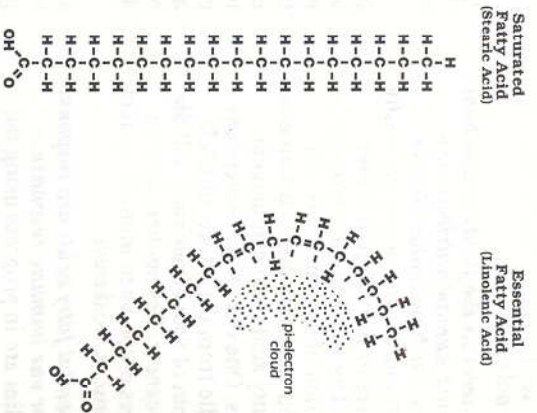


Essential Fatty Acids and the Flow of Lifeforce

These molecular diagrams illustrate the structural differences between saturated fats (SFAs) and the essential dietary oils (EFAs). The bent shape of the EFAs keeps them from dissolving into each other. They are slippery, not sticky like the SFAs, and they are liquid at body temperature.



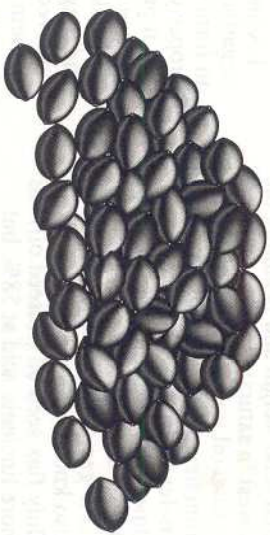
The bent structure also allows de-localized electron clouds (pi-electrons) to form in the bend on the molecular chain. The resulting electrostatic force enables the EFAs to capture oxygen molecules and hold proteins within cell membranes. And because of the pi-electron clouds, EFAs are able to form phase boundary electrical potentials between the water inside and outside the cells, and the oils within the cell membranes. Like static electricity in a capacitor these charges can produce measurable bio-electric currents important to nerve, muscle, heart and membrane functions. EFAs are extremely important to the body's overall energy exchange potential — the flow of lifeforce.

Excerpted from *Eco-Hemp: Economy & Ecology With Hemp* by Lynn Osburn,
Access Unlimited, PO Box 1900, Frazier Park, CA 93225.

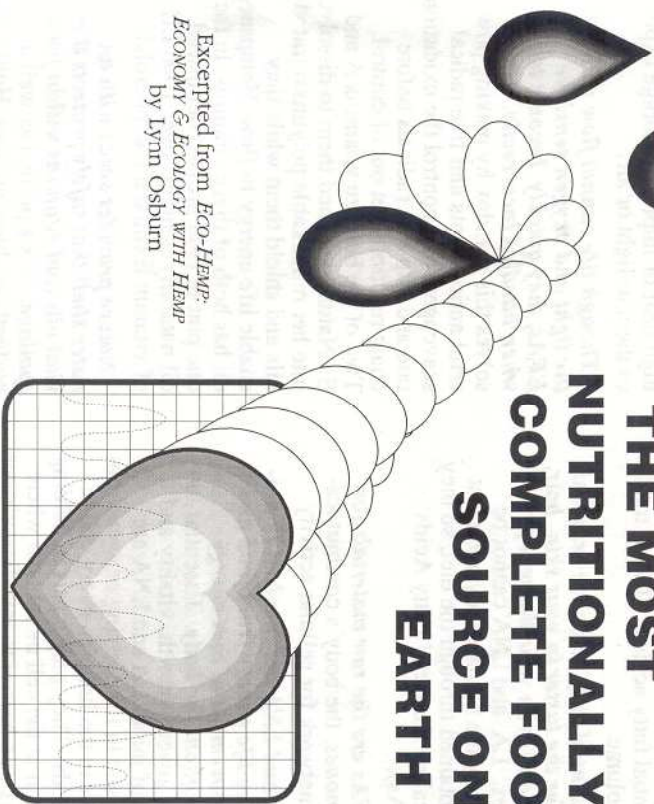
Please feel free to copy this pamphlet. Produced as a public service by:

Access Unlimited
P.O. Box 1900
Frazier Park, CA 93225

HEMP SEED



**THE MOST
NUTRITIONALLY
COMPLETE FOOD
SOURCE ON
EARTH**



Excerpted from *Eco-Hemp: Economy & Ecology With Hemp* by Lynn Osburn

Cannabis sativa seeds — traditionally called hempseed — contain all the essential amino acids and essential fatty acids necessary to maintain healthy human life. No other single plant source provides complete protein nutrition in such an easily digestible form, nor has the oils essential to life in as perfect a ratio for human health and vitality.

Hempseed is the richest source in the plant kingdom of essential fatty acids.

Hempseed oil comprises 35% of the total seed weight and is among the lowest in saturated fatty acids at 8% of total oil volume. The oil pressed from hempseed contains 55% alpha-linolenic acid (LA, also known as Omega-6), 25% alpha-linolenic acid (LNA, also known as Omega-3) and 1.7% gamma linolenic acid (GLA, also known as Super Omega 6). Only flax seed oil (linseed oil) has more linolenic acid at 58%, but hempseed oil is the highest in total essential fatty acids at 80% of total oil volume.

Essential fatty acids are responsible for the faster in your skin, hair, eyes, and even your thought processes. LA and LNA cannot be made by the human body and must be obtained through the diet, so they are called **Essential Fatty Acids (EFAs)**.

EFAs are the raw materials for hormones, the body's communication network for cellular activity.

LA and LNA are involved in producing life energy from food and the movement of that energy throughout the body. Essential fatty acids govern growth, vitality and state of mind. LA and LNA are involved in transferring oxygen from the air in the lungs to every cell in the body. They play a part in holding oxygen in the cell membrane where it acts as a barrier to invading viruses and bacteria, neither of which thrive in the presence of oxygen.

The bent shape of the essential fatty acids keeps them from dissolving into each other. They are slippery and remain liquid at body temperature, and will not clog arteries like the sticky straight shaped saturated fats and the *trans*-fatty acids in cooking oils and shortenings that are made by subjecting poly-unsaturated oils like LA and LNA to high temperatures during the refining process.

The EFA content of human body fat is inversely proportional to body weight — in other words essential fatty acids are fats that make you thin!

LA and LNA possess a slightly negative charge and have a tendency to form very thin surface layers. This property is called surface activity, and it provides the power to carry substances like toxins to the surface of the skin, intestinal tract, kidneys and lungs where they can be removed. Their very sensitivity causes them to break down rapidly into toxic compounds when refined with high heat or improper storage exposes them to light or air.

Though life cannot flow without the light and oxygen sensitive EFAs, they quickly become toxic when handled incorrectly. Nature solves this paradox by making powerful antioxidants and free radical scavengers that control the oxidation rate and trap free radicals before chain reactions get out of control.

Two of the best are vitamins A and E. Nature designed them to dissolve into her remarkable polyunsaturated oils and shield them while they enable life energy to flow. Hempseed oil has both of these vitamins. In fact one pint of cold pressed hempseed oil naturally contains over 1000 I.U. of vitamin E (mixed tocopherols).

Nature provides seeds with an outer shell that safely protects the vital oils and vitamins within from spoilage. It's a perfect as well as perfectly edible container. Hempseed can be ground into a paste similar to peanut butter only more delicate in flavor.

Udo Erasmus, Ph.D. nutritionist says: "Hemp butter puts our peanut butter to shame for nutritional value." In the old country the peasants ate hemp butter. They were more resistant to disease than the nobility. While flax seed has a very strong odor and taste, ground hempseeds can be baked into deli-

cious breads, cakes and casseroles. Hempseed makes a hearty addition to granola bars.

Pioneers in the fields of biochemistry and human nutrition now believe cardiovascular disease (CVD) and most cancers are really diseases of fatty degeneration caused by the continued over-consumption of saturated fats and refined vegetable oils that turn essential fatty acids into carcinogenic killers. One out of two Americans will die from the effects of CVD. One out of four Americans will die from cancer. Researchers believe cancers erupt when immune system response is weakened.

Essential fatty acids are responsible for our immune response.

"Studies are in progress using the essential oils to support the immune systems with victims of the H.I.V. virus. So far they have been extremely promising." —*R. Hamilton, E.D.D., Ph.D. biochemist.*

"There is startling evidence that most of our illness today results from a new kind of 'Fatty Pellagra and Beriberi' which now jeopardizes the biological and psychological fitness of every man, woman and child in modernized societies, at cost easily rivaling that of world war." —*Donald O. Rudin, M.D.*

"The superficial indicators of fatty acid deficiency are extremely prevalent in our culture. Turn on

your television and see how frequently you hear advertisements to correct dandruff, dry skin, 'combination skin,' or unmanageable hair or fingernails. Millions of dollars are being poured onto the hair, skin and nails in the form of various cosmetics, which will only cover up the symptoms of a deeper seated problem. This problem — deficiency of alpha-linolenic acid — calls for a more drastic but useful approach, that is, change your oils. ... We use these indicators of hair, skin, and nails to identify people in whom

fatty acid deficiency is one major part of frequently serious health problems. These problems cover the whole range of chronic illness, and do not fall into any particular diagnostic categories.

Depression, various neurological problems, gastrointestinal problems, a variety of painful inflammatory illnesses, and problems resulting from the tendency of blood to clot, (that is, heart attacks and stroke) are all related to similar imbalances in prostaglandin hormones that can be alleviated by correcting the balance of fatty acids in the diet" —*Sidney M. Baker, M.D.*

Hempseed, the richest vegetable source of essential oils, also provides complete protein. Hempseed gives you all the essential amino acids required to maintain health, and supplies the necessary kinds and amounts of amino acids the body needs to make human serum albumin and serum globulins like the immune enhancing gamma globulin antibodies.

The body's ability to resist and recover from illness depends upon how rapidly it can produce massive amounts of antibodies to fend off the initial attack. If the globulin protein starting material is in short supply the army of antibodies may be too small to prevent the symptoms of sickness from setting in.

The best way to insure the body has enough amino acid material to make the globulins is to eat foods high in globulin proteins. Hempseed protein is 65% globulin edestin plus quantities of albumin (present in all seeds) so its easily digestible protein is readily available in a form quite similar to that found in blood plasma.

The energy of life is in the whole seed. Hempseed foods taste great and will insure we get enough essential amino acids and essential fatty acids, to build strong bodies and immune systems, and to maintain health and vitality. *A*