



CompleteGest

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Nutritional Information on Vegetable Enzymes

You may have all the nutrients - vitamins, proteins and minerals for your body, but you still need the enzymes, the life element, to keep your body alive and well.

This statement about the importance of enzymes was made by Edward Howell, M.D., a physician who has spent more than 40 years on food enzyme research. We all know that enzymes are important to health, especially to digestion, but few of us really know what enzymes are or what their function is in our bodies.

Enzymes are protein substances. They make up the largest and most highly specialized class of protein molecules.

We have billions of enzymes performing over 700 separate activities. Throughout most of the cells, it is the enzymes that do the bulk of the work. There is a special enzyme for each biochemical reaction in the body and that reaction cannot take place without the presence of that particular enzyme. Although the enzyme causes the biochemical reaction and speeds up the biochemical reaction, it is not changed by the reaction. Its action in the body is not that of a protein but of a catalyst.

Some enzymes break down old molecules while others reassemble new ones. Many can be identified by the addition of the suffix -ase to the name of the molecule on which the enzyme exerts its catalytic action, for example, arginase breaks down the amino acid arginine (into the amino acid ornithine and the

substance urea).

It has been said that as the enzymes go, so goes the entire metabolism. This can be seen in the aging phenomenon. As we grow older, the body's ability to produce enzymes apparently slows down. One of the greatest losses is the decrease in digestive enzymes. This is undoubtedly a factor in the simultaneous decrease of energy experienced by many older people.

Enzymatic action is essential in the digestion of any food.

For maximum digestion, the digestive juices are complemented by the enzymes in food. Both raw food and raw milk enthusiasts extol the virtues of these foods, one of the reasons being the abundance of living enzymes which they contain.

Dozens of different enzymes participate directly in the digestive process. There are enzymes to digest fat (lipases), to digest protein (protease), and to digest starch and carbohydrates (amylases). The action of these enzymes is necessary before proteins can be converted to amino acids, fats to fatty acids and glycerol and starches and complex carbohydrates to simple sugars. The fat-splitting enzymes are not only essential for fat digestion but



for the absorption of the fat soluble vitamins: A, D, E, K and carotene.

As Paavo Airola said, "We are not what we eat, but what we assimilate."

If we don't break food down thoroughly, it can't be properly absorbed. Instead, the undigested food passes into the colon where bacteria live on it, forming tremendous amounts of gas throughout the length of the digestive system. Absorption is dependent on the availability of enzymes. Different enzymes are secreted at different points along the digestive tract. Unless digestion and absorption are efficient, the most carefully planned diet fails to accomplish its purpose and recovery from disease is inhibited.

Dr. Airola also supported the idea of eating several small meals during the day rather than three large ones. This also helps the efficiency of the digestive enzymes. Large meals can overwhelm the body's enzyme system to the extent that much of the food cannot be utilized. Overworking or enzyme manufacturing machinery can be dangerous to our health. According to Dr. Howell, "In most people, the digestive system confiscates far more than its normal share for purposes of digestion. This 'stealing'

of enzymes from other parts of the body to service the digestive system sets up a train of deficiencies in our system" He goes on to advise that if you are a fast eater, a gulper, or you over-drink or over-worry (this interferes with digestion too), or if your teeth are inadequate, you should support your digestion with enzyme supplements.

If you can't digest protein, fat, sugar, or starch well, and you have trouble with cellulose, there is a digestive enzyme supplement which can digest these substances for you.

CompleteGest:

One capsule contains:

Proprietary Plant Enzymes Blend containing amylase, protease, lipase, lactase, phytase, cellulose, sucrase and maltase.....305 Mgs

All the enzymes in this formula are of plant origin. Incidentally, all enzyme supplements are natural. There are no synthetic enzymes. Chemists cannot make them. They can only be produced by living matter. For maximum effectiveness, take the enzymes with your meals. not afterwards.

Amylase is the group name for the enzyme family working on starch and carbohydrates. Carbohydrate digestion starts with chewing. Saliva contains amylase. (Neglecting to chew thoroughly is one of the common ways we cheat our-selves out of food value.) Amylase is also secreted by the pancreas. The amylase in the formula is used to supplement normal amylase activity. Supplemental amylase has been used for dyspepsia, flatulence and digestive insufficiencies.

Maltose is a disaccharide which is formed as an intermediate product of the action of amylases on starch. Maltase, the enzyme, acts to reduce maltose into glucose. blood sugar.

Diastase was the first enzyme ever discovered. It was the discovery of two French chemists in 1833. Diastase also helps to transform starch into simple sugars.

Papain, the famous papaya digestive enzyme, contains several enzymes that break down proteins. plus an enzyme which breaks down starch and yet another which works on fats. Bromelain, the pineapple enzyme, is often combined with papain. Bromelain and papain act sequentially to break down the proteins to amino acids. Protease is important because it is acid stable, making it functional in both the acid environment of the stomach and the alkaline environment of the small intestine (the duodenum specifically).

Lipase is a pancreatic enzyme used by the body to break down fats and oils (lipids). The body uses a very complicated process to reduce fats and oils, freeing fatty acids and then converting them to heat and energy.

Lactobacillus is a friendly bacteria which can colonize in the colon. It comes from acidophilus which is used to make yogurt from milk. It protects the colon from hostile bacteria by producing lactic acid. Lactic acid provides an acid pH which destroys "bad guy" bacteria. Vitamin K and apparently all the B vitamins can be synthesized by certain intestinal bacteria such as these obtained from yogurt and acidophilus. These bacteria have even more benefits. They help keep us regular, plus they keep the intestines clean, eliminates bad breath and flatulence, improve the complexion and reverse intestinal damage caused by antibiotic treatment.

Cellulase is the enzyme which breaks down cellulose.

Cellulose is the major structural component of the cell walls of plants. Cellulose is not normally

available to mammals as a nutrient because most mammals do not produce cellulase. Even the cellulose eaten by ruminants like cows is broken down by bacteria in the intestinal tract. The minute bits of cellulose that have been broken down by the teeth are used in the colon as a broom to sweep the waste products of digested food. (This is another reminder that you have 34 teeth in your mouth but none in your stomach.)

However, if those foods high in cellulose — cucumbers, cabbage, radishes and other vegetables, are not masticated thoroughly, they can form blockages causing gas, putrefaction and bloating. Cellulase should allow cellulose bulk intake without the accompanying gastrointestinal disturbances.

Phosphatase catalyzes the breakdown of phosphates. These mineral salts act as buffers and are intimately involved in cellular functions.

Peroxidase breaks down peroxides, bodily substances which cause fats to become rancid and hasten the accumulation of fatty particles in the bloodstream.

Linda Clark warns us that since one of the jobs of enzymes is to act as body house cleaners, there may be an initial throwing off of toxins when we charge up our enzyme system with enzyme supplementation. This could temporarily cause us some discomfort such as headache. However, enzymes themselves are not toxic but harmless. They make food more assimilate to help repair organs, glands, bones, muscles and nerves and free the body to make more metabolic enzymes as needed. Any excess is stored in the liver or muscles.