeds, 11 Grain Mix (Barley Flour, Buckwheat Flour, Millet, Rice Flour, Teff, Flax Seeds, Amaranth, Quinoa, Sesame Seeds, Sunflower Seeds, Chia Seeds) Cashews, Almonds, Walnuts, Pecans, Hazelnuts, (Filberts), Prunes, Figs, Raspberry Granules, Whole Cranberries, Raspberry Powder, Beetroot Powder, Coconut Oil, Honey, Grapefruit Concentrate. With sprouted seeds and nuts.

Part 1: HEMP Seed Nutrition

Hemp has been cultivated and used by many ancient cultures since the beginning of recorded history. Researchers have found its use in China, India, Babylonia, Persia, Egypt, and the native cultures in North & South America. Hemp fiber was used to make rope and cloth, while the stalk was used to make paper. These cultures also used the seed for nutritional purposes. It can be eaten as shelled seeds, oil, butter, flour, and protein powder. Hemp contains 40% fiber, which is the highest of all commercial flower grains.

Not only is hemp seed extremely versatile for the production of food, but it is the most nutritious food in the world. The nutrients derived from hemp seeds include fats, minerals and amino acids (protein).

There are eight amino acids human body cannot synthesize and two more the body cannot synthesize in sufficient quantity, that are essential to life. A diet without any one of them will eventually cause disease and death. These essential amino acids, along with eleven others the body can make from them, are chained together in accordance to genetic guidelines, via RNA formats from DNA blueprints, into structural proteins that give body to life, and into enzymes (globular proteins) that carry out the mechanics of living.

Hemp is not alone in containing all the essential amino acids in its embryonic seed. Flax seeds also contain all the essential amino acids as do many other seeds in the plant kingdom. What is unique about hemp seed protein is that 65% of it is globulin edistin. That is the highest in the plant kingdom. The very high density of nutrients per calorie make hemp a good choice if your goal is quick weight loss.

Globulins are one of seven classes of simple proteins. Simple proteins are made from amino acids and contain no non-protein substances. Globulins are in seeds and animal

blood. Edistins are found in seeds; serum globulin is in blood. Edistins are plant globulins. And globulins along with albumins are classified as globular proteins. All enzymes, antibodies, many hormones, hemoglobin and fibrogin (the body converts fibrogin into non-soluble, fibrin, a blood clotting agent) are globular proteins. They perform the main work of living. The most beneficial 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 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, people suffering from immune deficiency diseases.

Hemp, among its many other uses, is the perfect food for human consumption! About 30-35% of the weight of hemp seed is hemp seed oil, an edible oil that contains about 80% essential fatty acids(EFAs); i.e.,linoleic acid,omega-6 linoleic acid 55%),alpha-linolenic acid,omega-3 alpha linoleic acid(22%), in addition to gammalinolenic acid(GLA), omega-6 GLA (1-4%) and stearidonic acid(SDA),omega-3 SDA(0-2%).

Hemp seed is an excellent source of calcium and iron. Whole hemp seeds are also a good source of phosphorus, magnesium, zinc, copper and manganese. Hemp seed is gluten free and consequently will not trigger symptoms of celiac disease. Hemp's nutritional advantage over other sources of fats and protein thus lies in its highly desirable balance of basic nutrients. When eating hemp seed, nut and/or oil, our body gets much of what it needs without the addition of non-essential nutrients. Yet, unlike fish and flax oil supplements and assorted protein powders, properly processed hemp seed offers these benefits with the additional bonus of a nice flavor profile – hemp tastes good. Fresh cold pressed hemp oil and hemp nut, particularly when toasted, add a nice nutty flavor to many dishes and packaged food products. Hemp nut and oil therefore are attractive both nutritionally and are appetizing, rendering them truly modern food sources.

Amino Acid Profile of Hemp Seed:

Aspartic Acid 5.303% Tyrosine 1.484%
Glutamic Acid 9.257% Valine 2.364%
Serine 2.830% Methionine 1.194%
Glycine 2.479% Cystine 0.824%
Histidine 1.406% Isoleucine 2.269%
Arginine 6.262% Leucine 3.551%
Threonine 1.969% Phenylalanine 2.192%
Alanine 2.289% Lysine 1.821%
Proline 2.029% Tryptophan 0.678%

Part 2:

Additional reasons why you'll want PULSE as part of your daily diet

ALMONDS *Prunus dulcis*

Almonds improve the health and the shine of the hair. They reduce the chance of dry scalp, lackluster strands, and split ends. (See also, sunflower seeds) *Vegetarian Times*, April 1999, p. 96 (1) "Phytochemicals in Almonds inhibited tumor cell growth in culture, and two phytochemicals, the flavonoids, quercetin and kaempferol, were found to suppress lung and prostate tumor cell growth. *Food Ingredient News*, May 1998, Vol. 6 No. 5. Almonds can help lower total cholesterol. *Natural Health*, Jan 1999, Vol. 29, Iss. 1, p. 142

AMARANTH *Amaranthus spp.*

Aids functions of the liver. *Food-Chem-Toxical*, May 1984, Vol. 22(5): pp. 337-44
Associated with lower cholesterol. *Nahrung*, April 1999; Vol. 43, No. 2, pp. 341-349

BARLEY *Hordeum vulgare L.*

Dietary fiber found in barley has been found to yield significant health benefits specifically in helping to regulate cholesterol levels and hypoglycemia. Studies were done on the long-term effects of incorporating barley in the diets of non-insulin dependent diabetic men. Barley products in the diet eased the diabetic problems and allowed some subjects to reduce their dose of oral hypoglycemics. *International Journal of Food Sciences and Nutrition*, Jan. 1998, Vol. 49, No. 11 . 71-78

BEETROOT POWDER

Beet sugars help cultivate friendly bacteria in the intestines and fight cholesterol. *Food Ingredient News*, Dec. 1998, Vol. 6, No. 12

BLUEBERRY

Studies conclude that a diet rich in blueberry extract reversed some loss of balance and coordination, and improved short-term memory (experiment done on rats). Blueberries are being studied more closely by researchers for their documented antiaging potential (experiment on humans). *Food Ingredient News*, Sept. 1999, Vol. 7, No. 9 Blueberries and cranberries have been proven to help in protecting the urinary tract against infections. *Food Ingredient News*, Nov. 1998, Vol. 6, No. 11

BROWN RICE *Oryza sativa L.*

Consumption has been shown to significantly reduce the risk of coronary heart disease. A 10-year study was performed by Harvard Medical School with over 75,000 women. Researchers found that women who eat about 2.5 servings of whole-grain foods (like brown rice) daily may reduce their risk of heart disease by more than 30% compared to those who eat virtually no whole-grain foods. *The Food Institute Report*, Sept. 6, 1999. The same study was done on men. Harvard Medical School found that men that ate whole-grain foods with high fiber, had a 36% reduction in heart attack. *Consumer Reports on Health*, Aug. 1999, Vol. II, No. 8, pp. 1-5

BUCKWHEAT *Fagopyrum esculentum Moench*

Consumption is associated with lower serum cholesterol and blood pressure values. *Nutrition Research Newsletter*, May 1995, Vol. 14, No. 5, pp. 60-61

CASHEWS *Anacardium occidentale*

Cashews contain a high level of selenium (as do sunflowers). Studies have proved that "selenium can lift the spirits." Those who consume cashews and other foods rich in selenium reported feeling significantly more clearheaded and in a better mood than they did before consumption. *Agricultural Research*, Oct. 1995, Vol. 43, No. 10, pp. 19
Selenium has also been related to cancer prevention. Cashews are also rich in zinc a mineral often researched as a cure for the common cold. *Consumers Reports on Health*, Nov. 1997, Vol. 9, No. 11, .121-124

CHERRY

According to researchers at Michigan State University, adding cherries to hamburger meat retards spoilage and reduce the formation of suspected cancer causing compounds known as HAAs (heterocyclic aromatic amines). *Cancer Weekly Plus*, Dec. 28, 1998

CHIA SEEDS

These antioxidant-rich seeds are great sources of vitamin E and omega-3s, essential fatty acids that make skin glow and hair shine. "In a preliminary study from the University of Toronto, researchers fed 21 diabetics either a supplement made from chia or grains with similar fiber content. After 3 months, blood pressure in patients taking chia dropped (10 points diastolic, 5 points systolic) while the grain group's BP remained steady."

COCONUT OIL

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? 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.

CRANBERRY

Cranberries are an under appreciated fruit. Research has validated the old adage that drinking cranberry juice will reduce or eliminate instances of urinary tract infection, but other, more recent studies have also linked the lowly cranberry with increased benefits in fighting heart disease and cancer. Because they contain flavonoids, studies reported that cranberries can also be a weapon in the war against atherosclerosis, or what they used to call "hardening of the arteries". Flavonoids help reduce the amount of bad cholesterol clogging the walls of your arteries while increasing the level of good cholesterol in your system.

DATES *Phoenix dactylifera*

Dates have been found to reverse the progression of prostate cancer. *Cancer* 1989 Aug. 1, 64 (3): 598-604

FIGS

Figs contain 3.2 times more calcium than other fruits - enough, they say, to promote strong, healthy bones. *U.S. News & World Report*, April 27, 1998, Vol. 124, No. 16, p. 10

FILBERTS or HAZELNUTS *Corylus spp.*

Like almonds and pecans, filberts are effective in fighting Heart disease and have been shown to help lower blood cholesterol levels. *Science News*, Nov. 21, 1998, Vol. 154, Iss. 21, pp. 328-331

FLAX SEED *Linum usitatissimum*

Flax seed contains many nutritional components. They include fiber and ligands, which inhibit cancer, such as breast cancer. They also contain alpha-linolenic acid, which helps ward off heart attacks. Flax seed helps inhibit autoimmune diseases like rheumatoid arthritis, severe menstrual cramps, and perhaps even depression. Prevention, April 1997, Vol. 49, No. 4, pp. 81-85

Flax seed oil contains omega-4 fatty acid found in some meats. Important news for vegetarians. Vegetarian Times, July 1997, No. 239, pp. 92-95

GRAPEFRUIT (AMP)

This juicy fruit contains citric acid, natural sugars, essential oils like limonene, pinene and citral. It has high amounts of vitamin C, and smaller amounts of vitamin A, B complex, E and K. In the mineral department, larger amounts of calcium, folic acid, phosphorus, and potassium are found. The nutritive phytonutrients of this voluptuous fruit liminoids, flavonoids, lycopene and glucarates may help fight cancer and various diseases.

HONEY

Thanks to its antimicrobial properties, honey not only soothes throats but can also kill certain bacteria that causes the infection. Honey is also a great natural source of carbohydrates which provide strength and energy to our bodies, honey is known for its effectiveness in instantly boosting the performance, endurance and reduce muscle fatigue of athletes. Honey does not cure cancer but what many people don't think enough of or have overlooked is - honey possesses carcinogen-preventing and anti-tumour properties!

MILLET *Panicum miliaceum* L.

High in Lysine, an essential amino acid, which the body doesn't produce. High in protein, phosphorus, B vitamins and iron. Easy to digest. Vegetarian Times, Feb. 1997, No. 234 p.94

OATS *Avena sativa* L.

Two studies presented at the American Heart Association's 71st Scientific Sessions confirmed the healthful benefit of oats. They found that frequent consumption of oats and nuts were linked with a low risk of coronary heart disease. A 12-year study examining more than 22,000 male doctors showed that with daily consumption, the risk of total cardiac death and sudden death fell. Food Ingredient News 1998 Dec; Vol. 6, No. 12

PECANS *Carya Illinoensis*

Like almonds and filberts, pecans are effective in fighting heart disease and have been shown to help lower blood cholesterol levels. Science News, Nov. 21, 1998, Vol. 154 Iss. 21, pp. 328-331

PRUNES

Prunes are dried plums, rich in minerals and phenols, plus they have an extremely high ORAC value. The drying process actually increases antioxidant powers by more than six times! USDA researchers believe that people of all ages can prevent and treat diseases of aging by simply adding prunes to their diets. Prunes are especially appropriate for: Boosting bone density, bowel cleansing, regularity, cardiovascular disease, liver cleansing, preventing memory loss and Alzheimer's, and fighting infections.

QUINOA *Chenopodium quinoa* Willd.

"Quinoa is one of the world's most perfect foods. Grown and consumed for thousands of years on the high plains of the Andes Mountains in South America, the Incas dubbed quinoa the 'mother grain' because of the plant's ever-bearing quality. They also believed the kernels to be sacred, since a steady diet of it appeared to ensure a long, healthy life." Very high in protein, calcium, B vitamins and Iron. Very easy to digest. Vegetarian Times, June 1999, p. 32

RAISINS *Vitis vinifera*

Like grapes, raisins have a protective effect on the heart. They have also been known to "play a role in sustaining normal blood sugar levels." Total Health, Dec 1995 Vol. 17, No. 6, p. 38 "A once obscure fruit acid, commonly found only in grapes and raisins, is now being looked at closely as a new source of health benefits for the colon." This acid may slow down the development of colon cancer. Total Health, April 1996 Vol. 18, No. 4, pg. 47

RASPBERRY

Raspberries are being studied for their help in the prevention of cancer. According to Dr. Daniel Nixon, head of the raspberry research at the Hollings Cancer Center "our initial study shows some tantalizing results." Cancer Weekly Plus, Jan. 18, 1999

SESAME SEEDS *Sesamum indicum*

Reduce susceptibility to oxidative stress. Oxidative stress has been named one of the major contributors to increased cancer risk. Sesame seeds are also very rich in thiamin. Plant Foods and Human Nutrition. 1984 May, Vol. 22, No 5: pp. 337-44

SUNFLOWER SEEDS *Helianthus annuus*

Improve the health and shine of the hair. Reduce the chance of dry scalp, lackluster strands and split ends. (see also, almonds) Vegetarian Times, April 1999, p. 96 Sunflower Seeds are related to mood stability. Agricultural Research, Oct. 1995, Vol. 43, No. 10, .19-21

TEFF

Teff is an ancient and intriguing grain, tiny in size yet packed with nutrition. Teff is native to Ethiopia where it accounts for one quarter of the total cereal production. Teff is packed with nutrition. It is higher in protein than wheat and has a high concentration of a wide variety of nutrients, including calcium, thiamin and iron. The iron from teff is easily absorbed by the body. Since the grains are so small, the bulk of the grain is germ and bran. It is very high in fiber and is thought to benefit people with diabetes as it helps control blood sugar levels. Due to its nutritional content and energy enhancing properties, it has also gained favor with athletes.

WALNUTS

Beneficial effects in health and in the control of chronic disease. American Journal of Clinical Nutrition, Sept. 1999, Vol. 70, Iss. 3, p. 560

Walnuts contain essential unsaturated fats that are good for the brain. A scientific study performed by John T. Bernert Jr. Ph.D. and Waren S. Browner, M.D., studied 192 men with incident stroke. The phospholipid fatty acid levels were measured as a percentage of total fatty acids to weigh their association with incident stroke. The results suggested that higher serum levels of linolenic acid found in walnuts and walnut oil significantly reduced the risk of stroke in middle-aged men who were originally at high-risk for cardiovascular disease. Stroke, 1995, Vol. 26: pp. 778-782 Key Vitamins in Walnuts include thiamin, vitamin B6, and folic acid.