



**This is a special report compiled by Matt Lovell - Sports Nutritionist.**

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## **VITAMIN AND MINERAL LIST**

The following is a list of common nutrients and their best food sources.

When considering this list one can see the importance of variety in the diet.

Eating foods in season, organic and as fresh as possible will improve the vitamin content of your foods.

### **Vitamin A Retinol**

*Visual system, development and maintenance of skin, healthy reproduction, immune system and antioxidant activity.*

Liver, egg yolk, whole milk, butter and fish liver.

### **Beta carotene and caretenoids**

Sometimes known as pro-vitamins or precursors. The body uses beta-carotene to make vitamin A. As the body only converts what it needs; beta carotene is considered to be a safer form of vitamin A, with foods that contain it being making lower in fat, higher in fibre with a myriad of other health benefits as well.

Carrots, green leafy vegetables, yellow vegetables and orange vegetables, including: squash, yams, sweet potatoes, dried apricots, kale, spinach, broccoli spears, green peas, whitefish, ripe tomatoes, and green onions.

### **B-1 Thiamin**

*Functions as part of enzyme essential for energy production, carbohydrate metabolism and nerve cell function.*

Brewer's yeast, wheatgerm, peanuts, sunflower seeds, pork, pinenuts, soybeans, pinto and red beans, buckwheat, oatmeal, oatbran, brazilnuts, millet, lentils, mung beans, garlic, cloves, rye, and wild rice.

## **B-2 Riboflavin**

*Production of energy and required for maintenance of crucial cellular antioxidant.*

Organ meats, brewer's yeast, almonds, wheatgerm, wild rice, mushrooms, millet, mackerel, kale, and parsley.

## **B-3 Niacin**

*Production of energy, regulates blood sugar, some antioxidant and detoxification activity, regulates cholesterol.*

Brewer's yeast, rice bran, wheat bran, peanuts, turkey, chicken, trout, halibut, swordfish, salmon, brown rice, barley, pinenuts, sunflower and sesame seeds, and haddock.

The body can make B-3 from an amino acid called tryptophan. Tryptophan rich foods include milk, soy, peanuts, egg, pork, lamb, and beef.

## **B-6 Pyridoxine**

*Vital to multiplication of all cells, immune system, mucous membranes, skin and red blood cells.*

Plant foods, bananas, walnuts, beans, sunflower seeds, wheatgerm, seafood, cheddar and cottage cheese, legumes and pulses, brown rice, potatoes, prunes, barley, and most fish.

## **B-5 Pantothenic acid**

*Improves metabolism of carbohydrates and fats in energy production, used by the adrenals to manufacture adrenal hormone and required for production of red blood cells.*

Beef, pork, chicken, fish, offal, brewer's yeast, oatmeal, hazelnuts, split peas (blue cheeses) soybean flour, buckwheat flour, kale, sardines, lentils, brown rice, and cauliflower.

## **B-12 Cobalamin (product of bacterial metabolism)**

*Immune function, energy metabolism, nerve function helps make cell membrane components and neurotransmitters.*

*Found only in animal products and fermented foods such as miso, vegetarian and vegans may become deficient.*

Beef, liver, poultry, fish, eggs, Swiss cheese, blue cheese, cottage cheese, and clams.

## **Folic acid**

*Facilitates manufacture of DNA and brain neurotransmitters, reduces homocysteine along with B12 and B6.*

Green leafy plants, brewer's yeast, legumes, brown rice and rice germ, black-eyed peas, mung beans, kidney beans, lentils, oatmeal, corn, cabbage, dates, kale, soy flour, avocado, barley, broccoli, oranges, and blackberries.

## **Biotin**

*Utilisation of glucose, breakdown of fatty acids, amino acid metabolism, cell growth and replication.*

Brewer's yeast, liver, soybean, egg yolk, brown rice, peanuts, walnuts, soy products, royal jelly, beans, pulses, canned sardines, canned salmon, and bran.

## **Vitamin C**

*Manufacturer of all connective tissue, immune function, nervous system, hormone synthesis, carnitine synthesis, absorption and utilisation of other nutritional factors, important antioxidant.*

Cherries, red chilli peppers, green and red peppers, guava, papaya, oranges, cantaloupe, broccoli, cauliflower, brussel sprouts, grapefruit, strawberries, kale leaves, parsley, lemon juice, and okra (levels decline quickly once foods have been picked, sliced or boiled).

## **Vitamin E**

*Fat soluble antioxidant, stabilises cell membranes, immune enhancer.*

Wheatgerm oil, sunflower seeds, vegetable oils, seeds and their oils (cold pressed) oatmeal, rye bread, eggs, tomatoes, lamb, carrots, peas, almonds, bran asparagus, salmon, and spinach.

## **Vitamin D**

*Stimulates absorption of calcium, certain anti carcinogenic properties.*

Sardines, salmon, tuna, shrimp, butter, sunflower seeds, liver, eggs, milk (fortified) mushrooms, and cheese.

## **Vitamin K**

*Manufactures clotting factors necessary for calcification of bone.*

Derived from chlorophyll, therefore 'green' foods from plants are good sources. Turnip greens, broccoli, lettuce, watercress, asparagus, oats, raisins, green beans, and cabbage.

## **MINERALS**

### **Calcium**

*Builds healthy bones and may serve as protective factor against high blood pressure and colon cancer, required for muscle contraction.*

Non-dairy sources: kelp, carob flour, plants from the cabbage family, bok choy, bean sprouts, spinach, collard greens, mustard greens, turnip, greens, nuts (almonds, sesame, sunflower, peanut), beans (soybeans, tofu and garbanzo) oysters, shrimp, salmon with bones (take care), sardines canned with bones. Grains (tapioca, brown rice, quinoa, corn meal, rye flour).

Dairy sources: Swiss cheese, low fat cottage cheese, low fat yoghurt, skimmed milk (and powder), and all other dairy in moderation.

### **Phosphorus**

*Deficiency is rare. Excess interferes with calcium metabolism, curtail use of canned drinks and take away foods.*

Animal tissues, soft drinks, and fast foods.

### **Magnesium**

*Energy production, protein formation, cellular respiration, activates sodium potassium pump involved in proper calcium metabolism and muscle relaxant.*

Kelp, wheat bran, almonds, cashews, blackstrap molasses, buckwheat, brazilnuts, wholegrains, nuts and seeds, legumes, sea food, green vegetables, avocado, rye, crab, garlic, green peas, blackberry, sweet potato, and bananas.

### **Sodium, chloride and potassium**

*Electrolytes, mineral salts that conduct electricity when dissolved in water.*

Potatoes, bananas and other fruits.

### **Chromium (GTF)**

*Works closely with insulin facilitating the uptake of glucose into cells.*

Meats, wholegrains, brewer's yeast, calves liver, whole wheat bread, rye bread, chicken, apple, and fresh chilli.

## **Zinc**

*Immune function, protein synthesis, cell growth, wound healing, sensory functions, sexual function, skin health.*

Oysters, ginger root, lamb chops, split peas, brazil nuts, soy lecithin, black pepper, paprika, mustard, chilli powder, thyme, cinnamon, sardines, almonds, walnuts, rye, oats, tuna, anchovies, and haddock.

## **Copper**

*Involved in antioxidant enzyme system SOD, and enzyme involved in collagen and elastin crosslinking.*

Brazil nuts, almonds, hazelnuts, walnuts, pecans, buckwheat, and it also naturally occurs in zinc rich foods.

## **Iodine**

*Helps manufacture thyroid hormones, modulates effects of oestrogen on breast tissue*

Sea vegetables, seafood, clams, shrimp, haddock, salmon, sardines, pineapple, eggs, and whole-wheat bread.

## **Iron**

*Central role in red blood cells, DNA synthesis, energy production and metabolism enzyme systems.*

Kelp, brewer's yeast, blackstrap molasses, pumpkin and squash seeds, wheat-germ, millet, parsley, clams, sardines, steak, liver, lamb, eggs, and pork.

## **Manganese**

*Enzyme activity in blood sugar control, energy metabolism and thyroid hormone function. Important component of SOD antioxidant enzyme system.*

Pecans, brazil nuts, almonds, barley, rye, buckwheat, split peas, cloves, ginger, thyme, bay leaves, tea (black and green), oats, oatmeal, and raisins.

## **Selenium**

*Antioxidant, helps produce thyroid hormone, antagonistic to heavy metals.*

Butter, smoked herring, wheat-germ apple cider vinegar, scallops, barley, sea food, turnips, lamb, most meats and seafood. Choose organic where possible since the soil content dictates the content found in the vegetables and grain.

## **Essential fatty acids**

*Component of all cellular membranes, anti-inflammatory, enhances insulin metabolism.*

Essential fatty acids can be found in oily fish, nuts seeds and their oils. In particular flax, pumpkin walnut and soybean oils are good. Wild unfarmed, cold water fish such as salmon, mackerel, trout and sardines contain good amounts of essential fats. For balance of omega 3 to 6 see separate information sheet.

## **Molybdenum**

*Helps detoxify alcohol, sulfites and form uric acid through its role as an enzyme precursor.*

Buckwheat, oatmeal, wheat germ, lima beans, soybeans, navy beans, liver, peas, sunflower seeds, and lentils.

## **Vanadium**

*Glucose tolerance, inhibition of cholesterol synthesis, mineralization of bones and teeth.*

Buckwheat, parsley, soy beans, safflower oil, sunflower seed oil, olive oil, garlic, cabbage, and onions.

## **Matt Lovell**

Matt began his interest in sports at an early age starting Karate at 12. These interests led to a life-time obsession with all things training, nutritional and health related.

After gaining his instructors qualification in Karate, he went onto coach fitness at his local amateur boxing club.

After completing a degree in Political Philosophy at Bristol, Matt couldn't keep away from the health and fitness arena and qualified as a personal trainer; eventually running his own company in the City. This led to developing his other passion: nutrition. Matt undertook a further three years of study at the Institute of Optimum Nutrition.



He went on to spend time on Harley Street, specializing in elite sports, female hormonal health and body composition management.

The contacts he made through this work led to a spell, working as nutritionist with Millwall football club during which time they made the play-off for the Premiership and also qualified for the FA cup final.

In 2002 Matt started working with the England Rugby Team and was part of Clive Woodward's team that lifted the World Cup in 2003. He continues in the same role working with the England team and was a member of the team who against all the odds reached the final of the 2007 Rugby World Cup. Matt is the Sports Nutritionist for London Wasps, London Irish, Saracens and Leicester Rugby Clubs.

Matt currently runs his own elite performance based company called Perform and Function. This is aimed at elite athletes and corporations and includes all levels of health related performance.

**[Personal Sports Nutrition Coaching by Matt](#)**