

## Schedule 4: Benefits found in Nutrients of the Barley Gold

Crude fiber	Indigestible material that stimulates the intestines to peristalsis (involuntary contraction). Soluble fiber lowers cholesterol and blood sugar levels in people with diabetes. Increased soluble fiber decreases the body's need for insulin. Insoluble fiber correlates with better protection against heart disease, softens stool effectively treating constipation, is linked with reducing risk of colon cancer, and fills the stomach reducing appetite leading to weight loss.
Acid detergent fiber	
Crude fat	Fat is essential to provide energy and support growth. See schedule re fats.
	<b>Protein</b> is essential for our growth (including bone growth) and is needed to manufacture hormones, antibodies, enzymes and tissue such as muscle.
Crude protein	
Available protein	
Soluble protein	
Available insoluble protein	
ADIN (protein)	
Non-structured carbohydrates	Carbohydrates provide fuel for the body. See schedule for re carbohydrates.
ADIN (nitrogen)	Constituent of all living tissue and crucial to life as it is a component of all proteins.
Nitrogen free extract	
Total lipids	Various substances that with proteins and carbohydrates constitute the principal structural components of living cells
	<b>Minerals</b> are needed for the body fluids, for blood, bones, for healthy nerves, an to regulate muscle tone, including those of the heart.
Calcium	A metallic element of the alkaline earth group (bone protector, helps nerve cells communicate, helps muscles contract, helps blood clot, appears to lower blood pressure and helps prevent colon cancer and PMS)
Magnesium	A metallic element (maintains bones, helps muscles relax)
Potassium	A metallic element of the alkali metal group(an electrolyte that maintains the body's fluid levels, helps regulate blood pressure and heart function)
Salt	A crystalline compound NaCl that consists of sodium chloride. It is an essential nutrient in the diet of humans. It is essential for life. One of salt's major functions is to regulate blood volume and pressure.
Sodium	An element of the alkali metal group (helps fluid balance, helps acid-base balance, helps transmitting of nerve impulses)
Copper	A metallic element (helps transport oxygen, used to make hormones)
Iron	A metallic element (important for production of hemoglobin – the part of the red cell that carries oxygen)
Manganese	A metallic element (works with enzymes to help with many cell processes)
Zinc	A metallic element (essential micronutrient for animals, strengthens immune system and supports reproduction – helps sperm develop and is needed for ovulation and fertilization)
	Twenty <b>amino acids</b> are needed to build the various proteins used in growth, repair, and maintenance of body tissues. Eleven are made by the body (nonessential): arginine, alanine, asparagines, aspartic acid, crysteine, glutamine, glutamic acid, glycine, proline, serine, tyrosine. Nine must come from diet (essential): isoleucine, leucine, lysine, phenylalanine, threonine, tryptophan, valine, histidine.

Alanine	A simple nonessential amino acid that supports prostate health.
Amino butyric acid	A natural calming and anti-epileptic agent in the brain that is manufactured from the amino acid glutamine and glucose.
Arginine	A basic amino acid that has a role in assisting wound healing, removing excess ammonia stimulating the immune function, and promoting secretion of several hormones (growth, insulin)
Crysteine	A crystalline amino acid that is a major metabolic sulfur source that helps maintain the structure of proteins in the body.
Glumatic acid	An amino acid that is the most common excitatory (stimulating) neurotransmitter in the central nervous system.
Glycine	A sweet crystalline amino acid obtained essentially by hydrolysis of proteins. It is present in considerable amounts in the prostate fluid and may play a role in maintenance of the health of the prostate.
Histidine	A semi- <b>essential</b> amino acid that is a precursor of histamine – a compound released by the immune system cells during an allergic reaction.
Isoleucine	An <b>essential</b> amino acid isometric with leucine that plays a role in the maintenance of muscle tissue and preservation of glycogens stored in the muscles. It prevents muscle break down during exercise.
Leucine	An <b>essential</b> amino acid that plays a role in the maintenance of muscle tissue and preservation of glycogens stored in the muscles. It prevents muscle break down during exercise.
Lysine	An <b>essential</b> amino acid needed for growth and to help maintain nitrogen balance. It helps the body absorb and conserve calcium.
Methionine	A sulfur-containing <b>essential</b> amino acid supplies sulfur and other compounds required by the body for normal metabolism and growth. It helps the liver process fats.
Phenylalanine	An <b>essential</b> amino acid that is converted to tyrosine – a phenolic amino acid that is a precursor of several important substances (e.g. epinephrine – a basic hormone also called adrenaline that is the principal blood-pressure raising hormone secreted by the adrenal medulla and is used as a heart stimulant, vasoconstrictor controlling hemorrhages of the skin and a muscle relaxant in bronchial asthma) Phenylalanine appears to elevate mood and also appears to influence certain chemicals in the brain that relate to pain sensations.
Proline	An amino acid that can be synthesized from glutamate.
Serine	An <b>essential</b> amino acid that occurs especially as a structural part of many proteins.
Threonine	An <b>essential</b> amino acid
Valine	An <b>essential</b> amino acid that is one of the building blocks of plant and animal proteins. It also plays a role in the maintenance of muscle tissue and preservation of glycogens stored in the muscles. It prevents muscle break down during exercise.
	Over seventy <b>fatty acids</b> have been discovered in nature. They are important for a wide array of cell structure components and for many chemical reactions in the body including energy and hormonal activities.
Linoleic	An unsaturated fatty acid essential for nutrition. Omega –6 fatty acids are derived from linoleic acid.
Linolenic	An unsaturated fatty acid Omega-3 fatty acids are derived from linolenic acid. Omega-3's are used in formation of cell walls and improve circulation and oxygen uptake with proper red cell function.
Oleic	A monounsaturated fatty acid. Omega-6 fatty acids are derived from oleic acid.
Palmitic	A saturated fatty acid
Stearic	A crystalline fatty acid