

## **Pulse**

### **Hemp Cherry**

### **Hemp Blueberry**

### **Hemp Raspberry**

**Ingredients:** Hemp Seed/Oil, Dates, Raisins, Oats, 8 Grain Mix (Barley Flour, Buckwheat Flour, Millet, Rice Flour, Teff, Flax Seeds, Amaranth, Quinoa), Sesame Seeds, Sunflower Seeds, Cashews, Almonds, Walnuts, Pecans, Hazelnuts, (Filberts), Prunes, Figs, (Blueberry, Raspberry, or Cherry) Granules, (Blueberry, Raspberry, or Cherry) Powder, Essential Oils flavoring in Sunflower Oil Base, Beetroot Powder, Grapeseed Oil, Walnut Oil

#### **Part 1: HEMP 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 gamma-linolenic 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:

### 26 compelling reasons why you'll want PULSE as part of your daily diet

#### (1) DATES

Phoenix dactylifera

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

#### (2) 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

#### (3) 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 slows down the development of colon cancer. *Total Health*, April 1996 Vol. 18, No. 4, pg. 47

#### (4) 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

#### (5) 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

#### (6) 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

#### (7) 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

(8) 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

(9) 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

(10) EINKORN

Useful for treating several diseases such as colitis, ulcerosa, allergies, coeliac disease, and high blood cholesterol.

International Journal of Food Sciences and Nutrition, Nov. 1997, Vol. 48, No 6, p. 381

(11) 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

(12) 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

(13) 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

(14) CARROT POWDER

Vitamin A or retinoic acid, found in carrots may block cancer in the body University of Texas in Houston reported finding strong evidence that vitamin A can fight cancer by making tumor cells self destruct..." Cancer Weekly Plus, April 27,1998

Carrots can also boost immune system functions, help solve skin disorders, and help treat cancer. Newsletter-People's Medical Society, Oct. 1998, Vol. 17, Issue 4, p. 7

(15) WALNUTS and WALNUT OIL *Junglans regia*

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

Walnut and walnut oil contains 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.

(16) 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

(17) 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

(18) 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

(19) 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

(20) 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

(21) BEET POWDER

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

(22) ACEROLA CHERRY Malpighia punicifolia

Acerola cherries, also known as Barbados cherries, grow in tropical climates and are a rich source of vitamin C. They contain a higher level of vitamin C per serving than any other fruit.

(23) CAROB POWDER

Helps in avoiding digestive problems. Carob is an astringent herb especially helpful in treating diarrhea in children. Carob is one of the very richest non-meat calcium sources. It is said to be the food that sustained John the Baptist in the desert for 40 days.

(24) CHERRY

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

(25) 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

(26) 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 anti-aging 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