

Viva!

Viva! Guide 1

Nutrition in a Nutshell

Vegetarian and vegan diets are the best – here's why

by Juliet Gellatley,
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Introduction by Audrey Eyton



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Definition of vegetarian and vegan

A vegetarian eats food that is free from any ingredients obtained from the killing of animals. A vegan eats food free from any animal products. Because there are so many foods that vegetarians eat, it's easier to state which they don't eat!

A vegetarian does not eat red meat (eg lamb, bacon, pork, beef), white meat (eg duck, chicken, turkey), fish and other watery creatures (prawns, lobsters, crabs etc), or slaughterhouse byproducts (eg animal fat, gelatine, as it is made from crushed bones, horns etc) or cochineal (crushed insects). A vegetarian may or may not eat free-range eggs, dairy products (eg cows' milk, cheese, butter, yoghurt) or honey.

- Vegetarians who choose to eat dairy products and free-range eggs, are LACTO-OVO VEGETARIANS
- Those who eat dairy products but not eggs are LACTO VEGETARIANS
- Those who eat eggs but not dairy products are OVO VEGETARIANS
- Those who avoid all animal products, including all dairy products, eggs and honey are VEGANS

If you see Viva!'s symbol on a product, you can be sure that it is vegan and so, dairy-free.



Juliet Gellatley BSc, Dip CNM, Dip DM, FNTP, NTCC, CNHC has a degree in zoology and is a qualified nutritional therapist. She founded and directs Viva! and Revive! Nutrition. She is an authority on vegetarian and vegan health and nutrition. She has given hundreds of public and school talks on these issues, as well as many media interviews. She is author and coauthor of several guides and reports including *Healthy Veggie Kids*, *Vegetarian & Vegan Mother & Baby Guide*, *Nutrition in a Nutshell*, *Mood Food*, *Pig in Hell*, *Ducks out of Water*, *Under Fire* and books *Born to be Wild*, *The Silent Ark* and *Livewire Guide to Going, Being & Staying Veggie*. Juliet is the proud mum of twin sons, Jazz and Finn.



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This is one of 20 Guides by Viva! on everything from loving your heart to a healthy veggie pregnancy; from saving animals to the soya story – for a full list please contact us.

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Introduction by Audrey Eyton

"Going vegan or vegetarian? But what about your protein? What about your health? It can't be good for you!" Or, so say some people. Wrong!

Let's compare two of today's most common diets and see which one appears better for your health.

A typical Western diet:

This diet, packed with animal products such as hot dogs, sausages and cheeseburgers, has been described by a top nutritionist as "the most atrocious diet in the world". There are scientific facts to support that opinion.

There is a great deal of evidence indicating that eating too much meat and dairy products, as well as consuming too little fruit, vegetables and complex carbohydrates, are major factors in promoting the development of heart disease, stroke and many forms of cancer. In other words, the typical Western diet is a big-league culprit in killing off the majority of people in the UK before their time.

A Western vegetarian diet:

Many scientific studies comparing vegetarians with typical Western diet-eaters have found that vegetarians are considerably healthier and less likely to suffer from a wide range of illnesses than meat-eaters, and they tend to live longer. What's more, there are apparently no illnesses to which vegetarians seem more prone to develop than are meat-eaters. Since 1898, nutritionists have been telling us that: "No single factor is more important in determining the outbreak of cancer in the predisposed than high feeding. Many indications point to gluttonous consumption of meat as likely to be especially harmful". (*Scientific American*, December 1898.)

Many more modern studies have now confirmed this early finding and have added a significant number of other diseases to the list that afflict meat-eaters more than vegetarians. The eminent *Medical Journal of Australia* (2012) states:

"Research has shown that a well-planned vegetarian diet can meet nutritional needs for good health and may reduce the risk of cancer, cardiovascular disease, metabolic syndrome, insulin resistance, type 2 diabetes, hypertension and obesity. Vegetarian diets are generally lower in saturated fat and cholesterol and higher in dietary fibre, antioxidants and phytochemicals than non-vegetarian diets. It is likely that the combination of these factors provide vegetarians with a significant health advantage."

Reid, M.A., Marsh, K.A., Zeuschner, C.L., Saunders, A.V., Baines, S.K., 2012. Meeting the nutrient reference values on a vegetarian diet. *Medical Journal of Australia* Open. 1 Suppl 2: 33-40.

In their position paper on vegetarian diets, the well-respected American Dietetic Association (ADA) notes that vegetarian diets are associated with reduced risk for a number of chronic diseases, including obesity, coronary artery disease, hypertension, type 2 diabetes, prostate and colon cancer. These diseases have become the major cause of death among adults in almost all countries – regardless of income. This follows a worldwide trend of replacing carbohydrate-rich foods (such as cereals, roots and tubers) with meat, dairy products, sugar and oil crops.

Craig, W., Mangels, A.R., American Dietetic Association, 2009. Position of the American Dietetic Association: vegetarian diets. *Journal of the American Dietetic Association*. 109 (7) 1266-1282.

Audrey Eyton is the author of several books including *The F2 Cookbook*, *The F2 Diet* and *The F-Plan Diet*, the latter being one of the fastest selling British books of all time and a worldwide multi-million copy best seller, encouraging us to eat fewer animals and more fibre. Audrey co-founded *Slimming Magazine* in 1969 – the first publication in the world to specialise in the subject. The magazine was started on practically no capital, because no one else believed there was enough to write on the subject regularly. How wrong they were! It was an instant success. She was Editor then Editorial Director before selling the business. Audrey is widely respected for her innovation in the field of diet, nutrition and health.



So why have some people got it wrong – including a lot of doctors and journalists, for that matter?

Since the beginning of the twentieth century, nutritionists advocated large protein intakes to 'assure good health'. Since the 1980s it has become evident that more protein is not better. In fact, too much animal protein can damage the kidneys, heart, bones and significantly increase the risk for colon cancer. Now, leading health authorities in Britain, the USA, Australia and other countries are agreeing on the need to shift away from animal products towards plant-based diets.

Despite all this, there is confusion, and not all of it is accidental. When a piece of research that suggests that meat-based diets are healthy makes the news, it is often found out later to be poorly done, unreliable and paid for by companies that sell animal products. Nevertheless, as doctor and nutritionist, John McDougall, M.D., states, "People love to hear good news about their bad habits," and "It is used as a justification to continue consuming the disease-inducing, standard Western diet."

It is no secret that food is a very political issue. Big companies make huge amounts of money from animal products and wield enormous power – so governments are not very willing to challenge them. There hasn't been the political will to change the national diet, even though the World Health Organisation says that's what urgently needs to happen.

But, some people say, we're meant to eat a diet based around meat

No we're not! Over millions of years, human beings have evolved to eat a diet based upon plant foods. From the very earliest times right up to the middle of the last century, the vast majority of people obtained most of their

nutrition from vegetables, fruits, wholegrains, roots, seeds, nuts and other plant-derived foods. See Viva!'s excellent guide, *Wheat-eaters or Meat-eaters*, for more information. According to William C. Roberts, M.D., the distinguished editor-in-chief of the prestigious medical publication, the *American Journal of Cardiology*: "Although human beings eat meat, we are not natural carnivores. No matter how much fat carnivores eat, they do not develop atherosclerosis [clogged arteries]. When we kill animals to eat them, they end up killing us because their flesh, which contains cholesterol and saturated fat, was never intended for human beings, who are natural herbivores."

Not only did early humans eat many times the plant food we eat today, they ate only a fraction of the animal food. So when both nature and cardiologists are in agreement, it makes sense to listen to what they say. Whatever fears people may have about a vegetarian diet, the really unhealthy way to eat is to continue consuming the typical Western diet.

A vegetarian, and better still vegan, diet is an excellent way of nourishing your body which will not only leave you pleasantly full but positively glowing with good health!



What vegetarians and vegans should have each day

No. of Servings	Foods	Healthy Portion Size	To Provide	
8-10 	Fruit & Vegetables to include: Dark Green Leafy Vegetables, Orange Vegetables, Fresh Fruit, Dried Fruits		Beta-carotene (makes vitamin A), Vitamins B2, B3, B5, B6, B9 (Folate), Vitamin C, Vitamin E, Vitamin K Minerals/trace elements such as Calcium, Iodine, Iron, Magnesium, Manganese, Phosphorus, Potassium Fibre 	
	Fresh Fruit	1 medium piece the size of a tennis ball		
	Dried Fruit	1-1½ tablespoons or 1 golf ball		
	Green or Root Veg	2-3 tablespoons or ½ tennis ball		
	Salad Veg	80g or 1 large cereal bowl		
<i>Note fruit juice only counts as 1 portion per day no matter how much you drink!</i>				
3-4 	Cereals & Grains (eg Wholemeal Pasta, Wholemeal Bread, Brown Rice, Oats, Rye, Buckwheat etc)		Vitamins such as B1, B2, B3, B5, B6 Minerals/trace elements such as Calcium, Copper, Iron, Magnesium, Manganese, Phosphorus, Potassium, Zinc Fibre Energy Protein	
	Cooked Brown Rice	2-3 heaped tablespoons or ½ teacup		
	Breakfast Cereal	25g or 1 regular sized cereal bowl		
	Wholemeal Pasta	1 cup (cooked) as side dish or 2 cups as main dish		
	Wholemeal Bread	2 slices		
2-3 	Pulses (eg all types of Peas, Beans and Lentils), Nuts and Nut Butters or Seeds		Vitamins such as B1, B2, B3, B5, B6, B9 Minerals/trace elements such as Calcium, Copper, Iron, Magnesium, Manganese, Phosphorus, Potassium, Selenium, Zinc Protein, Energy, Fibre	
	Peas, Beans and Lentils	½ cup (cooked)		
	Nuts	2 tablespoons or a small handful		
Small Amounts 	Vegetable Oil (eg Flaxseed, Hemp Seed or Rapeseed Oil, used cold; Virgin Olive Oil for cooking, Vegetable Margarines		Vitamins such as Vitamin E (Vegetable oils), Vitamins A & D (Fortified Margarine) Energy Essential Omega-3 and Omega-6 Fats (Flaxseed, Soya, Walnut and Hemp Oils)	
	½ tbsp flaxseed oil or 1 ½ tbsp of ground flaxseeds			
At Least 1	B12 Fortified Foods (essential if vegan), eg Fortified Soya Milk, Fortified Breakfast Cereal, Yeast Extract (Marmite, Meridian Yeast Extract with B12) or a B12 Supplement		Vitamin B12 	
About 1.2 litres of fluid every day (six 200ml or eight 150ml glasses) should also be consumed as part of healthy, balanced diet. Water is the best choice.				

So, what exactly is nutrition?

Whether you are a vegetarian or vegan (see definitions on page 2), variety is the key to a healthy, well-balanced diet. All food contains a mixture of nutrients in different quantities known as protein, carbohydrates (including fibre), fat, vitamins and minerals. Wholefoods contain a mix of all these nutrients, but are often grouped according to the main nutrient they provide.

Protein

Protein is vital! It forms the basis of your muscles, hair, nails and collagen (the tissue that holds your body together). It is also needed to make your brain's messengers (neurotransmitters), hormones, red blood cells and nucleic acids (DNA and RNA), which determine your inherited characteristics and play an important role in making proteins throughout your life. Protein is needed for a healthy immune system and to repair tissue.

Protein is made up of small building blocks called amino acids. Nine amino acids are classified as being essential, meaning the body cannot synthesise them and so they must be obtained from the diet; the rest are described as non-essential, indicating that the body can make them.

The protein combining myth

Most plant wholefoods contain almost all of the essential amino acids. Because plants may lack one or more amino acids a myth developed in the early 1970s that certain combinations of plant foods had to be eaten at the same meal to ensure a sufficient intake of essential amino

acids. However, it has long been known that strict "protein combining" is not necessary, provided you eat enough calories and you don't eat just one plant food all day! (American Dietetic Association, 2009.) The body maintains a pool of essential amino acids which can be used to complement dietary proteins; this is one reason why strict protein combining is no longer considered to be necessary. (*Medical Journal of Australia*, 2012, Protein and vegetarian diets.)

A vegetarian or vegan should eat a variety of plant foods each day, not just for protein but to obtain all the other nutrients needed for good health. By eating a range, you will get all

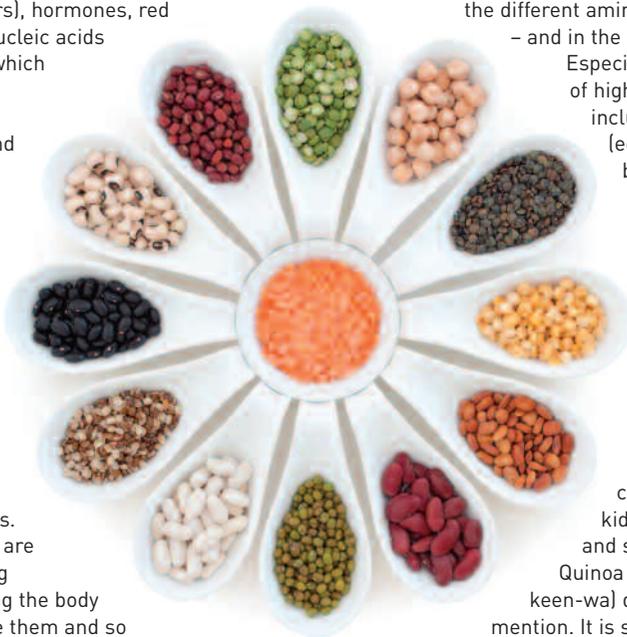
the different amino acids you need – and in the right proportions.

Especially good sources of high quality protein include soya products (eg edamame soya beans, sold frozen in many supermarkets, tofu, soya milk, veggie mince), cereals (eg brown rice, wholegrain pasta, wholemeal bread), pulses (eg baked beans, chick peas, lentils, kidney beans), nuts and seeds of all types.

Quinoa (pronounced keen-wa) deserves a special mention. It is sold in most

supermarkets and is a protein packed 'superfood' which quickly cooks and is used as you would rice. Soya, quinoa and amaranth (often used instead of rice and wheat) have all the essential amino acids.

Meat also contains all the essential amino acids, but that doesn't mean it is better for us than plant protein! Excess animal (but not vegetable) protein is linked to cancers, heart disease, osteoporosis, type 2 diabetes and kidney damage and results from eating too many animal



products such as cheese and meat. Also, eating large amounts of animal products, even lean-looking meats, means eating saturated animal fats and cholesterol. It is these artery-clogging substances which are a main cause of chronic diseases in the UK and all developed nations. Meat also contains little carbohydrate, no fibre or calcium, and few antioxidant vitamins. It has none of the important phytochemicals that protect our health. In view of all this, it is a comfort to know that a well-balanced vegan diet supplies all the protein you need. Studies of Western vegetarians and vegans of all ages show that they eat plentiful amounts of protein – more than required – reassuring whether you are a growing child or a mature adult.

How much protein do we need?

Not as much as we think – recommended amounts have more than halved in the past 30 years as several chronic diseases have been linked to eating too much animal (not plant) protein. The average adult needs to consume between 45 and 55.5 grams of protein per day. We only need 8-15 per cent of our energy (calories) as protein and this allows for a large safety margin, so most people's real needs are lower.

Carbohydrates

Carbohydrates are our main and most important source of energy and most carbohydrates are provided by plant foods. There are three types of carbohydrates:

- 1 'fast releasing'
- 2 'slow releasing'
- 3 dietary fibre

'Fast releasing' carbohydrates (simple sugars) are found in fruit, sweets, syrups and many processed foods. Much of it is refined sugar – the kind you sprinkle on your cereal – and it is best avoided, as it provides energy but no fibre, vitamins or minerals. 'Slow releasing' or complex carbohydrates (starches) are found in wholegrains (eg brown bread, brown rice, pasta, oats, barley, rye etc), some root vegetables such as potatoes, and most fresh fruit. The World Health Organisation (WHO) recommends that 55-75 per cent of our diet (as energy) should come from 'slow releasing' carbohydrates, as they are vital to good health. Foods high in complex

Protein requirements (grams needed per day)

The figures below give the recommended daily amounts of protein per age group.

Age Group (years)	Reference Nutrient Intake (RNI), g per day	
	Females	Males
1-3	14.5	14.5
7-10	28.3	28.3
11-14	41.2	42.1
15-18	45.4	55.2
19-50	45	55.5

To give you a comparison between some meat and vegetarian products, a standard 50g beef burger contains 10.2g of protein and three (90g) fish sticks 12.1g; half a can of 225g baked beans contains 11.5g of protein; an average serving of pasta (190g cooked) contains 8.5g, an average serving of kidney beans (160g cooked) 12.4g, and a small packet (25g) of peanuts contains 6.1g.

carbohydrates are an important source of fibre, calcium, iron and B vitamins.

Some people think starchy foods are fattening, but gram for gram they contain fewer than half the calories of fat. Just watch out for the added fats used when you cook and serve them: this is what increases the calorie content.

Typical meat-eaters don't get enough complex carbohydrates while vegetarians and vegans tend to get plenty.

Fibre: it's what makes you go!

Fibre comes from plant foods: fruits, vegetables, wholegrains, nuts, seeds and pulses (it is not in meat, dairy or fish). Fibre helps to keep your bowels healthy, and helps you feel full, which means you are less likely to eat too much. This makes wholegrain starchy foods a particularly good choice if you are trying to lose weight. There are two types of fibre:

Insoluble fibre

Despite its indigestible nature, insoluble fibre is essential for the digestive system to work properly. It acts like a broom in your intestines, sweeping away toxins and helping food and



waste products move through the gut more easily. Insoluble fibre is a very effective treatment and preventive for constipation and other digestive disorders such as diverticulosis and irritable bowel syndrome.

Wholegrain bread and breakfast cereals, brown rice, corn and wholewheat pasta are good sources of this kind of fibre.

Soluble fibre

This type of fibre can be partly digested and helps reduce the amount of 'bad' cholesterol in the blood. Oats, barley and other pulses (peas, beans, lentils) are good sources.

Fibre also helps prevent diseases such as colon cancer. Eating red meat frequently can increase your chances of colon cancer by 20-40 per cent! Carbohydrate-rich foods should be consumed in as unrefined form as possible; for example, brown rice not white; wholegrain spaghetti instead of white; wholemeal bread not white etc. These wholefoods are more health enhancing as they contain more fibre, minerals and vitamins.

Fats and oils

Fats can either be saturated (found in high concentrations in most animal-derived foods such as butter, hard cheeses, red and white meats etc) or unsaturated. Whilst it's best not to eat the saturated kind at all we do need the unsaturated type – the so-called essential fatty acids or

polyunsaturated fats. There are two types of essential fatty acids – omega-3 and omega-6.

These fats are essential in the diet for brain function, repairing body tissue, to carry some vitamins (vitamins A, D, E and K) and for manufacturing some hormones. Essential fatty acids are a main constituent of the brain and eyes and are vital for the healthy functioning of all cell membranes. Omega-3 is also particularly anti-inflammatory and important in combating many diseases such as heart disease and arthritis – plant omega-3s being the most powerful source (see our guide, *Fish-Free for Life: Why Plant Omega-3s are Better for You and the Environment* for more information at www.vegetarian.org.uk/guides).

The best plant source of omega-3 fats is flaxseed, also known as linseed. Try ground flaxseed (they must be ground, otherwise the seeds will go straight through your system without the fats being absorbed! – you can buy them from health shops and supermarkets). Try sprinkling them on your breakfast cereal. The other source is flaxseed oil. Don't cook with this oil as heat destroys the omega-3s; instead use it to make salad dressings and pour cold into soups/casseroles/pasta dishes etc after you have cooked them. Add about 1 teaspoonful.

Omega-3 fats are also found in hemp seeds and hemp oil (use as above), cold-pressed rapeseed (canola) oil, dark green leafy vegetables such as broccoli, some nuts (eg walnuts and

walnut oil – use cold-pressed oils unheated in salad dressings), soya beans and soya oil.

Omega-6 fats are found in seeds and their oils (again use unheated) such as sunflower, sesame, corn, grapeseed, hemp and rape, some nuts (eg pecans, pistachios, walnuts), rice bran and soya beans.

Most Western diets tend to be high in the omega-6 fats but not so high in the omega-3 fats. We are supposed to eat four times as much omega-6 as omega-3 oils – but many of us eat 15 to 30 times more omega-6 than 3. It's a good idea therefore to make sure you include a wide range of the omega-3 rich foods in your diet.

Probably the best oil to cook with is virgin olive oil. Although it does not contain omega-3 and is low in omega-6, it is high in another beneficial non-essential fatty acid (omega-9), has many health benefits and is relatively stable when heated.

Cholesterol is a fat-like substance called a sterol. It is found in all animal foods but is completely absent from all plant foods. The body can make all the cholesterol it requires so we do not need to (and should not!) include it in our diet – at all! Saturated (and hydrogenated) fats increase the level of 'bad' cholesterol in our blood while unsaturated fats can help to lower it.

Too much of the wrong kind of fat is linked to cancers and other diseases. The single biggest dietary cause of clogged arteries, high blood pressure, heart attacks and strokes is our animal fat and refined sugar-laden diet. The more of these there are in your blood, the greater your risk of getting one or all of the above diseases. One in five men and one in eight women die of heart disease in the UK (NHS, 2012) – that's how huge an epidemic there is.

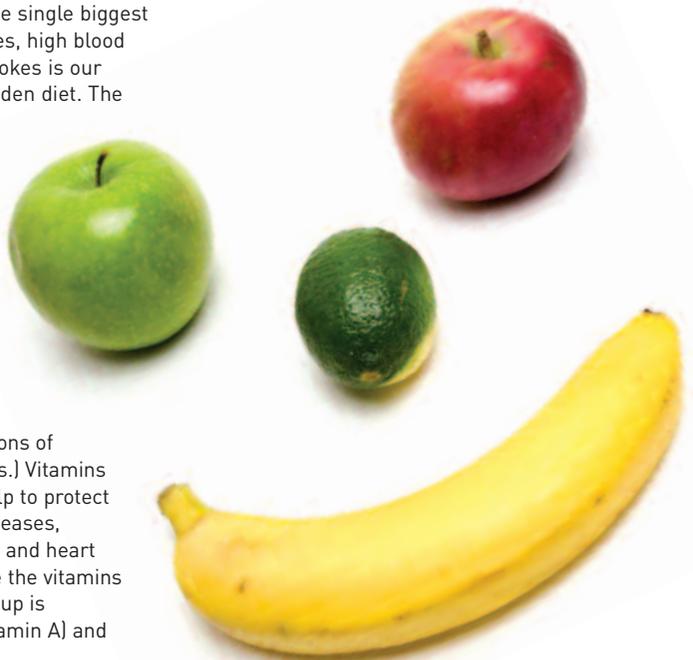
Vitamins and Minerals

(See page 11 for the vital functions of vitamins and vegetarian sources.) Vitamins in fresh fruit and vegetables help to protect us against some 60 or more diseases, including the big killers, cancer and heart disease. Especially valuable are the vitamins known as antioxidants. This group is composed of beta-carotene (vitamin A) and

vitamins C and E – the so called 'ACE' vitamins. They are found abundantly in plant foods.

Researchers at Glasgow University in Scotland have identified another family of powerful antioxidants – flavonols, including lycopenes, found only in red fruits (eg tomatoes) and vegetables. Again, there are none in meat. The reason why antioxidants are so important is that they are our main defence against damaging molecules called free radicals, which play a major role in diseases related to aging. Free radicals are molecules that have become unbalanced by losing an electron. To try and regain their missing electron, these molecules crash around like back-alley muggers, trying to steal an electron from other molecules. This theft can create a chain reaction in which DNA – the human genetic blueprint – becomes damaged and begins to produce diseased cells, which can lead to many diseases from cancer to dementia.

High-temperature cooking – in particular, the frying or searing of meat – can damage our health. Researchers cooked beef burgers, bacon and soya burgers and found that both the beef burgers and bacon produced significant amounts of the most damaging free radicals while the soya burger produced virtually none.



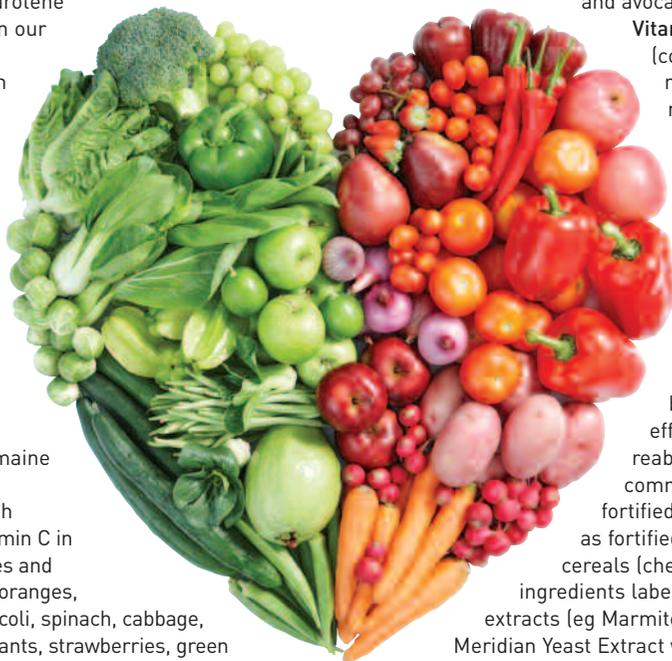
Antioxidants are the 'heroes' who neutralize the damaging free radicals, and so protect the body against diseases. Antioxidant vitamins are mainly found in fresh fruit and vegetables, and vegetarians and vegans usually eat much more fresh fruit and vegetables than meat-eaters. This is probably one big reason why vegans are usually healthier and tend to live longer. To assure yourself an ample supply of these valuable vitamins, be sure that you eat a reasonably varied diet and don't live on chips and sweets! Eat a variety of foods such as fresh fruits, vegetables, wholegrains (eg wholemeal bread, brown rice, wholemeal pasta), all types of beans, as well as healthy snacks such as your favourite nuts, seeds or dried fruits.

Some of the most notable vitamins and minerals include:

Vitamins A, C and E

Vegetarians and vegans get plenty of vitamin A from eating foods containing beta-carotene. We convert beta-carotene into vitamin A in our bodies. Beta-carotene is high in carrots, sweet potatoes, red/yellow peppers, tomatoes, green leafy vegetables, watercress, mangoes, apricots, pumpkins, cantaloupe melons and romaine lettuce.

You'll find high amounts of vitamin C in kiwi fruit, berries and currants, fresh oranges, grapefruit, broccoli, spinach, cabbage, peas, blackcurrants, strawberries, green peppers and other fruit and vegetables. It's not in meat. The antioxidant, vitamin E can be found in vegetable oils, wholegrains, tomatoes, nuts esp. almonds, asparagus, spinach, apples, carrots, celery and avocados.



The B Vitamins

These vital vitamins comprise B1 (thiamin), B2 (riboflavin), B3 (niacin), B5 (pantothenic acid), B6 (pyridoxine), B7 (biotin), B9 (folic acid) and B12 (cobalamin). Many B vitamins are involved in releasing energy from food and help to aid growth and repair of the body. They are widely available in wholegrains including wholemeal bread, brown rice and wholemeal pasta, yeast extracts (eg Marmite or low salt Meridian Yeast Extract with Added B12), pulses (peas, beans, lentils), nuts, seeds, dark green leafy vegetables, avocados and bananas. Many breakfast cereals are also fortified with B vitamins.

Folic acid is required for protein synthesis, formation of blood, metabolism of DNA and helps prevent neural tube defects in the developing foetus. It is therefore necessary before conception and during early pregnancy to help prevent this condition. It is found widely in most vegetables especially dark green leafy vegetables, nuts, pulses (peas, beans, lentils) and avocados.

Vitamin B12

(cobalamin) is required for the maintenance of a healthy nervous system and normal blood formation. The liver has stores of B12 lasting up to three years and the body is also very efficient at reabsorbing it. Many common foods are fortified with B12 such as fortified breakfast cereals (check the ingredients label), yeast extracts (eg Marmite or low salt Meridian Yeast Extract with Added B12), vegetable margarines and soya milk. Ensure a daily serving of these types of food or take a daily B12 supplement.

Vitamins B6, B12 and folic acid are also necessary for helping to keep the arteries healthy.

Calcium

Calcium is important for healthy bones and teeth and for the working of muscles. It is virtually absent from meat products. Excessive amounts of animal protein (from meat, milk, fish and eggs) in the diet can actually leach calcium from the bones – weakening the skeleton and leading to osteoporosis. This is because animal protein contains sulphur amino acids which form sulphuric acid in the body. We counter this acidifying impact by releasing calcium from our bones. Ironically, nations that consume the most cows' milk have the highest incidences of fractures due to osteoporosis. (See our *Break-Free* materials at www.viva.org.uk/health/.)

Therefore it is much healthier to obtain calcium from plants than from dairy. Calcium is found in dark green leafy vegetables such as broccoli, kale, watercress and cabbage, pulses, dried fruits, tahini (sesame seed butter used to make hummus) and nuts and seeds (particularly almonds and sesame seeds). Many soya milks

are fortified with calcium so that they contain a similar amount as cows' milk.

Iron

Iron deficiency affects one in eight women of child-bearing age in the UK (who lose iron each month in the menstrual flow). However, all the world's leading health advisory bodies agree that meat-eaters are just as likely to suffer from iron deficiency anaemia as vegetarians. Everyone – especially women – should ensure a good supply of iron in their diet. It's needed for healthy red blood cells to transport oxygen to all parts of the body. Good sources of iron include baked beans, wholemeal bread, leafy green vegetables, dried fruit (particularly apricots and figs), cocoa, pulses (all types of beans, peas, lentils) and pumpkin seeds. Vitamin C increases the absorption of iron by a massive factor of four – another reason why fresh vegetables and fruits are so important in the diet.

Many reputable health organisations including the World Health Organisation, American Dietetic Association, Australian Medical Association and the British Medical Association, all agree that vegetarian and vegan diets can lead to superb states of health. Any person who changes to a completely plant-based diet is greatly improving their chance of avoiding a number of deadly diseases. In the process you will help to bring an end to the horrors of factory farming and help to stop the onslaught which is destroying the world's oceans; you will also begin to offer hope to the world's starving peoples and will help the environment start to recover.

Veggie Vitamins and Other Good Things!

Vitamin A

(Beta-Carotene)

Antioxidant

Vision, bone and teeth development, growth and tissue repair

Carrots, Sweet

Potatoes,

Red/Yellow

Peppers, Tomatoes,

Green Leafy Vegetables,

Watercress, Mangoes, Apricots,

Pumpkins, Cantaloupe Melon,

Romaine Lettuce



B Group Vitamins

B1 Thiamin, B2 Riboflavin, B3 Niacin, B5 Pantothenic Acid, B6 Pyridoxine, Biotin, Folic Acid
Absorption of energy, protein and fats, cell growth and nerve function

Brazil Nuts, Hazelnuts,

Almonds, Green Leafy

Vegetables, Brewer's Yeast,

Wholegrains, Beansprouts,

Broad Beans, Bananas,

Avocados, Mushrooms,

Wheatgerm, Currants, Soya

Mock Meats, Yeast Extract,

Peanuts, Peas

Vitamin B12

Nerve formation, red blood cell production and allows us to use nutrients such as protein

Fortified products, including Soya Milks, Yeast Extract (eg Marmite), Breakfast Cereals and Margarines, Soya Mock Meats or take a daily supplement



Vitamin C

For healthy skin, teeth, bones and connective tissue. Aids iron absorption, important in disease resistance and for proper functioning of the immune system

Oranges, Grapefruit, Broccoli, Spinach, Cabbage, Blackcurrants, Strawberries, Green Peppers



Vitamin D

Essential for the absorption of calcium and phosphate. (Sunlight enables the body to make Vitamin D in the skin). Supports the immune system
Sunlight on the skin, Fortified Margarine, Fortified Breakfast Cereals, Fortified Soya Milk

Vitamin E

Antioxidant
Helps protect the skin from UV damage; needed for lung membranes; stops fats in cell membranes going rancid

Vegetable Oils, Wheatgerm, Wholegrains, Tomatoes, Nuts (esp. Almonds), Sunflower and other Seeds, Avocados, Asparagus, Spinach, Apples, Carrots, Celery



Vitamin K

Essential for blood clotting. Half our requirements can be made by bacteria in the gut
Broccoli, Lettuce, Cabbage, Spinach



Calcium

Bone and teeth structure; muscle contractions; blood clotting and nervous system. Also vital to some hormones
Sesame Seeds and other seeds, Pulses (Tofu from Soya, all types of Beans, Peas, Lentils), Broccoli, Watercress and other Green Leafy Veg, Swede, Almonds, Brazil Nuts, Fortified Soya Milk

Iron

Vital for red blood cell production to transport oxygen around the body and energy production
Beans, Lentils, Peas, Broccoli, Spinach, Cabbage, Wholegrains, Dried Apricots, Prunes, Figs, Dates, Pumpkin Seeds, Black Treacle, Cocoa, Turmeric, Thyme

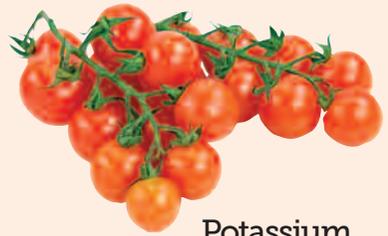
Iodine

Makes thyroid hormones: vital for regulating metabolism
Green Leafy Vegetables, Asparagus, Sea Vegetables (eg Kelp), Vecon Vegetable Stock, Strawberries



Magnesium

Skeletal formation, metabolism, production of DNA, energy and muscle and nerve function
Green Leafy Vegetables, Nuts (eg Cashews, Almonds), Avocados, Wholegrains, Bananas, Apricots, Apples, Prunes



Potassium

Fluid balance, muscle and nerve impulse function, heart muscle function
Fennel, Brussel Sprouts, Broccoli, Aubergine, Cantaloupe Melon, Tomatoes, Parsley, Cucumber, Turmeric, Apricots, Ginger Root, Strawberries, Avocados, Bananas, Cauliflower, Cabbage, Almonds



Zinc

Involved in metabolism, wound healing and immunity. Also essential for healthy sperm, skin, taste and smell!
Lentils, Peas, Beans (inc Tofu from Soya), Wholegrains (eg Rice, Bread etc), Green Leafy Veg, Nuts and Seeds (esp. Pumpkin Seeds), Brewer's Yeast, Basil, Thyme

Others

Selenium, Cobalt, Copper, Manganese, Molybdenum
Dental, skeleton and skin health, hair and red blood cell growth and metabolism
Spinach, Broccoli, Peas, Beans, Lentils, Brewers Yeast, Almonds, Bananas, Potatoes, Wholegrains, Legumes, Beans, Seaweeds

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