

Supplements Designed for Digestion

Protein

GNLD protein is made with an **exclusive Protogard Process developed by famed toxicologist Dr. Arthur Furst**. The protein is partially broken down with enzymes at body temperature (to avoid denaturing the product).

The government measurement of quality of a protein product is based upon a test called PDCAAS (Protein Digestibility Corrected Amino Acid Score). A perfect score on this test is 1.0. **All GNLD proteins meet or surpass the perfect score—some of them significantly so. The Nourishake has a PDCAAS score of 1.3!** The high scores of the GNLD protein products are explained by the ease of digestion of the products due to the Protogard process.

Dr. Michael Colgan discusses three types of protein products which are commonly consumed:

Intact Proteins--This is the form of protein in whole foods. Supplementing with this form of protein is no different than eating whole foods like eggs, soy, or meat. Most protein supplements are provided in this form.

Free Form Amino Acids--This is a form of protein completely broken down into its amino acid building blocks.

Hydrolysates--This is a form of protein partially broken down with enzymes for easier assimilation. The protein has larger protein particles than free form amino acids.

One would think that the easiest protein for the body to use would be the free form amino acids, but this is not the case. Hydrolysates are better used, because the body has a special transport for dipeptides and tripeptides which free form amino acids can not use.

Surgery and burn victims recover faster with hydrolysate proteins. Animals consuming hydrolysate protein grow 50% faster than free form amino acid animals and 30% faster than animals consuming intact protein.

Research conducted in France by Marie Poullain found that hydrolysate protein was twice as effective as the next best form of protein supplement and seven times as effective as free form amino acids.

Hydrolysates encourage muscle growth because they stimulate a growth factor called somatomedin C.

Roger Williams at the University of Texas argued for the presence of all amino acids in a protein ration as far back as 1975. **Non-essential and essential amino acids work together to signal the body to accept the protein into its store.** Lack of nonessential amino acids makes it difficult for the body to hold onto protein.

Colgan, Michael, *Optimum Sports Nutrition*, New York: Advanced Research Press, 1993, p. 159-165.

Calcium Dissolution

Dissolution is a major problem with calcium products. The government has a standard of 75% dissolution of a calcium product within 30 minutes. **All GNLD calcium products meet this standard.** The chelated Cal-Mag product has over 100% dissolution in 30 minutes.

Common calcium supplements found on health food store and supermarket shelves often fail to meet this basic standard for quality of a calcium product. A study by the University of Maryland School of Pharmacy found that **only 39.3% of 52 major brands and only 42.9% of supermarket brands met the government's simple dissolution criteria.**

New York Times, January 27, 1988.



Mineral Absorption

In many instances mineral deficiencies manifest more rapidly than do vitamin deficiencies. Adequate mineral intake is essential for good health.

The major problem with utilization of minerals is absorption in the digestive tract. Most of the minerals we absorb are not metabolized as isolated ions. Minerals are best absorbed bonded to organic molecules. Research has shown that proteins in general and amino acids in particular make good organic sources for mineral bonding, also referred to as "chelation."

A quality mineral chelate is formed when a divalent mineral (possessing two charges) is bonded by two (2) atoms of the same organic molecule. When both molecules are the same amino acid a "dipeptide" or amino acid chelate is formed.

One study found that a zinc chelate was absorbed 2.3 times better than zinc sulfate and 3.9 times better than zinc oxide. Chelated iron was absorbed 3.8 times better than the well known and commonly used iron sulfate and 4.9 times better than iron oxide.

Chelated minerals are better absorbed than other forms of minerals and are also a good deal easier on the digestive tract.

Ashmead, et al., *Intestinal Absorption of Metal Ions and Chelates*, Springfield, Ill.: Charles C. Thomas, 1985.

Furst, Arthur, *Chelation and Cancer*, Springfield, Ill.: C. C. Thomas, 1963.

The Tre-en-en Difference

GNLD has been known since 1958 as a company with **medically developed grain and legume oil extracts**. This supplement is as desirable today as it was in 1958. Here is a summary of the story:

In the 1950's the Hollywood Stars began appearing at Hollywood Presbyterian Hospital **complaining of fatigue**. Physicians could find nothing organically wrong with these people with the tests available to them.

The hospital purchased a piece of equipment named a polarograph in an attempt to find the source of the problem. This equipment was developed by Jaroslov Heyrovsky and made it possible to conduct analysis of minute amounts of hormones in the urine. (Heyrovsky won the Nobel Prize in Chemistry in 1959 for the development of the polarograph.)

Polarograph studies indicated that **hormone chemistry in people complaining of fatigue was often suboptimal or disturbed**. Attempts to correct the abnormalities with **76 different supplements made no significant difference**.

Researchers then turned to foods. The foods being consumed by the average American simply proved inadequate to correct the disturbances being observed. Examination of food processing plants revealed that **significant parts of grains and legumes were being discarded**--studies showed that the oil extracts from these wheat, rice, and soy discards had a **powerful capacity to nourish the endocrine system**.

Researchers named their wheat, rice and soy oil concentrates tre-en-en which is Greek for "three-in-one." Studies of these nutritious concentrates over many years has shown a number of things.



Research With People

Many of the patients who were put on these supplements noticed startling increases in energy and stamina. One of the patients experiences such an improvement that when the research was completed she and her husband requested permission to make the supplement available to the world. (Her rheumatoid arthritis had gone into spontaneous remission.) This was how the GNLD company began.

The original couple's primary interest was in making the researched nutritional formulation available to doctors. He had worked as a medical detail man in the research project. Unfortunately, physicians showed very little interest in working with nutrition in 1958.

The original couple sold the formulation to Don Pickett who had been helped significantly by the products. Don realized that physicians were not going to be a good market for the product. He also realized that the product was unique, but that that **uniqueness had to be explained in order to sell the product. He developed a marketing program to reward the distributor who took time to explain the difference between this product and the 76 supplements which had not worked in the research project.**

Today the GNLD grain and legume extracts are available in 50 markets around the world.

Animal Research

Animal supplementation with tre-en-en extracts resulted in dramatically improved development. This suggests that **these oils may promote optimal development and nutrition in the young**. Nutrient utilization improved substantially with the use of these supplements.

These results supported the suggestion of the early researchers at Hollywood Presbyterian Hospital that the lipids and sterols from grains and legumes are incorporated in the membranes of cells and **facilitate the transport of nutrients into the cell and the removal of toxic metabolic wastes**.

Research on animals also suggested dramatically improved functioning of the adrenal glands (needed to cope with stress) and the male and female sex hormones.

Research With Athletes

The early researchers questioned whether the grain oil extracts they had developed would benefit only the ill, or whether this nutritional supplement would also benefit the healthiest portion of the population--high performance athletes.

Testing revealed that athletes derived little benefit from vitamin, mineral, and protein supplementation. When the grain oils were added, polarograph studies demonstrated substantial benefit.

The athletes noticed a pronounced anti-fatigue factor from the grain oil extracts. They could play and play without experiencing exhaustion. The conclusion was that grain and legume oil extracts contain important nutrients which can benefit a considerable portion of the population.

Meynell, Paul, "For Improved Metabolism," "Role of Lipids," "For Complete Metabolism," "Disease Starts in Cell," "Health: Chemical Balance," *Herald of Health*, 1959.