Vegetarianism
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**Exploring issues – worksheets and activities**  
**Fast facts**  
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Vegetarianism is Volume 339 in the ‘Issues in Society’ series of educational resource books. The aim of this series is to offer current, diverse information about important issues in our world, from an Australian perspective.

**KEY ISSUES IN THIS TOPIC**

A growing number of Australians are adopting alternative diets to improve their health or address ethical concerns. As a dietary choice, vegetarianism attracts interest and debate over its responses to environmental sustainability, health and animal cruelty. There are many different forms of vegetarianism (including veganism), and many reasons why people choose a vegetarian lifestyle.

This book presents a range of information, much of it contributed by organisations which advocate vegetarianism. What benefits does a vegetarian diet have over one which includes meat? How are the nutritional needs of vegetarians met, particularly among children and young people? What are the facts and myths surrounding vegetarian and vegan diets?

**SOURCES OF INFORMATION**

Titles in the ‘Issues in Society’ series are individual resource books which provide an overview on a specific subject comprised of facts and opinions.

The information in this resource book is not from any single author, publication or organisation. The unique value of the ‘Issues in Society’ series lies in its diversity of content and perspectives.

The content comes from a wide variety of sources and includes:

➤ Newspaper reports and opinion pieces
➤ Website fact sheets
➤ Magazine and journal articles
➤ Statistics and surveys
➤ Government reports
➤ Literature from special interest groups

**CRITICAL EVALUATION**

As the information reproduced in this book is from a number of different sources, readers should always be aware of the origin of the text and whether or not the source is likely to be expressing a particular bias or agenda.

It is hoped that, as you read about the many aspects of the issues explored in this book, you will critically evaluate the information presented. In some cases, it is important that you decide whether you are being presented with facts or opinions. Does the writer give a biased or an unbiased report? If an opinion is being expressed, do you agree with the writer?

**EXPLORING ISSUES**

The ‘Exploring issues’ section at the back of this book features a range of ready-to-use worksheets relating to the articles and issues raised in this book. The activities and exercises in these worksheets are suitable for use by students at middle secondary school level and beyond.

**FURTHER RESEARCH**

This title offers a useful starting point for those who need convenient access to information about the issues involved. However, it is only a starting point. The ‘Web links’ section at the back of this book contains a list of useful websites which you can access for more reading on the topic.
Chapter 1

Reasons for choosing a vegetarian diet

WHAT DO ‘VEGETARIAN’ AND ‘VEGAN’ MEAN?

Vegetarian Victoria offers these definitions to dispel the misconceptions

**Definition of ‘vegetarianism’**

There are many different forms of vegetarianism (which often causes confusion!). A general definition of ‘vegetarianism’ is:

Vegetarianism is the practice of living on products of the plant kingdom, with or without the use of eggs and dairy products, but excluding entirely the consumption of any part of the body of an animal as food (including chicken, fish and seafood). The term ‘vegetarian’ means a person who follows such practice, or describes such a person, creature, establishment or food pertaining to vegetarianism.

The term ‘vegetarian’ comes from *vegetus*, the Latin for ‘enlivened’, and has no connection, apart from a linguistic one, with vegetables. This is a common misconception.

See the table on the next page for definitions of the various types of vegetarians.

**Definition of ‘veganism’**

In a nutshell, ‘veganism’ may be defined as a way of living which seeks to exclude all animal products for food, clothing, or any other purpose.

The Vegan Society of New South Wales defines ‘veganism’ the following way:

Veganism is a way of living on the products of the plant kingdom to the exclusion of all products from the animal kingdom. A vegan is a total vegetarian who consumes no animal by-products.

Vegans go even further by avoiding both animal derivatives and animal-tested products in their whole lifestyle. This means an avoidance of meat, milk, eggs, butter etc, as well as leather, wool, cosmetics, soaps and shampoos derived from animal ingredients or tested on animals.

Why? Most people who have chosen a vegan lifestyle have done so because they have become aware of the cruelty and exploitation involved in the making of animal products.

Vegans choose to act positively to reduce this cruelty by abstaining from animal-derived products and thereby reducing the demand for them. Vegans realise that it is unnecessary to inflict suffering on animals in order to lead a healthy, happy, normal life.

Indeed, avoidance of animal products usually results in enhanced, natural good health.

Coupled with compassion for animals is the awareness that animal production is a grossly inefficient means of producing food which our heavily populated world can no longer continue to support.
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<th>Types of Vegetarians</th>
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<tr>
<td>Pesco- and Pollo-Vegetarian</td>
<td>Pesco-Vegetarians eat fish, and Pollo-Vegetarians eat chicken, but all other meats are avoided. These diets are not, strictly speaking, vegetarian. To avoid confusion about the term ‘vegetarian’, perhaps the correct classification should be ‘Pesco’ and ‘Pollo’ Omnivores.</td>
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<tr>
<td>‘Semi’ or ‘Demi’ Vegetarian or Flexitarian</td>
<td>‘Semi’ or ‘Demi’ Vegetarians or Flexitarians are people who eat mainly vegetarian food, but who occasionally eat meat and/or other animal products (e.g. for social, practical or cultural reasons). They are not, strictly speaking, Vegetarian.</td>
</tr>
<tr>
<td>Lacto-Ovo-Vegetarian</td>
<td>Lacto-Ovo-Vegetarians do not eat meat, poultry, fish or seafood. Milk, dairy products and eggs are still consumed (lacto – milk; ovo – eggs). (Some Lacto-Ovo-Vegetarians eat foods that contain gelatine, animal-derived rennet, animal fat, etc, but these products are technically not suitable for Vegetarians.)</td>
</tr>
<tr>
<td>Lacto- and Ovo-Vegetarian</td>
<td>Both Lacto-Vegetarians and Ovo-Vegetarians do not eat meat, poultry, fish or seafood. Lacto-Vegetarians still consume milk and dairy products, and Ovo-Vegetarians still consume eggs (lacto – milk; ovo – eggs). (Some Lacto-Vegetarians and Ovo-Vegetarians eat foods that contain gelatine, animal-derived rennet, animal fat, etc, but these products are technically not suitable for Vegetarians.)</td>
</tr>
<tr>
<td>Pure Vegetarian</td>
<td>Pure Vegetarians do not eat meat, poultry, fish, seafood, milk, dairy products or eggs. The diet comprises vegetables, vegetable oils, cereals, legumes (peas and beans), nuts, fruit and seeds. Honey is usually seen as being optional. This diet is not as ‘boring’ as it sounds due to the wide range of meat alternatives, non-dairy yogurts and ice-creams, biscuits, chocolates, etc, available that are completely free of any animal products.</td>
</tr>
<tr>
<td>Vegan</td>
<td>Vegans are Pure Vegetarians who exclude animal products from their entire lifestyle (e.g. wool, leather, soaps that contain animal fats, products tested on animals, etc).</td>
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<tr>
<td>Fruitarian</td>
<td>Fruitarians are Vegans who eat only the ripe fruits* of plants and trees, i.e. foods that can be harvested without killing plants or trees. These foods consist primarily of culinary fruits, nuts, and seeds. Some Fruitarians will eat only what falls naturally from a plant or tree. As with other dietary practices, such as raw foodism, some people consider themselves Fruitarian even if their diet is not 100% fruit. Usually Fruitarians who include foods other than fruit follow a Vegan diet.</td>
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* The term ‘fruit’ usually refers to plant fruits that are sweet and fleshy (including plums, apples, and oranges), but (botanically) also includes other fruits that are commonly called ‘vegetables’ (including capsicum, tomato, and cucumber), as well as nuts, legumes and grains.
GO VEGETARIAN NOW!

There is something you can do that will ease the burden on the planet’s resources and dramatically improve your health, says the Australian Vegetarian Society.

Think about it. The human population of the Earth has doubled since 1960 to over 6 billion. The stress this will place on food resources is enormous. Do you feel powerless? Don’t. There is something you can do that will ease the burden on the Earth’s resources, help to feed millions of people, dramatically improve your health and save literally billions of animals from pain, terror and death.

It’s simple ... Go vegetarian!

It’s healthier

Vegetarians are healthier than people who eat meat. It’s a fact. Scientific studies show that vegetarians suffer much less from illnesses like cancer, heart disease, high blood pressure and other common health problems. A major Chinese study of 6,500 people (The China Study) showed that the less animal products eaten, the healthier people were. A major study reported in the British Medical Journal found that, of 5,000 meat eaters and 6,000 non-meat eaters, vegetarians have 40% less risk of cancer and 30% less risk of heart disease than the meat eaters and were 20% less likely to die of any cause (Oxford Vegetarian Study). A US study of 50,000 vegetarians showed a very low rate of cancer (Adventist Mortality Study). It has been estimated that by following a low-fat vegetarian diet, the risk of food poisoning is decreased by 80%. More evidence of the benefits of a vegetarian diet is being found each year.

It’s humane

More than 50 billion animals are systematically killed in slaughterhouses around the world each year (over seven times the human population!). It is nothing more than an undercover massacre which we, as consumers, contribute to by distancing ourselves from the truth. Animals suffer enormously in the process. Quite apart from the terror of being killed, they undergo pain and fear through routine stock mutilations and during transportation to saleyards and abattoirs.

Most animals eaten in Australia today are intensively raised in dark, sunless sheds where they are fed a diet of processed foods. In most cases antibiotics and growth-promotants are routinely administered. These animals are treated as little more than meat machines. We would be horrified if our pet cat or dog was treated in this way, so why do we subject other animals to such cruelty?

Most animals eaten in Australia today are intensively raised in dark, sunless sheds where they are fed a diet of processed foods.

It’s economical

Meat is expensive to produce, both economically and agriculturally. With so many starving people in the world today it is a criminal waste of food to produce it. Meat animals are fed perfectly good plant food which could have been fed directly to starving people. For instance, it takes 17 kilos of corn, beans, grains, etc, to produce one kilo of beef in feedlot cattle. This is like investing $17.00 in a bank term deposit and withdrawing $1.00 at maturity!

Europe imports 70% of its protein for animal feed. This is on top of using large proportions of its own arable land. Much of these imported feedstuffs come from countries suffering from poverty or environmental degradation. 95% of world soybean and one third of world grain production is used for animal feed, utilising massive reserves of land.

The fact that the killing is done by someone else makes it easy to eat meat but, by eating it, we are really condemning the next animal in line to satisfy consumer demand. Have you ever really stopped to think about the cruelty we systematically inflict on other species simply by eating them?

It’s economical

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Much of the water used for agriculture is not recoverable because it passes through the plants and evaporates from the leaves and stem. Large amounts of water are consumed per hectare of crop. Estimates show that one hectare of corn requires 4 million litres of water in the growing season while another 2 million litres of water evaporates from the soil. Soybeans need 4.6 million litres per hectare and wheat needs 2.4 million litres per hectare.

Taking into account the large amounts of feed that highly productive food animals need to eat, it has been
calculated that 1 kilogram of animal protein typically takes 100 times as much water to produce as 1 kilogram of plant protein. To take the example of beef, the production of 1 kilogram of beef would need 100 kilogramsm of forage and 4 kilograms of grain. This means that the production of 1 kilogram of beef takes between 100,000 and 200,000 litres of water, depending on the growing conditions. 87% of the fresh water consumed worldwide is used for agriculture. Clearly meat production is a very inefficient use of water.

**It's environmentally responsible**

Global warming, or the greenhouse effect, is a natural process in which gases in our atmosphere absorb heat radiated from the earth and re-radiate it, preventing the earth from losing all its heat back into space. It is not clear how much global warming is due to emissions of human-generated greenhouse gases (typically carbon dioxide) which increases the natural greenhouse effect but it is certain that we are generating large quantities of greenhouse gases from intensive animal farming.

Animal production involves the emission of carbon dioxide from the use of fossil fuel energy, nitrous oxide emissions from the use of inorganic fertiliser and methane emission from cattle digestion and manure. All farm animals produce carbon dioxide by normal respiration. The amounts emitted by one animal per year are about 4,000 kilograms for cattle, 400 kilograms for sheep and 450 kilograms for pigs. This compares with about 300 kilograms for a human being and 5,500 kilograms for a typical passenger car.

Methane is a much more potent greenhouse gas than carbon dioxide (in fact 20 times more potent). Although its concentration in the atmosphere is relatively small. It is increasing by almost 1% per year. Farm animals and animal manure contribute about 87 million tonnes a year, about 15% of all methane production worldwide.

The United Nations Food and Agriculture Organization report, *Livestock’s Long Shadow* concludes that global animal agriculture contributes more greenhouse gas emissions (in CO2 equivalents) – an astonishing 18% of the total – than all forms of transportation (13%).

Nitrous oxide also contributes to the greenhouse effect as well as depleting the ozone layer. A 1994 report estimated that 80% of the current annual increase in nitrous oxide production is due to agriculture. Oxides of nitrogen are also one of the major causes of acid rain. The vast majority of ammonia gas is also produced by farming and is responsible for nitrate leaching and acid rain.

In Central America, entire forests are felled or burnt to provide land for grazing cattle. Most of these cattle end up as second-quality hamburger meat for the North American junk food market. Being hard-hooved, cattle erode vulnerable topsoil, while each animal produces over 300 litres of methane per day. Also, the trees which are felled to clear land for cattle ranching are left to rot. The termites which then feed on them produce even more methane than the cattle. Weight for weight, cattle alone outweigh the entire human population of our planet! In fact there is not one, but two, population explosions – human and animal.

The effluent produced by intensive piggeries, cattle feedlots and chicken broiler units is polluting our increasingly fragile waterways and producing huge amounts of nitrates and ammonia. These animals are fed high nutrient food to achieve high productivity. As a result of this demand for animal feed over three quarters of agricultural land is given over to animal feed production or grazing. The effluent produced by these animals in the relatively small area of land that they occupy become pollutants in the general environment.

There is a direct link between the demand for high productivity meat production and environmental pollution, both atmospheric (methane and ammonia) and of waterways (nitrates). For each European, there are 2 to 3 tonnes of manure produced by the very animals they eat.

Fish farming (or ‘aquaculture’) is the fastest growing sector of the world food economy, increasing by 11% a year. This growth was expected to relieve pressure on ocean fish stocks, most of which are now fished beyond capacity, and to provide a reliable source of food to a world population that adds 78 million people each year. Paradoxically, new studies show that the increasing trend toward farming carnivorous fish means that many types of fish farming are contributing to a worldwide collapse of wild fisheries. Production of a single kilogram of fish-eating species such as shrimp, salmon, tuna or cod demands between 2 and 5 kilograms of wild-caught fish that is processed into meal and oil for feeds.

Traditional aquaculture – which is farming fish that eat plants and bottom muck – is being replaced by modern intensive farming of large, carnivorous fish because overfishing has decimated these fish in the
wild. This has lead to the situation of catching fish to feed fish. Instead of alleviating over-fishing, fish farming is actually making it much worse. A University of Chicago study found that aquaculture was as much a strain on the environment as beef production and that the average American diet requires the production of an extra ton and a half of carbon dioxide-equivalent (in the form of actual carbon dioxide as well as methane and other greenhouse gases) compared to a strictly vegetarian diet.

**EXPLODING SOME MYTHS**

Understandably, people are a bit apprehensive about changing their diet. Everyone seems to know ‘someone’ who looks as pale as a bleached potato since giving up meat! The truth is that a well-balanced vegetarian diet provides all the protein and nutrients needed for a vigorous and healthy life (American Dietary Association study). What is seldom pointed out are the millions of conventional eaters who suffer from constipation, obesity, diabetes, diverticulitis, gout and a host of other problems and diseases brought on by a lack of fresh fruit and vegetables in their diet, combined with the adverse effects of meat.

A study carried out by the University of Surrey in Britain found that vegetarians were better nourished than meat eaters, and much closer to the ideal diet recommended by the government’s own health advisers.

**Aren’t we designed to eat meat?**

While we are omnivorous, we are far closer to herbivores than carnivores. Many people say that we are meat eaters because we have four sharp canine teeth. This is like judging a book by its cover. Look inside and you’ll find out what is really going on.

Our digestive system resembles that of the herbivores and the frugivores (fruit eaters). It consists of a very long intestine allowing slow digestion of nutrients. By contrast, carnivores have a short digestive tract designed so that meat can quickly pass through the body before it putrefies and becomes toxic. To compensate for this rapid transition, carnivores have a stomach acid concentration ten times greater than that of vegetarian mammals (including humans) to enable them to quickly digest the meat.

When humans eat meat it begins to putrefy before leaving the body, often resulting in disorders as diverse as constipation and bowel cancer if eaten persistently over a period of time and without sufficient fibre. Sure, the more fibre eaten with meat, the quicker it passes through the intestine, but why eat meat at all? Only vegetable matter contains fibre and a good vegetarian diet provides all the fibre the body needs without having to add extra ‘artificially’. If you are serious about lowering your cholesterol intake, a vegetarian diet is the best way to go since only animal products contain cholesterol.

**What do I eat?**

Most people imagine vegetarian eating to be ‘meat and two veg’, minus the meat. To a conventional meat eater this sounds like someone being sold a car with the engine missing! Nothing could be further from the truth. Vegetarian eating is about eating a wide variety of food prepared in an abundance of different ways.

Being a good vegetarian means being adventurous and open-minded about food. It is not simply about eating a predictable menu, day in, day out. Many vegetarian staples had their origin in different countries hundreds of years ago ... pasta from China (and later Italy), tofu from Japan and China, and tempeh from Indonesia. All of these can be bought at health food stores and supermarkets. These are not merely substitutes for meat, but nutritious foods in themselves which have proved to be an excellent source of protein for centuries.

**Where do I get my protein?**

Protein is naturally very plentiful. It occurs in every living thing, plant and animal. Apart from fruit and vegetables, good sources of protein include pasta, lentils, rice, potatoes, soy beans, chickpeas, nuts, seeds (almonds contain 20% protein by weight) and grains, with or without the moderate use of eggs and dairy products. The amount you need depends on different personal attributes (weight, height, etc) and the daily requirement varies considerably from 20 to 90 grams per day. By eating a variety of food each day you should easily meet your individual requirements.

In fact, the nutritional attitude to protein has changed dramatically in recent years. The old-fashioned notion that “you can never get too much protein” has been proved wrong. Excess protein not used by the body has to be broken down and excreted as waste. In fact, a major culprit in many human degenerative diseases is a protein overdose. For example, calcium loss in osteoporosis has been linked largely to an excess of high-protein foods.

**What about minerals like iron and calcium?**

A sound vegetarian diet should provide all needed nutrients. The presence of vitamin C with iron in the diet will help iron absorption by up to 30%. It is a myth that you have to eat meat to get sufficient iron. It is readily available in breakfast cereals, whole grains, legumes and leafy green vegetables and fruits such as prunes. Tiredness is not necessarily caused by iron deficiency.

It may also be caused by lack of sleep, depression, stress and poor (usually junk food) eating habits. Calcium is found in all unprocessed vegetable foods in amounts that are sufficient to meet the needs of both adults and growing children. Good sources of calcium are sesame seeds, tofu, soy beans, parsley, green vegetables, fortified soy milk and seaweed. A recent dietary study of 6,500 Chinese found that even those who ate no animal products actually consumed twice the amount of iron as the average North American. In spite of the fact that dairy products were not eaten, osteoporosis was almost unknown. In fact, too much animal protein leaches calcium from the bones, causing it to be excreted in the urine.
How do I start?
The best place to start going vegetarian is in the kitchen! Buy a cookbook and start preparing... you will soon get used to the types of food that are used and how they are prepared (a number of excellent recipe books are available). Also, your taste for vegetarian food will adapt. If you are doubtful about your abilities as a cook you can enrol in cooking classes. Information about these is often available in health food shops and some courses are run at TAFE colleges. The Vegetarian Society has a list of recommended classes.

Giving up meat might seem strange at first, but so does giving up tobacco to the cigarette addict! If you feel that you can’t drop meats straight away, try cutting it down bit by bit. Just increase your use of foods like beans, grains, nuts, seeds, tofu, tempeh, gluten and some of the many low cholesterol convenience foods (like veggie burgers and sausages) now available at health food stores and supermarkets.

Why do so many people eat meat?
Meat-eating in the quantity our society eats it today really began with the Industrial Revolution. Better machines led to more efficient agriculture. When a surplus of crops was produced, this was fed to animals and the animals eaten by those who could afford meat. Thus meat became something of a status symbol. Unfortunately, the status symbol developed into a habit so that most of us in the wealthier countries think that is a normal part of our diet. In the 21st century it is high time we turned back to the healthier, less wasteful diet of our forebears.

Today the meat and dairy industries promote the myth of their products being necessary through heavy advertising (you only have to count the times they appear on television to see that!). Close behind them are the pharmaceutical companies which provide the antibiotics and growth promotants to the animal producers. Altogether there are many vested interests in keeping us eating animal products! Unfortunately the only interests that are lost in this expensive advertising jungle are yours. Individual health ... and a healthy environment ... begins with good eating habits, and a vegetarian lifestyle is the simplest and most effective way to achieve it.

MAKING THE CHANGE
To make any change is not easy, particularly when it involves explanations to friends and family. However, making a change that you know will take an enormous burden off the unprecedented environmental stresses of the planet, that will improve your health and ultimately save millions of animals from cruelty makes it easy.

Already in the US and Britain there is a massive change towards a meat-free diet. Some half a million people are adopting a vegetarian lifestyle each year in the US while the number of British vegetarians is now more than 5 million. A recent survey showed that 25% of teenage Americans think that being vegetarian is fashionable. The trend is also catching on in Australia and New Zealand where many, mainly young, people are realising that they want a healthy and humane future ... After all, it is their future at stake!

Whether you go vegetarian overnight or over a period of time does not matter. The important thing is to get on the track. Even cutting down on meat consumption will make an enormous difference.

The new millennium is the time to make the change. Let’s make it a goal for the whole planet.

Remember... You’re in good company!

FAMOUS VEGETARIANS

RECOMMENDED BOOKS
➤ Eating Animals by Jonathan Safran Foer
➤ The Face on Your Plate – The Truth About Food by Jeffrey Moussaieff Masson
➤ The China Study by T. Colin Campbell with Thomas M. Campbell II
➤ Food For Life by Dr Neal Barnard
➤ Diet for a New America by John Robbins
➤ The World Peace Diet by Will Tuttle
➤ A Vegetarian Source Book by Keith Akers
➤ The Way We Eat – Why Our Food Choices Matter (aka The Ethics of What We Eat) by Peter Singer and Jim Mason
➤ Bird Flu – A Virus of our own Hatching by Dr Michael Greger
➤ Planet Chicken by Hattie Ellis
➤ Veganist by Kathy Ferguson
➤ Chicken – The Dangerous Transformation of America’s Favourite Food by Steve Striffler
➤ The Silent Ark by Juliet Gellatley
➤ Eternal Treblinka by Charles Patterson
➤ Mad Cowboy by Howard Lyman
➤ Becoming Vegetarian by Brenda Davis and Vesanto Melina
➤ The Pig Who Sang to the Moon by Jeffrey Moussaieff Masson

FILMS
➤ Food Inc
➤ Diet for a New America
➤ Mad Cowboy – The Documentary
➤ Devour the Earth
➤ A Diet for All Reasons
➤ The End of The Line
➤ Forks Over Knives
➤ Food For Life
➤ Not in My Name
➤ Food Without Fear
➤ A Sacred Duty
➤ A Delicate Balance
➤ Earthlings
➤ Food Matters
➤ Raw For 30 Days
➤ The Real Dirt on Farmer John.

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10 REASONS TO GO VEGETARIAN

Vegetarian Victoria outlines plenty of reasons to go ‘veggo’

1. High on health

Government and nutritional bodies throughout the world agree that a vegetarian diet can provide all the nutrients required for good health. For example, the American Dietetic Association and Dietitians of Canada state in their Position Statement on Vegetarian Diets:

“It is the position of the American Dietetic Association and Dietitians of Canada that appropriately planned vegetarian diets are healthful, nutritionally adequate, and provide health benefits in the prevention and treatment of certain diseases ... Well-planned vegan and other types of vegetarian diets are appropriate for all stages of the life cycle, including during pregnancy, lactation, infancy, childhood, and adolescence. Vegetarian diets offer a number of nutritional benefits, including lower levels of saturated fat, cholesterol, and animal protein as well as higher levels of carbohydrates, fibre, magnesium, potassium, folate, and antioxidants such as vitamins C and E and phytochemicals.”

The only foods that contain cholesterol are animal products – meat, eggs and dairy products. There is no cholesterol in plant foods whatsoever.

Vegetarians have less chance of developing many common diseases and health conditions: heart disease, hypertension, many cancers, obesity, strokes, osteoporosis, kidney stones, diabetes, hypoglycemia, kidney disease, peptic ulcers, gallstones, asthma, diverticulosis, constipation, macular degeneration (deterioration of the retina), and many other diseases and conditions. The only foods that contain cholesterol are animal products – meat, eggs and dairy products. There is no cholesterol in plant foods whatsoever. So to help reduce your cholesterol level, reduce your intake of animal products. A diet high in meat and animal products is also high in saturated fat, and can lead to a build up of plaque in arteries. Recent research has shown that diets with excess protein can leach calcium from bones. This is because calcium is required in the metabolism of certain amino acids (the building blocks of protein) and this calcium is extracted from the bones. Vegetarians get adequate protein, not excessive protein.

2. Elixir of youth

Vegetarians can live longer, healthier lives. One 21-year study that compared meat eaters and vegetarians showed that the greater the meat consumption, the greater the death rate from all causes combined. And according to William Castelli, Director of the Framingham Heart Study, vegetarians outlive other people by six years. The China Study also supports these findings.

High in phytochemicals, antioxidants, vitamins, minerals and fibre, a diet rich in vegetables and fruits strengthens the immune system, keeps you healthy, and slows the ageing process.

A plant-based diet provides sustained, healthy endurance!

3. Flab fighter

Vegetarians, generally, are slimmer than meat eaters. Being slim places less stress and strain on the body, and can give you more energy and vitality. And you also look better and feel more attractive!

4. Damage control

Chemicals and toxins occur throughout the environment. However, it is the consumption of meat and animal products that greatly accumulates these toxins in the body. For example, birds eating contaminated fish acquire all of the toxins that the fish have accumulated. This is referred to as ‘bio-accumulation’. Eating plant foods, which are at the bottom of the food chain, minimises your intake of these contaminants and toxins.

The best way to detox is to go veggo and eat plenty of fresh fruit and veggies.

5. Playing it safe

Most foodborne illnesses are transmitted via meat and dairy products. “Ground beef is the most likely source of *E. coli* O157:H7, poultry carry *Salmonella* and *Campylobacter*, and the consumption of raw shellfish has caused infection with *Vibrio vulnificus*,” says David Swerdlow of the Centre for Disease Control in Atlanta. Any raw food – including fruits and vegetables – can carry harmful bacteria, but meat, seafood, and poultry are the most likely culprits in foodborne illness.

6. Clear conscience

Hidden from public view is the death-driven meat industry that treats sentient life forms as an economic production commodity. In ancient times, when animals were sacrificed, the spirit of the doomed animal was often acknowledged in special ceremonies. Today this has given way to cold-blooded assembly line slaughtering processes. And this debasing of animal life debases our own lives. Remove meat from your diet and enjoy a clear conscience.

It is not only the slaughter of the animals that vegetarians don’t have on their conscience, but they are also not supporting modern intensive farming methods that treat animals so appallingly throughout their entire lives – confining them in inhumane, artificial, crowded conditions, providing little or no capacity for them to...
live anything remotely like a natural life, or follow their natural instincts. It is fortunate for the meat industry that everything is carried out behind closed doors because most people would be otherwise outraged.

It is estimated that the average vegetarian saves the lives of 6 cows, 22 pigs, 30 sheep, 800 chickens, 50 turkeys, 15 ducks and half a tonne of fish.

7. Satisfaction assured

Veggie food tastes great! Contrary to what many meat eaters think, vegetarian meals do not just consist of boring salads, vegetables, tofu and lentils. With the many vegetarian and vegan cookbooks around it is not difficult to make a large variety of completely satisfying vegetarian meals.

You can even make many of your favourite non-vegetarian dishes by substituting meat with readily available meat alternatives that provide tastes and textures very similar to meat, but with less saturated fat and without the cholesterol. The quality of meat alternatives these days is excellent and new products are coming onto the market all the time. Meat alternatives currently available include the Sanitarium Vegie Delights range (Hot Dogs; Curried Sausages; Soy Rashers; Not-Burgers; Deli Luncheon ‘meats’; BBQ Sausages; their Casserole Mince, Tender Pieces etc; and their Nugget Mix; Sausage Roll Filling and Vita-Burger), the Zoglo’s range (Crispy Vegetarian Schnitzel; Tender Vegetarian Meatballs; Vegetarian Nuggets etc), the various brands and types of plain tofu, marinated tofu, tempeh, and the wide range of pre-packaged burger varieties etc etc. The list goes on ... All of these alternatives are readily available. But remember, different people have different tastes so it is advisable to try a selection of brands and varieties until you find the products you like the best.

8. Sustainable living

Meat is an incredibly wasteful way of producing food. Depending on the type of animal it takes between 10 kilograms and 20 kilograms of feed to produce 1 kilogram of meat. As the human population increases and the demand for resources escalates, such a wasteful food production method can no longer be justified. It is far more efficient, and makes much more sense, to live lower on the food chain and grow food directly for people rather than for animals. A reduction in meat production would significantly increase the food available for human consumption. It's crazy to think that while millions of people starve in the Third World, the Western World wastes enormous amounts of food feeding animals because of an insatiable desire for meat. If everyone in the world went vegetarian we could feed the whole world with much less impact on the environment.

9. Eco-friendly

People who eat meat require much vaster areas of land for the production of their food. The expansion of the meat and dairy industries over the decades has resulted in huge losses of habitat, much, much more than that for the production of plant foods. (And much of this plant food goes to feed animals anyway!) The major factor in the loss of biodiversity is, by far, habitat destruction.

Cleared of land for grazing is the major contributing factor in salinisation and soil erosion. Overgrazing in semi-arid areas can lead to desertification. Water consumption and usage is extremely high in the meat and dairy industries. Effluent disposal from intensive animal farming operations is a major problem and can lead to severe pollution of waterways and ground water. Manure in sewage ponds or heaps, and the animals themselves, produce millions of tons of methane each year. Methane is a greenhouse gas that is contributing to global warming.

A 'true economy' is one in which all externalities and costs of production are considered. In agriculture this includes costs of fuel, water, agri-chemicals, top soil loss, erosion, salinity, effluent disposal, greenhouse gas emissions, transport, etc. Clearing of forests, grasslands and other habitat are other costs. If all the costs associated with production of meat were included in the price, and if all government subsidies were removed, no one could afford to eat it!

10. A happier hip pocket

Sure, you can spend $22 a kilogram on organic snow peas, and $5 for a packets of vege-sausages, but overall, most plant foods and plant-based foods, are comparatively cheap. And these lower prices show up when you eat out. Check for yourself on most restaurant menus – the vegetarian dishes are usually significantly cheaper than the meat, seafood, and poultry dishes.

Challenging convention

Just because people have eaten meat for thousands of years doesn’t mean it’s a good reason for us to continue. Traditionally, societies have also had slaves and women have been oppressed by men but most people are happy to have seen a change in our value systems and for us move beyond this. Part of the joy of living is the growth we experience in our lives. Education, awareness and understanding make us better human beings. And it is exactly this ability to adapt that has pushed us to explore and to make changes in our societies.

When all aspects are considered, the only reason why people eat meat is for the taste or convenience. Some people will try to insist it is necessary for health but there is absolutely no evidence to support this argument. A balanced vegetarian diet can provide all the nutrients needed for human health. So in a modern society, is taste and convenience enough of a reason for all the detrimental impacts and suffering associated with meat production to continue?

Abundant energy! Radiant health! Clear conscience!

Delicious food! Compassionate living! The choice is yours ...
OUR FRAGILE PLANET

Our planet faces serious environmental challenges. Water shortages, global warming, land degradation, deforestation, ocean degradation, food shortages and species extinction are just some of these important issues.

It is now clear that we are using the Earth’s resources at an unsustainable rate. The problems we face as a result have an impact at all levels: on our planet, our cities and towns, our families and ourselves.

Many Australians understand the fragile nature of our environment and are taking action to reduce their personal impact. We are reducing car usage, using energy efficient light globes, taking shorter showers and implementing other important actions. While these initiatives have some benefits, they fail to address one of the biggest causes of our environmental problems...what we eat.

This article highlights some of the key problems that are facing our planet and us, shedding some light on the current condition of the environment and what the future holds. Most importantly, effective solutions are offered that can easily be implemented to make significant improvements to the wellbeing and sustainability of our environment.

PLANTS + ANIMALS

Many species are facing extinction

The number of animal species in Australia is declining at a higher rate than any other country except the USA.1 In Australia there are 1,249 plant species and 347 animal species that are endangered at some level. This includes insects, frogs, fish, reptiles, birds and mammals.2 The biggest contributing factor to this endangerment is habitat destruction caused by clearing of land for animal pasture.3

Animal industries are the major cause

In 2006 the Food and Agriculture Organization of the United Nations released a report called Livestock’s Long Shadow. This report states that animal industries are one of the ‘most significant contributors to the most serious environmental problems, at every scale from local to global.4

Australia’s animal industries negatively impact biodiversity through:

➤ Habitat destruction
➤ Climate change
➤ Pollution
➤ The introduction of non-native species
➤ Increased competition for food and water.

WATER

Australia is currently facing significant fresh water shortages, primarily due to waste and misuse. This is compounded by the fact that Australia is the driest inhabited continent on Earth.

Raising animals for food requires enormous amounts of water

It takes between 50,000 and 100,000 litres of water to produce 1 kilogram of beef compared to only 2,500 litres to produce 1 kilogram of white rice, and much less for most fruit and vegetables.5

In Victoria, 77% of agricultural water is used for pasture and hay production for grazing animals raised for meat and dairy products.6

In comparison, only 10% is used for the production of fruit and vegetables for human consumption.6

DID YOU KNOW ...

➤ It is now clear that we are using the Earth’s resources at an unsustainable rate
➤ Animal industries are one of the most significant contributors to the most serious environmental problems
➤ It takes between 50,000 and 100,000 litres of water to produce 1 kilogram of beef
➤ A very effective way to reduce water use in Australia is by reducing the production of animal products such as meat and dairy
➤ Over 50% of global human-caused greenhouse gases can be attributed to livestock and their by-products
➤ Avoiding meat and dairy consumption is the most effective way for individuals to make a real difference
➤ Clearing of forests and bushland for animal industries results in habitat loss
➤ A massive 92% of all land degradation in Australia is caused by animal industries
➤ Fishing techniques including dragnets, long lines, purse seine nets and drift nets are destroying large parts of the ocean environment
➤ It takes a great deal more fuel to produce a kilogram of beef compared to a kilogram of grain or vegetables
➤ Most edible grain is used to feed animals for meat, dairy and egg production
➤ If we want to preserve and restore our environment in Australia, we must make changes to our diet

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Clearing of native vegetation for Agriculture and grazing animals degrade land and pollute rivers with toxic chemicals such as chromium, mercury and formaldehyde. Grazing takes up nearly 60% of the Australian continent. We could be using some of this land to take up carbon either by growing forests, or improving the carbon content of the soil. If we planted just a small fraction of that land with native forests, we could ‘soak up’ Australia’s carbon emissions in just a few decades. In addition, the carbon credits generated from this activity could possibly be worth billions of dollars annually on the global carbon trading market.

The verdict is out

A June 2010 report by the United Nations Environmental Programme identified animal agriculture and food consumption as one of the most significant drivers of environmental pressures and climate change, stating that ‘a substantial reduction of impacts would only be possible with a substantial worldwide diet change, away from animal products.’

Given that the methane and carbon dioxide attributed to agricultural animals is a substantial contributor to climate change, avoiding meat and dairy consumption is a very effective way for individuals to make a real difference to reducing global warming.

World renowned economist, Lord Nicholas Stern, publicly stated in late 2009:

“Meat is a wasteful use of water and creates a lot of greenhouse gases. It puts enormous pressure on the world’s resources. A vegetarian diet is better.”

Animal agriculture degrades land that absorbs CO2

The world’s animal industries produce a significant percentage of global greenhouse gas emissions.

Over 50% of global human-caused greenhouse gases, or at least 31.6 billion tonnes of carbon dioxide equivalent annual emissions can be attributed to livestock and their by-products. This is taking into account their direct emissions as well as their fuel consumption and energy use in production.

Methane has far greater global warming potential than carbon dioxide

Efforts to combat global warming must not be concentrated solely on reducing carbon dioxide (CO2) emissions. Methane produced by animals is also a substantial contributor to climate change. Methane is much more dangerous in the short term than CO2. Over a 20-year timeframe, methane has a warming potential at least 72 times that of carbon dioxide.

Animals raised for food in Australia produce about 3 megatonnes of methane annually. Multiply this figure by 72 and you get warming equivalent to 216 megatonnes of CO2. The annual output of all of Australia’s coal-fired power stations put together totals 180 megatonnes of carbon dioxide.

Australia’s livestock will produce substantially more warming over the next 20 years than all of our coal-fired power stations put together!

Animal industries have additional detrimental impacts on fresh water supplies

- Fresh water fish-farms pollute riverine environments
- Factory farms in the US pollute rivers more than all other industries combined (currently more than 500 million tonnes of manure is produced each year).

Over 67% of water in Australia is used for agriculture whereas only 9% is for household use. Many people are surprised to learn that the amount of water used to produce food is much greater than that used directly in households.

A 2004 Melbourne University study concluded, “Water use through food consumption is 90% of a household’s water use. This implies that for any water saving effort to have an effect, it should be concentrated on indirect water use.”

Wasteful production of animal products currently use more than 12 times as much water annually as will be produced by the Wonthaggi desalination plant. Rather than expensive engineering solutions which drive the price of water up for all consumers, a more effective way to ensure water availability in Australia is to reduce the water being wasted in the production of animal products such as meat and dairy.

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continent is grazed by animals raised for human consumption. This is in addition to the land that is cleared and used for the production of hay and other food for animals.

Clearing of forests and bushland for animal industries results in habitat loss throughout Australia, which is the major cause of wildlife species becoming threatened, endangered and extinct.

Clearing forests and bushland for animal production also results in:

- The removal of vegetative cover, which is the single most critical factor in preventing erosion
- Loss of topsoil which is a critical factor in ecological productivity
- Changes to the water table resulting in salinity problems across vast areas of Australia
- Changes to our climate resulting in worsening droughts.

In addition, animal grazing directly impacts the environment through:

- Compacting and acidifying our soils
- Spreading weeds
- Increasing to unsustainable levels the volume of manure and other by-products on our land and in our waterways.

According to the CSIRO and the University of Sydney a massive 92% of all land degradation in Australia is caused by animal industries. Plant agriculture, mining, forestry, manufacturing, residential building and all other industries account for the small remainder.

When the land is exhausted, society will suffer

Increased numbers of agricultural animals, over-farming and overgrazing can lead to vicious cycles of deforestation, erosion and habitat destruction. Eventually this can lead to starvation prompted by the disappearance of plant food sources and societal collapse.

The Australian Conservation Foundation make the point that “Sustainable and healthy food systems would promote and enable a diet rich in fresh and minimally-processed foods

In addition, today’s fishing techniques create enormous ‘by-catch’, which is the unintentional capture of sea animals such as non-target fish species, whales, dolphins, turtles, seals and sea birds like the albatross. Many of these species are facing extinction due to fishing.

Fish farming, where fish are raised in netted cages, also causes significant environmental damage. In particular fish farming concentrates faecal contamination in specific areas of the ocean and rivers, promoting the rapid spread of disease and parasites, to both captive and wild fish populations.

Fish farming can also result in non-native fish species escaping and damaging the surrounding environment. Worst of all, farmed fish eat fish – 5 kilograms of wild fish is needed as feed to produce 1 kilogram of farmed fish. All this destruction doesn’t come cheap! The United Nations Food and Agriculture Organization (UNFAO) estimated that over US $20 billion annually is used to subsidise global fishing industries.

ENERGY + MATERIALS

Virtual all economic activity and every aspect of our lives is dependent on the availability of energy and materials

Australia’s oil production peaked in the year 2000 and is now in decline. From a position where we once produced all our own oil, we now import 30%, and our dependence on imports is increasing every year. Some predict 80% of our oil will need to be imported by 2020.

This fuels the need for ever deeper and riskier drilling operations, and greater numbers of oil tankers traveling our waterways, with often tragic environmental consequences.

It takes a great deal more fuel to produce a kilogram of beef compared to a kilogram of grain or vegetables.

In addition, the raising of animals for food uses significant amounts of energy for:

- Transport of feed and livestock
- Operation of livestock facilities (including lighting, heating, cooling and slaughter)
- Packaging, constant refrigeration and cooking.
A reduction in animal industries would lead to increases in land available for native vegetation and sustainable forestry.

The beef, sheep and dairy industries account for 92% of forest clearance and land degradation in Australia and use up 60% of our entire continent.14,18

If we reduced or eliminated these industries, we could regain abundant land, some of which could be used for reforestation, forestry and the production of plant-based fuels, materials and fabrics.

PEOPLE

Poverty and malnutrition are widespread

790 million people in the world are chronically undernourished.33 About 27,000 children under five die of poverty and starvation every day.31

Most edible grain is used to feed animals for meat, dairy and egg production

We grow enough edible grain to provide 50% more than is required for every person in the world.4

Most of this edible grain is used to feed animals for meat, dairy and egg production. As a result, the price of grain has risen by hundreds of per cent in recent years, pricing poor people out of the market for basic foods.

The world’s cattle alone consume enough food to feed 8.7 billion people – more than the entire human population.34

“Feeding millions of tonnes of grains to animals, and raising billions of animals to feed humans is callously indifferent to the undernourished people in the world, whose sustenance depends on the same basics (wheat, soybeans, vitamins and materials) as the food fed to factory animals.” United Nations, Food and Agriculture Organization

Plant-based foods are a more effective way to feed people

It takes many kilograms of plant protein fed to a cow to produce a single kilogram of beef protein. 80-95% of food energy and protein available in plants is wasted when converted to meat for human consumption. It is much more efficient for people to consume foods lower in the food chain (i.e. to consume the plant foods directly). Protein from plant-based sources is also healthier than the protein in animal sources and does not contribute to problems such as heart disease or cancers.36

Human health

Studies show that vegetarians outlive their non-vegetarian counterparts by between 5 and 10 years.37 The China Study, the largest peer-reviewed scientific study conducted on human diet, concluded that people on a plant-based diet had far less incidence of heart disease, cancers, diabetes, multiple sclerosis and many other diseases.36

THE BOTTOM LINE

If we want to preserve and restore our environment in Australia, we must make changes to our diet. The food we eat has a major effect on our waterways, the quality of the air we breathe and the environment around us.

Eating fish and other sea life is killing our oceans, agricultural industries are polluting our waterways, and vast areas of land are wasted with the grazing of animals. These practices are unsustainable and the global impacts are being felt more than ever before. By adopting a vegetarian diet you can make a significant contribution towards improving your health as well as that of the planet.

The significant environmental benefits that can be made by adopting a vegetarian diet include:

- Enabling fresh water to be redirected to more efficient uses and to restoring healthier river flows and aquatic habitats
- Allowing the rehabilitation of grazing land into bushland which would greatly reduce land degradation and the loss of Australia’s biodiversity
- Reducing the drivers for climate change, including carbon dioxide and methane, and increasing the capture and storage of gases by the environment
- Reducing oil consumption and dependence on foreign sources of energy and materials
- Enabling our oceans to revert back to the vibrant ecosystems that they once were and allowing fish populations to recover to normal levels.

Animal industries are eating up the world. It is up to us to save it!
BOYCOTT CRUELTY: GO VEGAN!

For the planet, your health and the animals, according to this guide from the Vegetarian/Vegan Society of Queensland

TURNING ANIMALS INTO FOOD

Many people believe (and hope) that animals raised for food for humans must be very well treated because sick, diseased or dead animals would be of no use to agribusiness. But this is not true.

FACTORY FARMING = INDUSTRIALISED CRUELTY

The pressure to produce inexpensive beef, chicken, pork, veal, fish, eggs, milk and dairy products has led modern farming to treat animals as mere commodities or machines. There is a trend worldwide to replace small family farms with intensive, industrialised, factory farms. The philosophy of mass production is what lies behind it all.

“...if the public knew more about the way in which agricultural and animal production infringes on animal welfare, the outcry would be louder.”

Bernard E. Rollin, PhD, Farm Animal Welfare, Iowa State University Press, 1995. Bernard Rollin is author of more than 150 papers and 10 books on ethics and animal science

“The life of an animal in a factory farm is characterised by acute deprivation, stress, and disease. Hundreds of millions of animals are forced to live in cages just barely larger than their own bodies. While one species may be caged alone without any social contact, another species may be crowded so tightly together that they fall prey to stress-induced cannibalism ... the victims of factory farms exist in a relentless state of distress.”

Humane Farming Association, The Dangers of Factory Farming

Broiler chickens

Virtually all chickens in Australia raised for meat are factory farmed. Inside huge sheds up to 50,000 or more are crammed for the six weeks of their obscenely short lives and are left to stand in their own stinking excreta. These huge, waddling birds are forced to grow so unnaturally fast that their legs give way and break under their ballooning weight. Often their hearts can’t cope, so many die.

Egg-laying hens

In huge sheds, packed in tiny cages, hens can become immobilised and die of asphyxiation or dehydration. Decomposing corpses are often found in cages with live birds. Through selection, lighting and feed, hens are forced to produce an egg almost every day of their short lives. The life span of a commercial egg producing hen (whether battery, barn or free range) is approximately 18 months as opposed to 10-12 years in natural conditions. They lay so many eggs their bones snap from osteoporosis. Stress can make caged birds peck each other. To combat this, the ends of their beaks are cut off with hot blades, causing severe pain for weeks. Some, unable to eat after this procedure, starve. The unwanted by-products, day-old male chicks, are discarded either by gassing, suffocation or crushing to death. And when egg production declines, the hen is killed for chicken soup and stock cubes. This is how most eggs in Australia are produced today.

“One of the best things modern animal agriculture has going for it is that most people ... haven’t a clue how animals are raised and processed ... If most urban meat eaters were to visit an industrial broiler house, to see how the birds are raised, and could see the birds being ‘harvested’ and then being ‘processed’ in a poultry processing plant, some, perhaps many of them, would swear off eating chicken and perhaps all meat. For modern animal agriculture, the less the consumer knows about what’s happening before the meat hits the plate, the better.”

Peter Cheeke, PhD, Oregon State University Professor of Animal Agriculture, Contemporary Issues in Animal Agriculture, 2004 textbook

Visit www.animalsaustralia.org to find out how animals are reared on Australian factory farms today.

Pigs

Highly intelligent and social animals, pigs suffer enormously in close confinement – expressed by continually chewing the metal bars of their stalls, trying to clamber out of the pens, constant head weaving and pawing the floor. Many literally ‘go mad’. In over 2,000 factory farms throughout Australia sows are treated as...
breeding machines and endure a cycle of suffering and deprivation.

➤ Over 6 million pigs are slaughtered every year in Australia, with more than 98% being kept in intensive conditions for their entire, unnaturally short lives

➤ Most breeding sows are kept inside sheds – continually pregnant and confined in small (0.6 x 2.0m) metal barred pens called dry sow stalls

➤ A sow gives birth in a farrowing crate – a metal barred pen with a concrete and slatted floor area. There is no straw or bedding so she gives birth onto the concrete floor – denied of her strong instinct to make a nest. Nurturing and interacting with her young is impossible as a cruel metal frame imprisons her. Her young are removed after three or four weeks, and within days of weaning she is again impregnated and returned to a single stall

➤ So nothing impedes the efficiency of the production line, piglets’ tails are routinely docked to avoid stress-induced tail biting, and needle (eye) teeth are clipped – all without anaesthetic. Piglets can die from the shock

➤ Any pork products which have not been labelled free range or organic have been produced in an intensive facility.

**Dairy cows**

➤ Today dairy cows are forced to produce milk way beyond their natural capacity and they suffer tremendously because of it

➤ The modern dairy cow now yields around 35-50 litres of milk per day – about 10 times more milk than her calf would ever need

➤ High milk production often leads to extremely painful udder ligament damage, mastitis, and lameness.

“Dairy cows are probably the hardest worked of all farmed animals. They are one of the few to endure pregnancy and milking at the same time. Watch them as they walk and you will see distended udders. They will limp and lurch along with difficulty. Hardy surprising as one third at any one time suffers foot and leg problems and excruciating laminitis. Another third experiences the equally painful mastitis. Animals that can live into their mid-twenties are exhausted after two or three pregnancies and are slaughtered.”

Tony Wardle, Associate Director Viva!
– Vegetarians International Voice for Animals

**Transport**

Crammed together, often terrified and disorientated, animals stand in their own excrement while being exposed to extreme weather conditions as they are transported to the abattoir. These conditions often result in ‘downers’ – animals too sick or weak to walk, even when shocked with electric prods, or beaten. Downers are dragged by chains to slaughter, or to ‘dead piles’ where they are left to die.

“Like this bull I had last year – this bull was one of the biggest bulls I’ve ever seen. It was at the very front of the trailer. And the spirit it had, he was just trying his hardest to get off the trailer. He had been prodded to death by three or four drivers … but his back legs, his hips have given out. And so basically they just keep prodding it. So it took about 45 minutes to get it from the front nose of the trailer to the back ramp …

Then from there it was chained with its front legs, and it fell off the ramp, smashed onto the floor, which I don’t know how many feet that would be but quite a racket … I just said, ‘Why don’t you shoot the damn thing? What’s going on? What about this Code of Ethics?’

This one guy said, ‘I never shoot. Why would I shoot a cow that can come off and there’s still good meat there?’ When I first started, I talked to another trucker about downers. He said, ‘You may as well not get upset. It’s been going on for many years. It will go on for the rest of my life and your life. So just calm down about it. It happens. You’ll get kind of bitter like I did. You just don’t think about the animals. You just think that they aren’t feeling or whatever.’”

From an interview with a Canadian livestock trucker from A Cow at My Table, 1998 documentary

**Fish**

Fishing means pain and stress for millions of fish every year.

“Few people have much fellow feeling for fish, even though many fish are long-lived, have complicated nervous systems, and are capable of learning complicated tasks.”

Patrick Bateson, UK Institute of Medical Ethics

Industrial fishing is seriously damaging ocean ecosystems. Each year, in addition to countless fish, approximately 80,000 dolphins and thousands of other marine mammals are snagged in fishing nets worldwide. Most die.

“… not only do fish feel the same pain as cats and dogs and humans, but they are also highly intelligent … The most common form of cruelty in the world is fishing, and why?
Because most people have no idea how sensitive and intelligent fish are.”

Richard Jones, Member of the NSW Legislative Council

“It takes 25 minutes to turn a live steer into steak at the modern slaughterhouse where Ramon Moreno works ...

The cattle were supposed to be dead before they got to Moreno. But too often they weren’t.

‘They blink. They make noises,’ he said softly. ‘The head moves, the eyes are wide and looking around.’

Still Moreno would cut. On bad days, he says, dozens of animals reached his station clearly alive and conscious. Some would survive as far as the tail cutter, the belly ripper, the hide puller.

‘They die,’ said Moreno, ‘piece by piece.’

‘Modern Meat: A Brutal Harvest’
The Washington Post, 2001

If slaughterhouses had glass walls, everyone would be vegetarian.”

Paul and Linda McCartney

If they survive the horrors of the farms and transportation, the animals, whether factory farmed, free range or organically reared, are slaughtered.

The law requires that mammals be stunned prior to slaughter (exempting kosher and halal).

Common methods:

➤ Captive bolt stunning – a ‘pistol’ is set against the animal’s head and a metal rod is thrust into the brain. Shooting a struggling animal is very difficult, and the rod often misses its mark

➤ Electric stunning – a current produces a grand mal seizure; then the throat is cut. But insufficient amperage can cause an animal to be paralysed without losing sensibility

➤ Pigs are dunked in tanks of scalding water after they are stunned to depilate and soften their hides for skinning. As a result, a botched slaughter condemns some pigs to being both scalded and drowned. Undercover video tapes have shown pigs squealing and kicking as they were lowered into the tanks

➤ To induce paralysis in birds for ease of handling, electric stunning is normally used. However, it is not known whether stunning renders the birds unconscious; the shock may be an ‘intensely painful experience.’ Each year, large numbers of chickens, turkeys and ducks reach the scalding tanks alive and are either boiled to death or drowned.

“Animal factories are one more sign of the extent to which our technological capacities have advanced faster than our ethics.”

Peter Singer, Australian philosopher, Professor of Bioethics, author

“Various philosophers and religious leaders tried to convince their disciples and followers that animals are nothing more than machines without a soul, without feelings. However, anyone who has ever lived with an animal – be it a dog, a bird, or even a mouse – knows that this theory is a brazen lie, invented to justify cruelty.”

Isaac Bashevis Singer, Nobel Laureate, author, philosopher

“I grew up in cattle country – that’s why I became a vegetarian. Meat stinks, for the animals, the environment, and your health.”

k.d. lang, Canadian singer and recording artist

STORIES FROM BEHIND CLOSED DOORS

Whether the stories come from Australia, the USA, the UK, Europe or Asia, they are the same the world over, wherever factory farming is practised. And if you go behind the closed doors the industry erects to hide the truth, you will find the situation worse than you could have ever imagined.

NOT YOUR CHILDHOOD IMAGE

Lauren Ornelas, Viva!USA.org

When I saw what life is really like for pigs on today’s farms, I was left feeling physically sick for days. I suppose I knew they lived on concrete, indoors in factory farms. However, I was not prepared for the intensity of their confinement, and the awful reality of their boredom.

In the gestation shed, I heard a constant clanging noise. It was the sows hitting their heads against their cage doors as if trying to escape. After a while, some would give up and lie down, while others again took up their futile action.

I saw the pens where pigs are fattened up for slaughter – essentially concrete cells, each holding about a dozen pigs. In one pen, there was a pig missing an ear. Another had a rupture the size of a grapefruit protruding from his stomach. A dead pig was constantly nudged and licked by others. The stench in these places is overwhelming.

At the larger farms I visited, there were thousands of pigs housed in sheds. Many were dead or dying – one actually died right in front of me as I videotaped. Dead pigs had been left
in the pens with the living; other pigs had been tossed in the aisles – barely alive, unable to reach food or water.

The average Australian meat eater, in one lifetime, consumes 92 sheep, 17 beef cattle, 15 pigs, 1,171 chickens, innumerable fish and other animals. Now Australia’s most beloved icon, the kangaroo is being added to the list as a ‘gourmet food’.

“Do we, as humans, having an ability to reason and to communicate abstract ideas verbally and in writing, and to form ethical and moral judgments using the accumulated knowledge of the ages, have the right to take the lives of other sentient organisms, particularly when we are not forced to do so by hunger or dietary need, but rather do so for the somewhat frivolous reason that we like the taste of meat? In essence, should we know better?”

Peter Cheeke, PhD, Contemporary Issues in Animal Agriculture, 2004 textbook

“With increased knowledge of the behaviour and cognitive abilities of the chicken, has come the realisation that the chicken is not an inferior species to be treated merely as a food source.”

Lesley J. Rogers, PhD, University of New England, NSW ‘The Development of Brain and Behaviour in the Chicken’, 1995

“... if one person is unkind to an animal it is considered to be cruelty, but where a lot of people are unkind to animals, especially in the name of commerce, the cruelty is condoned, and once large sums of money are at stake, will be defended to the last by otherwise intelligent people.”

Ruth Harrison, Animal Machines, 1964

“Poor animals. How jealously they guard their pathetic bodies ... which to us is merely an evening's meal, but to them is life itself.”

T. Casey Brennan, author

KANGAROO SLAUGHTER

“It is interesting that outlets that sell kangaroo meat, and the industry, try to defend the kangaroo massacre, rather than admit that these wild animals are killed for money. Even State Governments in Australia concede that the huge numbers killed now has nothing to do with damage mitigation or population control; it is simply a profit-making exercise. They die cruelly, painfully and needlessly in the greatest extermination of wild animals ever carried out on the planet.”

Juliet Gellatley BSc (Zoology), Director of Viva! ‘Under Fire’ A Viva! Report on The Killing of Kangaroos for Meat and Skin

“As custodians of the planet it is our responsibility to deal with all species with kindness, love and compassion. That these animals suffer through human cruelty is beyond understanding. Please help to stop this madness.”

Richard Gere, actor

“I know, in my soul, that to eat a creature who is raised to be eaten, and who never has a chance to be a real being, is unhealthy. It's like ... you're just eating misery. You're eating a bitter life.”

Alice Walker, Pulitzer Prize Winner, author of The Color Purple

The total amount of kangaroos and joeys killed legally (and illegally) every year in Australia is 9 million.

“True human goodness, in all its purity and freedom, can come to the fore only when its recipient has no power.

Humanity’s true moral test, its fundamental test (which lies deeply buried from view), consists of its attitude towards those who are at its mercy: animals.

And in this respect humankind has suffered a fundamental debacle, a debacle so fundamental that all others stem from it.”

Milan Kundera The Unbearable Lightness of Being, 1984

“Humans – who enslave, castrate, experiment on, and fillet other animals – have had an understandable penchant for pretending animals do not feel pain. A sharp distinction between humans and ‘animals’ is essential if we are to bend them to our will, make them work for us, wear them, eat them – without any disquieting tinges of guilt or regret.

It is unseemly of us, who often behave so unfeelingly toward other animals, to contend that only humans can suffer. The behavior of other animals renders such pretensions specious. They are just too much like us.”

Dr. Carl Sagan & Dr. Ann Druyan Shadows of Forgotten Ancestors, 1992

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A HEALTHY WAY TO LIVE

A vegan diet can be very healthy. In fact, many people initially stop eating animal products to benefit their health. According to the American Dietetic Association’s position paper, vegetarians on average have lower body weight, cholesterol, and blood pressure, and lower rates of type 2 diabetes, heart disease, prostate cancer, and colon cancer.¹

The American Journal of Clinical Nutrition has published a series of papers describing the benefits of basing one’s diet on plant foods:

- High fruit and vegetable consumption is associated with a reduced risk of cardiovascular disease, several common cancers, and other chronic diseases (such as macular degeneration and cataracts).
- Legumes (e.g. beans, peas, lentils, and peanuts) are excellent sources of protein, fibre, and a variety of micronutrients and phytochemicals that may protect against disease.
- Regular consumption of nuts is linked with a lower risk of heart disease and lower mortality rates.
- Whole-grain consumption is associated with a reduced risk of heart disease, diabetes, high blood pressure, and stomach and colon cancers.

Highly intelligent and social animals, pigs suffer enormously in close confinement.

WHAT IS VEGETARIAN AND VEGAN?

The term ‘vegetarian’ was coined in 1847 by the British Vegetarian Society from the Latin vegetus, meaning whole, sound, fresh, lively. Vegetarians do not eat animal flesh or fish.

“Veganism is a way of living which excludes all forms of exploitation of, and cruelty to, the animal kingdom, and includes a reverence for life. It applies to the practice of living on the products of the plant kingdom to the exclusion of meat, fish, fowl, eggs, honey, animal milk and its derivatives, and encourages the use of alternatives for all commodities derived wholly or in part from animals.”

Donald Watson, creator of the term ‘vegan’ in 1944

Simply avoiding animal products will not ensure optimal health. Like everyone, vegans and vegetarians should eat a well-balanced diet. Protein, vitamins B12 and D, omega-3 fats, calcium, and iodine are important.

“When I met my first vegetarian, he told me he had not eaten meat for 14 years. I looked at him as if he had managed to hold his breath that entire time.

Today I know there is nothing rigorous or strange about eating a diet that excludes meat.”


WHAT TO EAT?

When changing your diet, it may take time to explore new foods and develop a routine. There are many different products to choose from – keep experimenting to find your personal favourites.

You can generally shop for vegan foods at supermarkets, health shops, ‘green markets’ and co-ops. They might not always be marked ‘vegan’ – so always check ingredients. Most vegetarian restaurants serve vegan meals and there are usually selections on offer at Chinese, Indian, Italian, Vietnamese, Middle Eastern and Thai restaurants.

When baking you can substitute eggs with an egg replacer available at health shops, pure cornflour (3 teaspoons cornflour mixed with 2 tablespoons water) or bananas (half a banana per egg).

Soy, rice, and nut milks can be used in place of cow’s milk. These and other dairy alternatives – including vegan cheeses, yoghurts, and frozen desserts – can be purchased, or prepared at home.

“I don’t understand why asking people to eat a well-balanced vegetarian diet is considered drastic, while it is medically conservative to cut people open and put them on cholesterol-lowering drugs for the rest of their lives.”

Dean Ornish MD, author and founder of the non-profit Preventive Medical Research Institute, California

Some simple meal ideas

- Breakfast
  - Fresh fruit salad with soy yoghurt
  - Wholemeal toast with peanut or almond butter, tahini, or yeast extract (e.g. Vegemite, Marmite or Vecon)
  - Cereal or muesli with non dairy milk (rice or soy) and fresh fruit
  - Porridge with soy milk, fresh fruit, nuts and maple syrup
  - Fried mushrooms and tomatoes on toast
  - Fresh fruit smoothie
  - Rice cakes with avocado and tomato
  - Baked beans on wholemeal toast.

- Lunch/dinner
  - Vegetable soup with wholemeal toast
  - Baked sweet potato and salad
  - Pasta and tomato sauce
  - Pita bread with falafel, hummus and salad
  - Selection of baked vegetables with vegan mayo
  - Wholemeal bread roll with salad and vegetable pâte
  - Lentil patties, jacket potato and salad
  - Vegetable stir-fry with tofu, brown rice or rice noodles
  - Vegetable curry with rice
  - Nut roast, baked potatoes and salad.

Soybeans are used to make milks, yoghurts, cheeses, and a wide variety of mock meats, such as deli slices and hot dogs. Vegans enjoy delicious dairy-free desserts.

Male chicks, of no economic value to the egg industry, are gassed, suffocated or ground up alive. Other standard agricultural practices – often performed without anaesthesia – include castration, tail docking, debeaking, dehorning, toe trimming, and branding.
**BECOMING A VEGAN**

Becoming a vegan isn’t about being perfect or pure – it’s about making a conscious decision to reduce suffering. Instead of supporting the hidden cruelties of factory farms and slaughterhouses, we can each choose to act with compassion by boycotting animal agriculture. Making humane choices is the ultimate affirmation of our humanity.

**For the planet’s sake too**

“Animal health and human health are both in the balance, but so is the health of the planet. Livestock production is at the heart of most of the world’s environmental catastrophes – rainforest destruction, global warming, water depletion, spreading deserts, loss of soil fertility, soil erosion, ozone depletion, and the collapse of the world’s oceans. Almost everything that humans currently do is unsustainable … the West’s obsession with meat plays a direct role in starving the world’s poorest people. Meat is a killer in every sense of the word. The most conclusive and effective decision anyone can take to stop this descent into insanity is to give up meat and become vegetarian or vegan. In the meantime, a huge step forward can be made by outlawing factory farming. It isn’t just rhetoric – we really do have to end factory farming before it ends us!”

Tony Wardle, Associate Director Viva! – Vegetarians International Voice for Animals

“… when non-vegetarians say that ‘human problems come first’ I cannot help wondering what exactly it is that they are doing for human beings that compels them to continue to support the wasteful, ruthless exploitation of farm animals.”

Peter Singer, Australian philosopher, Professor of Bioethics, author, Animal Liberation, 1975

**Suggested reading**

➤ The Silent Ark, Juliet Gellatley
➤ Introduction To Animal Rights: Your Child or The Dog?, Gary L. Francione
➤ Becoming Vegan: Complete Guide to Adopting a Healthy Plant-Based Diet, Vesanto Melina, Brenda Davis
➤ How It All Vegan!: Irresistible Recipes for an Animal-Free Diet, Sarah Kramer, Tanya Barnard
➤ May All Be Fed: A Diet For A New World, John Robbins, Gia Patton
➤ Animal Liberation, Peter Singer

**Useful websites**

➤ www.vegsoc.org.au (Vegetarian/Vegan Society of Queensland)
➤ www.veg-soc.org (Australian Vegetarian Society)
➤ www.animalliberationqld.org.au (Animal Liberation, Queensland)
➤ www.veganic.net (Vegan Voice)
➤ www.ivu.org (International Vegetarian Union)
➤ www.animalsaustralia.org (National animals advocacy group)
➤ www.rootsofcompassion.org
➤ www.notmilk.com (Things the dairy industry won’t tell you)

**THE FIVE FREEDOMS**

Few consumers realise how much farming animals for food has changed over the last fifty years. As long ago as 1965, a British report by Professor Brambell (The Brambell Report, UK) established five principles of welfare for farm animals:

**FREEDOM FROM:**
➤ Hunger and thirst
➤ Discomfort
➤ Pain, injury or disease
➤ Fear and distress.

**FREEDOM TO:**
➤ Express normal behaviours.

These freedoms were regarded as the minimum standards of care that all livestock should enjoy. Australian Codes of Practice for farm animals claim to offer the same basic welfare standards, but the intensive system itself patently excludes the possibility of guaranteeing these freedoms. Remember, even ‘free range’ or ‘organically reared’ animals suffer pain and terror when they are slaughtered for our food. So why not boycott cruelty and go vegan!

To find out more about animal issues contact:
➤ Vegetarian/Vegan Society of Queensland
  www.vegsoc.org.au
➤ Animal Liberation Queensland
  www.animalliberationqld.org.au

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**ENDNOTES**


Vegetarian/Vegan Society of Queensland | www.vegsoc.org.au
Updated August 2011
Myth: If I stop eating red meat I will become iron-deficient

Vegetarian diets can contain as much or more iron than mixed diets that contain meat. In fact, researchers say that eliminating meat from the diet can be accomplished with little or no effect on total dietary iron content. For instance, 100 grams of legumes contains roughly the same amount of iron as 100 grams of lean steak. (FSANZ 2006). The majority of iron in a mixed diet comes from plant-based foods.

Plant-based foods that contain iron include breads and cereals (including fortified breakfast cereals), dark green leafy vegetables, legumes like soybeans, lentils and kidney beans, dried fruits like apricots and dates, nuts, and seeds like pumpkin seeds.

Myth: Red meat is the best source of protein, so without it I will become weak or ill

There are plenty of healthy vegetarians who get all their protein requirements from powerful plant proteins. Red lentils, canned legumes, soy beans, nuts, pumpkin seeds, wholegrain cereals, grainy bread and grains like quinoa are all protein-containing foods that help. Almost all people, including vegetarians, eat more protein than the recommended daily intake. A diet based on plant proteins also provides a number of health benefits including lower incidences of obesity, constipation, high blood pressure, type 2 diabetes, colon cancer and osteoporosis when compared to diets containing meat.

Myth: If I become a true vegetarian I’ll need to give up eggs and dairy products too, which means I’ll also miss out on calcium

People who are vegan exclude all produce derived from an animal, which includes egg and dairy products. The majority of vegetarians are lacto-ovo vegetarian, which means they still include egg, low fat dairy milk and cheese as a part of their eating style. While dairy is a good source of calcium, foods like fortified soy milk, almonds, sesame seeds and broccoli all contribute to calcium requirements as well.

Eliminating meat from the diet can be accomplished with little or no effect on total dietary iron content.

Myth: All foods have some by-product of meat, so technically it’s impossible to become vegetarian

Not all products have an animal derivative. All Sanitarium products are free from animal products (with the exception of eggs and milk). Some of the most nutritious foods are naturally free from any animal products including fruits, vegetables, legumes (such as lentils, kidney beans, chickpeas, baked beans, soybeans), nuts and seeds. There are also a growing number of companies who are making foods free of animal products like vegetarian cheese that use a non-animal source of rennet.

Myth: If you give up meat and meat products, there’s not much left to eat is there?

Many international cuisines are based on mainly plant foods, such as the Mediterranean and Asian cuisines. Plant based or vegetarian cuisines have come a long way in the past few years and are accepted as mainstream dietary choices in Australia. Almost every restaurant will have a vegetarian option and book stores are filled with recipe books that don’t include meat. Sweet potato and feta pizza, mushroom risotto, marinated tofu with noodles and eggplant curry are just a few dishes you can have when eating out at Italian, Thai or Indian restaurants. A vegetarian style of eating includes fruits, vegetables, legumes, wholegrains, soy or dairy, nuts and seeds and offers plenty of variety. We have plenty of great plant
based recipes on our website, www.sanitarium.com.au

**Myth: It’s hard to feel ‘full’ and satisfied after a vegetarian meal**

Plant proteins like legumes (lentils, beans, soy), wholegrains, nuts and seeds help make you feel full because most are also low GI and good sources of fibre. Baked beans, fruit bread, buckwheat, soy milk are all great examples of foods that will help keep you satisfied.

**Myth: Eating all those nuts and seeds, lentil and brown rice causes wind**

Wind is caused by the presence of air in the bowel and can be due to a number of factors. One of the most common reasons for wind is swallowing air when eating and drinking. The oxygen enters the mouth and any excess makes its way through the bowel causing wind. Eating legumes such as kidney beans has been associated with wind, but contributes only a small amount. Rinsing and draining beans thoroughly before eating can help reduce the likelihood of wind.

**Myth: One person becoming vegetarian doesn’t make much of a difference to animal welfare or the planet so perhaps it’s not worth the effort**

The contribution each one of us makes to our world is important no matter how insignificant we think it is. The group ‘we are what we do’ sums it up perfectly. Small changes x lots of people = big difference. The contribution of each individual is essential in making a big change, no matter how small.

**Myth: Vegetarian foods are bland and boring**

There is a wide variety of colourful fruits and vegetables that are used in vegetarian cooking that make it nutritious and delicious. The addition of spices and fresh herbs, as with any dish, also gives depth to plant based dishes. Comparisons show meals that contain plenty of plant foods are cheaper than those that contain meat.

**Myth: Well-planned vegetarian diets are nutritionally equivalent to those that contain meat but without the health issues.**

Recent research conducted by the US government has revealed that people who eat the most red meat and processed meat were at thirty per cent greater risk of premature death compared to people who ate little or no red meat.

**Myth: A vegetarian diet surely can’t sustain a man. Don’t ‘real’ men eat meat?**

Vegetarian diets can sustain the energy and nutrient requirements of men and there are many happy, healthy men who follow a plant based style of eating. There are plenty of plant sources of protein that can help build and repair muscle. Previously, it was thought that vegetarians had to combine foods at each meal to make sure they obtained complete proteins. Recent research has found that this isn’t necessary.

Consuming various sources of protein throughout the day will provide all the amino acids required. There’s no need to worry about protein intake if you’re a man following a vegetarian diet – there are plenty of health benefits, like a reduced risk of obesity and diabetes, that makes it even more important to encourage ‘real men’ to eat more plant foods.

**Myth: Only hippies are vegetarians**

People choose to adopt a vegetarian diet for many reasons, including environmental concerns, religious beliefs, animal rights issues and importantly to promote health, vitality and longevity.

In terms of health, a vegetarian diet based on a wide variety of plant foods can provide a range of benefits. Research shows that vegetarians live longer and have a reduced risk of lifestyle diseases such as obesity, heart disease, hypertension, stroke, diabetes, many cancers and osteoporosis.

People who choose to have a plant based style of eating do so for many reasons, hence why there are a diverse range of cultures, communities and individuals who chose to be vegetarian.
FREQUENTLY ASKED QUESTIONS ABOUT BEING VEGETARIAN

SOME ANSWERS FROM THE AUSTRALIAN VEGETARIAN SOCIETY

What are some of the changes I can expect?

You may eat more food because you’re eating less fat, which is calorie-dense. Meat, the leading source of fat in the Australian diet, has no fibre and is high in calories. So relax, you may be eating more food, but it is bulky and has fewer calories per unit of volume than meat.

You may lose weight. Most people are pleased that healthy vegetarian foods have less fat and calories.

You may be less constipated. People who eat a typical Australian diet may be constipated and not realise it. Making the switch to a healthier, high-fibre vegetarian diet can lead to more regular bowel movements.

People may give you ‘a hard time’. Your dietary changes may be perceived by your family, friends and acquaintances as threatening or as criticism. Be cheerful about your choices, and remember to let people come to their own dietary conclusions.

Most new vegetarians report that they feel great! Some say they’ve never felt better in their lives. For some people there is a brief adjustment period where they may feel weak or tired as their bodies detoxify. This should pass quickly if you are eating a varied diet comprised of unrefined foods. Meat acts as a stimulant, and you may experience withdrawal symptoms like someone who has just given up coffee. This should pass within a few days to a month. Many do not experience this adjustment at all and most find after they adjust that they have more energy and feel better than ever.

Remember, you will be embarking on an exciting journey! Get ready to enjoy a wide variety of new foods. Some vegetarians like the many meat substitutes and analogues available commercially, especially in the beginning. You may want to try tofu ‘hot dogs’ or soy burgers, for example. Others find the meat-like texture unpleasant. You will undoubtedly find your favourite vegetarian foods after you have had a chance to experiment. Enjoy the experience!

Isn’t it hard to shop?

It doesn’t have to be. All the staples of a vegetarian diet can be found on the shelves of regular supermarkets or in the gourmet, specialty and health food sections. More bulk and specialty products are now available to meet the growing demands of consumers concerned about their diets. Health food stores and coops – found in most areas – offer vegetarian staples and convenience foods. Mail-order companies also provide vegetarian foods.

What about eating out?

It is not as hard as you might think. Growing consumer demand has prompted many restaurants and airlines to offer vegetarian meals. Ethnic restaurants often offer meatless options. When in doubt, ask the restaurant staff. Most will adjust the ingredients or cook something that is not listed on the menu.

Where do I get started?

Begin assessing your current diet. Look for meat-free versions of foods you already enjoy, such as chili without meat, or tofu burgers or vegetable cutlets instead of chicken. You may want to look through a few vegetarian cookbooks, check out your local health food store or supermarket, natural foods or ethnic restaurants for ideas. If you feel unsure, try cutting down on your meat intake while introducing new vegetarian foods or increasing those vegetarian foods you are already familiar with.

Set a period of, say, three months as a target and assess your progress at the end of it. If you want to, you can either continue for a longer period or, if you are still reducing your meat intake, try reducing it a little more over the next three months.

There is no golden rule other than to feel comfortable and confident about what you are doing. Just keep in mind the many vegetarians who have been living healthy active lives for years. Contact your local vegetarian society for support and to find out about how to meet other vegetarians with whom you can share your experiences and knowledge.

What other dangers are there?

The vast majority of land in Australia is currently used to raise cattle and sheep. This is causing severe degradation and erosion because of overgrazing. Historically, topsoil depletion has been a cause of the demise of many great civilisations. In the last 200 years, Australian agricultural practices have destroyed about 1,500 years’ worth of topsoil. Meat-based diets also waste fossil fuels and raw materials. It takes more than 15 times as much energy to produce a kilo of pork, for example, as it does to produce a kilo of fresh fruits and vegetables. A large percentage of the energy used in Australian agriculture goes into livestock production, the majority of it for meat.

What about water?

Animal agriculture guzzles huge amounts of water. It can take the same amount of water used for all purposes by a typical household in a month to produce a kilo of beef. It is far more efficient to produce plants (which require only about 2% as much water) for human consumption. Millions of tons of non-recycled wastes are produced by factory-farmed livestock each year. These wastes can be from 10 to a few hundred times more concentrated than domestic raw sewage, and much of it ends up untreated in our water.
Animal excrement and fertilisers have been blamed for some 40% of the nitrogen and 35% of the phosphorous released into our rivers, lakes and streams. The Environmental Protection Agency estimates that almost half our wells and virtually all surface streams are tainted with agricultural pollutants.

Won’t a vegetarian diet cost more money?

It is cheaper to eat a balanced vegetarian diet than a nutritionally equivalent meat-based diet. Certainly there is a great deal of variety in a vegetarian diet, and it is possible to buy many convenience and specialty foods that may cost more. However, these foods are not necessary to provide a nutritionally-balanced, varied and interesting vegetarian diet.

Don’t people get tired of “just lettuce and carrots”?

This is a common misconception. Vegetarians often eat a wider variety of foods than many meat eaters. A vegetarian diet can be like opening a window to a whole new world of foods. Remember, a balanced vegetarian diet will include the many varieties of fruit and vegetables, beans, nuts and seeds as well as less commonly eaten foods such as seaweed (an excellent source of iodine and calcium).

Won’t it take a long time to prepare?

It depends. For some people there may be a period of adjustment, especially if they are trying unfamiliar foods. It may take a little planning ahead – such as soaking dried beans the night before to cut down on cooking time – but many meals, such as spaghetti, vegetables, stir-fries and salad, take no longer to prepare. Grocery and health food stores sell vegetarian convenience foods such as burgers, sausages, cutlets and patties that can cut down on preparation time.

I am concerned about the environment and I’m doing my part by recycling. Isn’t that enough?

Recycling is a critical part of protecting the environment but by simply changing our food choices we can make a much larger positive impact. One of the greatest hazards facing the environment is meat production because it consumes so much water, fuel for transport, electricity for refrigeration and waste from excrement, slaughter and the saturated fat sludge that is deposited constantly into our drainage systems.

The demand for cheap beef is a major reason for the destruction of Central American rainforests. This contributes to species extinction and, along with deforestation, contributes to carbon dioxide pollution, a major factor in the greenhouse effect. Tropical rainforests provide a substantial part of the Earth’s oxygen, house 80% of the planet’s land vegetation, and are home to more species of plant and animal life than all the remainder of the earth.

It takes five square metres of rainforest for each quarter-pound hamburger made from imported cattle. With every acre destroyed, species become extinct and carbon dioxide pollution increases, adding to the greenhouse effect. At the same time the atmosphere is robbed of oxygen that would have been generated by that vegetation. The greenhouse effect is also caused by an excess of methane, a naturally occurring colourless, odourless gas produced in part from the decomposition of organic matter. Each year around the world ruminant livestock release some 80 million tons of methane in belches and flatulence, while animal waste at feedlots and factory farms emit another 35 million tons. These account for between 15 and 20% of global methane emissions.

Aren’t there more pressing animal causes?

Many people are concerned about companion animals such as dogs and cats, or those used and killed in laboratory experiments or trapped for their fur. Those are important issues but they do not preclude concern about animals raised for slaughter. Almost 10 times as many animals die for human consumption as for all other causes combined.

Aren’t farm animals raised humanely?

Conditions on many factory farms and at slaughterhouses are deplorable. Many animals live and die in cramped, filthy quarters that do not allow such basic physiological needs a sunshine, stretching, or for some, any unrestrained movement at all. Laying chickens, for example, are usually squeezed four to five birds per cage, and this crowding leads to stress-related diseases. At the slaughterhouse, many animals are boiled alive or bleed to death from slit throats.

While some laws call for humane slaughter (where animals are rendered unconscious first), killing animals for food can never be considered humane. Remember, it is not only the slaughter of animals which is cruel, but also their transport from farm to saleyards to slaughterhouse since animals are terrified by this process.

Why should we worry about animals when there’s so much human suffering?

It makes sense to worry about all beings on this planet because our lives are interconnected. Much of human suffering is directly linked to animal consumption, including heart disease, pollution, water scarcity and starvation.

The truth is that there would be plenty of food for everyone if plant foods were grown for direct consumption by humans and not by animals destined for the meat market:

- 1.3 billion people could be fed with the grain and soybeans eaten by US livestock
- The US population is only about 300 million. 80% of US corn and 95% of oats are eaten by livestock
- 90% of protein, 99% of carbohydrate and 100% of dietary fibre is wasted by cycling grain through animals
- 64% of American agricultural land is used for livestock feed
- An acre can yield 100 kg of feedlot beef compared with 17,000 kg of potatoes
- A kilo of feedlot beef takes 16 kg of grains and soybeans...
15 pure vegetarians can be fed on the same amount of land needed to feed one person on a meat-based diet.

Weren’t animals put here for food?
Animals have their own lives and destinies separate from human needs. While some people interpret religious teachings to mean that humans have dominion over animals, many believe having dominion does not necessarily mean that we have to kill animals for food. Many religions have vegetarian sub-denominations, and having compassion for animals does not contradict the teachings of any of the major religions.

Is it safe to raise children as vegetarians?
A vegetarian diet provides more than ample nutrition for children and may actually help protect them from some illnesses – including those caused by pesticides and contaminants in foods. Vegetables and grains are lower on the food chain and so contain far fewer pesticides and contaminants. Parents should make sure that children eat enough calories (from unrefined whole foods, not junk foods).

Children have small stomachs so it is wise to include judicious use of some fats (avocados, nuts, seeds, and nut and seed butters) and dried fruits to add calories to their diets. All vegetarians, including children, should eat a wide variety of foods, including fruits, vegetables, leafy greens, whole grains, nuts, seeds, and legumes.

Aren’t people physically designed to eat meat?
Animals closest to us physiologically are vegetarian or nearly vegetarian, and so were our not-too-distant evolutionary ancestors. Humans can digest a wide variety of foods and this ability undoubtedly contributed to our species’ survival throughout history.

Unlike most species, humans have choice about their diet which is dictated more by tradition and culture than by physical restrictions. While scientists disagree about specific anatomical and physiological points, one of the best indicators that humans are suited to a vegetarian diet is the many health benefits found with plant-based diets and the many diseases and illnesses linked to eating meat. The ability to eat an omnivorous diet may have had survival value in the past but it is now clear that meat eating threatens human health and planetary survival.

Why do vegetarians often seem to eat more and yet are not overweight?
Some vegetarians do gain weight, but most keep a stable weight even though they eat a greater volume of food than meat eaters. The reasons for this are quite simple. Meat and dairy products are calorie dense and most of those calories come from protein and fat. Vegetable foods contain far fewer calories for the same quantity of food and those calories come primarily from carbohydrates. Calories are not created equal. Dietary fat tends to be converted into body fat far more readily than do carbohydrates. People can eat more calories without gaining weight if those calories come primarily from carbohydrates.

If I switch to a vegetarian diet, won’t I have to eat more dairy products?
Many people do choose to increase the amount of dairy products in their diet when they eliminate flesh foods, but this is both unnecessary and potentially unhealthy. All necessary nutrients – except vitamin B12 – can be obtained by those who eat a total vegetarian diet (no meat, dairy products or eggs). The Physicians Committee for Responsible Medicine has called for a ‘New Four Food Groups’ (whole grains, vegetables, fruits and legumes) which lists meat and dairy products as optional.

Where do I get vitamins and minerals?
Most vitamins and minerals are found in abundance in plant foods, but some people may wonder about specific nutrients such as iron, calcium, vitamins B12 and D. Iron can be readily obtained from leafy greens, dried fruits (e.g. apricots, prunes and raisins), broccoli, wheat, peas, beans and sea vegetables. Iron absorption is increased when iron-rich foods are eaten with a source of vitamin C.

Calcium is abundant in dark leafy greens, broccoli, almonds, chickpeas, soybeans, figs, carob and sea vegetables.

Phosphorus and calcium must be in a delicate balance in order to best utilise calcium. The amount of calcium that is unused or excreted by the body increases dramatically in those people who eat a diet high in protein, especially dairy products and meat which are also high in phosphorus. Dairy products, touted as good sources of calcium, are actually calcium inhibitors because of their high protein content.

The highest rates of osteoporosis are found in countries where calcium intake is greatest and most of that calcium comes from protein-rich dairy products.
Vitamin B12, which is produced by bacteria, is needed in microscopic amounts and is essential for the nervous system and cell growth. Deficiency can lead to pernicious anaemia, spinal cord degeneration and death as well as to dangerously high homocysteine levels, which can lead to heart attack. While most cases of B12 deficiency are caused by malabsorption by the individual, not by a deficient diet, vegans, children, pregnant and lactating women should get a regular supply of B12 from specially fortified foods, including soy milk and Sanitarium ‘Vegie Delights’ and ‘Marmite’. Read labels to be sure. B12 tablets (derived from non-animal sources) are available as a supplement. Vegetarians who eat dairy products and eggs also obtain B12 from these sources.

Vitamin D is actually a hormone, not a true vitamin, and is related to calcium metabolism. Deficiency can lead to rickets in children. Our bodies are designed to obtain vitamin D through exposure to sunlight. Because vitamin D is fat-soluble and can be stored in the body, reasonable time spent in the sunshine during warmer months (as little as 15 minutes per day) should provide enough to last the winter. Early morning and late afternoon are best to avoid high UV radiation levels.

Dark-skinned children and those who live in northern latitudes or in cloudy or smoggy areas should be sure to have reliable dietary sources of Vitamin D. To avoid toxicity, nutritionists recommend we ingest no more than the RDA of 400 IU of vitamin D.

**Where will I get protein if I don’t eat meat? Isn’t it complicated to make sure you’re getting enough of the various amino acids?**

Getting enough protein is not a problem if you are eating a varied diet and are getting enough calories to meet your energy needs. In fact, the only ways to guarantee a protein deficiency is to eat only those foods which fall below 10% protein on a per calorie basis (certain fruits and refined oils), or eat exclusively junk food.

For most westerners the problem is consuming far too much protein, which is linked to a number of diseases including osteoporosis, obesity, liver disease and kidney failure. Amino acids, the building blocks of protein, are found in all plants, and this includes the eight essential amino acids humans must obtain from food.

Those vegetarian foods highest in overall protein content include legumes or pulses (dried beans and peas), soy products of various kinds (tofu, tempeh, meat analogues), eggs and dairy products for those who consume them, and some nuts (almonds contain 20% protein). While, at one time, some nutritionists thought it was important to eat complementary proteins at the same meal, more recent studies have shown that this practice is unnecessary.

**Aren’t most cancers caused by environment, chemicals and heredity?**

No. A 1980 article in Advances in Cancer Research noted, “None of the risk factors for cancer is probably more significant than diet and nutrition.” For cancer prevention, the American Cancer Society suggests a reduction in fatty foods and an increase in vegetables, whole grains and fruits. Risk factors for cancer include excess calorie intake and obesity, high animal protein intake, a lack of plant foods containing beta carotene and phytochemicals (antioxidants) and insufficient dietary fibre.

Chemical carcinogens and cancer viruses in animal food may also be part of the problem. The statistics are compelling: Australia’s second major killer is cancer. Women who eat meat daily have a four times greater risk of breast cancer than those who eat it less than once a week. Men who eat animal products every day develop fatal prostate cancer more often than total vegetarian men. Ovarian cancer is twice as likely to develop in women on high-fat diets as in those on low-fat regimens. Populations around the world that have high meat intakes also have high rates of colon cancer. Those populations with low meat intakes have correspondingly lower rates.

**Some foods such as oat bran, and nutrients such as beta carotene, offer health protection. What if I just eat more of those?**

Many people try these ‘miracle foods’ – which have some demonstrated health benefits – without making any other dietary or lifestyle changes. No one food can prevent illness or death from diseases which may have many deep-rooted causes. The best way to avoid these diseases is to eat a low-fat vegetarian diet and adopt health-promoting lifestyle changes, including getting enough exercise and reducing stress. A balanced vegetarian diet contains an abundance of health-protecting nutrients and fibre.

**What about lean meat?**

Any reduction in fat intake is of some benefit, but there is no cut or kind of meat that is really healthy. Beef, pork, poultry and fish have varying amounts of fat but contain about the same amount of cholesterol. A cooked well-marbled steak has no more cholesterol than less-marbled meat, while muscle meat actually has about 50% more cholesterol than meat fat. This is because muscle has a much higher water content than fat (70% compared...
to 15-22.5%) and when it is cooked, a lot of that water is lost, leaving behind a higher concentration of cholesterol.

**What about fish?**

Fish carry more environmental pollutants than land animals, particularly persistent organic pollutants (POPs) – synthetic compounds created as industrial chemicals or pesticides. There are 12 POPs of which the pesticides dioxin and furans are the most well known. POPs bio-accumulate, passing up the food chain via larger fish, meat and dairy products. Most fish consumed by people have eaten other fish, resulting in an increased toxic build-up – 95% of human intake of dioxins and furans (both carcinogens) comes from our food. In addition, shellfish contain high levels of toxins because of their feeding habits. Toxic chemicals in fish may accumulate to more than 100,000 times the levels present in the surrounding water. Fish (as well as meat and poultry) contain about 13 times as much pesticide residue as vegetables and grains.

In addition to chemical pollutants, fish can contain heavy metals such as mercury, cadmium and lead. Recently health authorities warned expecting mothers to avoid eating particular varieties of fish because of their high mercury content.

Shellfish such as oysters, mussels and prawns are filter feeders and suck in many chemicals while being particularly susceptible to contamination by bacteria. Fish is also a common allergen.

**What is a vegetarian?**

Vegetarians do not eat any part of an animal – this includes meat, poultry and fish. People adopt a vegetarian diet for a number of reasons, including concern about health, animals, the environment and world hunger, as well as for religious and/or spiritual reasons.

**What are the different types of vegetarian?**

While labels for vegetarians can seem limiting, they can be useful to determine one’s dietary habits when preparing or offering food.

Broadly speaking, vegetarians can be divided into the following categories – ‘lacto-ovo’ vegetarians eat dairy products and eggs, ‘lacto’ vegetarians eat dairy products but not eggs, ‘ovo’ vegetarians eat eggs but not dairy products, ‘vegans’ (sometimes called ‘pure’ or ‘total’ vegetarians) consume no animal products at all, including not buying or wearing clothing that has come from an animal (e.g. leather, fur and wool) as well as drugs that have been tested on living animals. ‘Fruitarians’ eat fruit, but sometimes include nuts and seeds in their diet.

**Why do people eat fish and/or chicken yet sometimes still call themselves vegetarian?**

This is because they are under the impression that vegetarians are basically omnivores who do not eat meat from land animals, such as beef, lamb and pork. This is just a misunderstanding since the word ‘vegetarian’ was coined to describe someone who eats (or a diet which includes) ‘neither fish, flesh nor fowl’. The word ‘vegetarian’, however has only a passing connection with vegetables – it actually derives from the Latin word *vegetus* meaning ‘lively’.

**I have cut down on red meat. Will this help my health?**

Medical doctors and government agencies recommend that people reduce the amount of red meat and overall percentage of fats in their diet. Excess dietary fat has been linked to several illnesses, including heart disease and cancer, the two top killers in the western world. As a result, many people have cut down or eliminated red meat from their diet. However, recent medical studies have found greater health benefits from eliminating meat and animal products completely.

Population studies show that vegetarians have the lowest levels of heart disease and other ailments. A study by the leading American cardiologist, Dean Ornish, MD (as reported in the medical journal, *The Lancet*) found that most patients who followed standard medical advice for coronary artery blockages got worse, while those who adopted a total vegetarian diet coupled with lifestyle changes including exercise and stress control showed improvement, including reversal of coronary artery blockages.

**Isn’t chicken healthier than beef?**

Poultry carries other risks. A variety of antibiotics are used on chickens in Australia and elsewhere, including tetracyclines and penicillins to prevent illness, while others are used as growth promoters or to prevent the multiplication of bacteria.

There has been recent concern about how the ingestion of second-hand antibiotics in animals for human consumption may affect the usefulness of antibiotics in humans. Contaminated chicken is a major source of *Salmonella* bacteria, which can cause serious and sometimes fatal infections if the chicken is improperly prepared. These same bacteria are also being found with increasing frequency in eggs, even those with undamaged shells.
1. Isn’t it natural for humans to eat meat?

Although humans are omnivorous, the human body is better suited to a vegetarian diet. The structure of our skin, teeth, stomach and bowel, the length of our digestive system, the composition of our saliva, stomach acids and urine, etc, are more typical of a herbivorous animal than a carnivore.

Somewhere though, in our ancient history, we developed tools that overcame our physical limitations and enabled us to kill other animals and eat them. We became omnivorous in habit but our physiology, though resilient and adaptable enough to handle meat, has remained more suited to plant foods.

Stripped of our tools this becomes obvious. Imagine for example, the difficulty you would have first catching and then eating an animal raw – fur, bone, sinew and all, and compare that to the ease with which you could gather and eat raw fruit or vegetables.

Perhaps more importantly, ask yourself if, when you are hungry, you in any way feel an instinctive urge to hunt down, kill and eat another animal.

Despite our omnivorous habits human beings are designed for and thrive on a vegetarian diet. We can in fact maintain the very best in health without resorting to any animal products whatsoever. That is why vegetarianism is an ethical issue – how can we justify causing the suffering and death of millions upon millions of animals if it is unnecessary?

2. Haven’t humans always eaten meat?

Meat eating is certainly among our most ancient practices, but then so are slavery, murder and war. (Although it is worth pointing out that most of the world’s human population has always been, and still is, largely vegetarian.) The antiquity of a practice is neither a guarantee of its morality nor a justification for it.

3. Don’t humans need some meat?

Despite the desperate brochures and advertisements put out by The Meat and Livestock Corporation this idea is obsolete. Numerous studies have found vegans and vegetarians to be not only healthy but generally healthier than people who eat meat.

4. Isn’t meat good for you?

Vegetarians have lower rates of obesity, coronary heart disease, high blood pressure, bowel disorders, gallstones, osteoporosis, kidney stones, diabetes, gout, arthritis, appendicitis, angina, haemorrhoids, varicose veins and diverticular disease. Vegans enjoy the same benefits and some of them to a greater degree.

5. Can’t humans eat meat and still be healthy?

The human digestive system is very resilient and adaptable. We can certainly eat moderate amounts of meat as part of a balanced diet and still be healthy.

The point is that we can maintain perfect health without any meat at all. Therefore, by eating meat we are causing the needless suffering and death of millions upon millions of animals every year for no better reasons than material profit and the taste of their flesh.

6. Animals kill other animals for food, so why can’t we?

Most of the animals who kill for food could not survive if they didn’t. That is not the case for us. We are better off not eating meat. Many other animals are vegetarians, including some of our closest primate relatives. Why don’t we look to them as our example instead of to carnivores?

7. Isn’t it natural for humans to drink cow’s milk?

Human beings are the only animals on earth who drink the milk of another species (and drink it beyond weaning). This is not an ancient practice either, we thrived for hundreds of thousands of years without it.
8. Don’t humans need some milk?
Milk contains some valuable nutrients for those who are able to digest it but these can all be better obtained on a vegan diet without risk of the unpleasant side effects associated with milk (see 9) and without the suffering and death involved in the dairy industry (see 11 and 13).

9. Isn’t milk good for you?
A large percentage of the world’s population is deficient in the enzyme lactase, which is necessary for the digestion of milk sugar (lactose).
This natural deficiency is quite harmless unless you drink milk in which case you can suffer symptoms such as chronic or occasional diarrhoea, bloating, flatulence and abdominal pains.
Intolerance to milk is the most common food allergy. Symptoms include asthma, eczema, skin rashes, chronic nasal and sinus problems, tonsillitis, ulcerative colitis, bowel irregularity, hyperactivity, depression, migraines and some forms of arthritis.
Cow’s milk can cause gastrointestinal bleeding in infants leading to anaemia and there is a proven link between milk consumption and cataracts in older people. Dairy products can account for half our saturated fat intake, making them a high risk factor in heart disease – our biggest killer.

10. Don’t we only take the milk the calf doesn’t need?
This is a very naive view. Such idyllic farmyard scenes are a thing of the distant past. The modern dairy cow has its calf taken away from it when it is 1-3 days old.

11. What happens to the calves?
The least healthy calves are usually slaughtered at a few days old (after enduring a distressing trip to market) and then processed into meat products. The rennet from their stomach is also extracted and used for cheese making. Some of the females go on to become dairy herd replacements. Other calves are sold at market at 1-2 weeks old to be reared for beef production. A major proportion of our beef is a by-product of the dairy industry.
Some calves are also raised for veal in appalling and depriving conditions. They are kept in stalls in which they are unable even to turn around. They are given no bedding (in case they try to eat it) and are fed only on a liquid diet devoid of iron and fibre to keep their flesh pale and anaemic. After 3-5 months they are slaughtered.

12. Don’t dairy cows need to be milked?
In the natural order of things, the cow’s calf would drink its milk (eliminating the need to be milked by humans). But the calves of dairy cows are taken away within a few days of birth so that humans can have the milk.

13. Surely dairy farming doesn’t harm the cows?
The current high demand for dairy products requires that cows be pushed beyond their natural limits, genetically engineered and fed growth hormones in order to produce huge quantities of milk.
From about 2 years of age the modern dairy cow spends 9 months of every year pregnant. This is in order to keep up a steady supply of milk. Its calf is taken away at 1-3 days old causing them both terrible distress. It is then milked for 10 months during which time it is forced to produce 10 times the amount of milk its calf would have taken.
It is not surprising that every year a third of our dairy cows suffer from mastitis – a painful inflammation of the udder. To increase the milk yield the cow is fed a high protein diet but this is often not enough and it may be forced to break down its own body tissues to keep up with the continual demand (‘milking off her back’). This commonly leads to a condition called acidosis which can make it lame – lameness can affect up to 25 per cent of our dairy cows every year.
At about 5 years old, spent and exhausted, dairy cows are slaughtered. Their natural life span is around 20 years.

14. Won’t cows only produce milk if they’re content?
Cows cannot help producing milk any more than they can help producing urine. Since the 1950s the dairy cow has been subjected to ever more intensive farming methods. Its suffering now is greater than it has ever been, and in that same period its yield has doubled.

15. Isn’t it natural for humans to eat eggs?
Early humans certainly did eat eggs but we must clearly distinguish between the opportunistic stone age gatherer and the modern intensive egg farmers who keep millions of hens in tiny cages, without room even to spread their wings, and who kill millions of male chicks every year simply because they have no use for them.
The point is that we do not need eggs and can therefore maintain perfect health without them. We therefore cannot justify the suffering and death we cause in obtaining them (see 20 and 21).

16. Aren’t eggs good for you?
Eggs are nutritious but they also contain a large amount of cholesterol and can carry Salmonella. All their nutrients can easily be obtained on a vegan diet without the health risks, and without the enormous cruelty involved in their production (see 20 and 21).

17. Hens don’t mind their eggs being taken, do they?
In the wild a hen will build itself a nest and lay up to 6 eggs in as many days. If any of these are lost it is usually able to replace them, provided it has access to enough food. It is this ability to keep laying that the modern egg farmer exploits but in doing so frustrates one of the hen’s most fundamental instincts: to reproduce.
18. Isn’t it OK to eat eggs because chickens lay them naturally anyway?

This is true, but the real cruelty of egg production lies in the treatment of the ‘layer hens’ themselves, who are perhaps the most abused of all factory-farmed animals. Each egg from today’s factory farms represents 22 hours of misery for a hen crammed into a battery cage. Cages are stacked many tiers high, and faeces from cages above fall onto the chickens below.

At just 2 years old, most hens are ‘spent’ and they are sent to the slaughterhouse.

Also, egg-laying hatcheries don’t have any use for male chicks; they are killed as soon as their sex has been determined.

19. Won’t hens only lay eggs if they’re content?

A hen’s ovaries are controlled by light which on a battery farm is carefully regulated to simulate continuous summertime. It is this, combined with selective breeding and a carefully controlled diet that results in the modern battery hen’s high egg output.

Conditions on a battery farm are appalling. Hens have the top section of their beak cut off (‘de-beaking’) so that it is more difficult for them to attack each other in the stressful conditions. They are crammed into cages and their feet often become deformed from continuous standing on a sloping wire mesh. They can never perch, ground-scratch, dust bathe or nest, and are unable to stretch their wings. Lack of exercise leads to fatty liver syndrome and brittle bones. These birds are not ‘content’ and yet they still lay. They will even continue to lay when seriously injured – they simply cannot help it.

20. Don’t farmers have to treat their animals well to produce milk and lay eggs?

Animals on factory farms do not gain weight, lay eggs, and produce milk because they are comfortable, content, or well cared for, but rather, because they have been manipulated specifically to do these things through genetics, medications, hormones, and management techniques. In addition, animals raised for food today are slaughtered at extremely young ages, usually before disease and misery have decimated them.

Such huge numbers of animals are raised for food that it is less expensive for farmers to absorb some losses than it is to provide humane conditions.

21. What’s wrong with free-range eggs?

Like most animals, chickens produce equal numbers of male and female offspring. But even the most conscientious free-range egg farmer has no use for the males so they are killed.

The hens are kept for about 2 years until their productivity declines. They are then sent for slaughter. Their natural life span would have been 5-7 years.

22. Don’t hens lay unfertilised eggs that would otherwise be wasted?

Wild hens rarely lay unfertilised eggs. Modern egg-producing hens only do so because they have been manipulated by humans. The point is not that the eggs may go to waste but that in manipulating the hens to produce these eggs we inflict cruelty on them (see 20 and 21).

**FISH**

23. Fish don’t feel pain, do they?

Fish have a complex nervous system and all the sensory organs necessary for the sensation of pain. It is therefore logical to assume that they do feel pain.

A three-year investigation by a panel of scientists and representatives from angling and shooting organisations (The Medway Report) concluded that fish, like other vertebrates, are capable of suffering.

24. Aren’t fish free-range?

Why should a free-range animal be any more deserving of an unnecessary death than any other animal? The suggestion that individuals should pay for their freedom with their lives is moral nonsense. All animals should be free and we have no right to deprive them of that freedom or their lives for such reasons as money, the taste of their flesh or the pursuit of ‘sport’.

25. Aren’t there regulations controlling fish slaughter?

Fishing vessels catch thousands of tons of fish every year and there are no specific regulations governing their slaughter. They die of shock, asphyxiation, crushing by the weight of the catch and freezing on ice bedding.

**NUTRITION**

26. Do vegetarians get an adequate amount of protein?

Protein deficiency is almost unheard of in the West. (In fact, our problem is that we get too much protein, not too little.) Unless you eat a great deal of junk food, it’s almost impossible to eat as many calories as we need for good health without getting enough protein. With a bit of planning a vegetarian or vegan diet can quite easily fulfill daily protein recommendations.

One of the problems with animal proteins is that they
usually come with saturated fats and so are a major risk factor in heart disease – our biggest killer.

Plant proteins on the other hand are associated with dietary fibre which is a very important component of a healthy diet. In fact vegans as a dietary group have been found to be the most likely of all to achieve their daily fibre requirement. The proteins in animal products are very highly concentrated and most people who eat meat take in far more protein than their bodies can cope with. A high protein diet puts enormous strain on the pancreas – an organ that produces enzymes for the digestion of proteins but also for fighting cancer. Too much protein is also a major cause of osteoporosis and contributes to kidney failure. It is not widely known that most vegetables contain useful amounts of protein. Particularly rich sources include nuts, legumes, grains, seeds, green leafy vegetables and potatoes.

27. Do vegetarians get an adequate amount of iron?
Vegetarian and vegan diets can not only supply sufficient amounts of iron, but they can also supply up to three times the daily requirement of vitamin C.

Vitamin C is important because it enhances the absorption of iron in the body. Studies have shown the incidence of anaemia in vegetarians and meat eaters to be roughly the same. Rich plant sources of iron include dried fruits, whole grains, nuts, green leafy vegetables, seeds, legumes, and molasses. Using iron pots and pans can also contribute to a dietary intake.

28. Do vegans get an adequate amount of calcium?
There have been no reports of calcium deficiencies in vegans. It has been shown that animal protein causes the body to excrete calcium more quickly than plant protein does. This may be one reason why vegans and vegetarians are less at risk from osteoporosis.

Rich plant sources of calcium include tofu processed with calcium sulfate, dark green vegetables (e.g. broccoli), dried fruit, almonds, soybeans, tahini, sesame seeds, molasses and soy milk (fortified). In Australia, fortified soy milks provide similar quantities of calcium to cow’s milk.

29. Do vegetarians and vegans get an adequate amount of vitamin D?
Vitamin D is produced by the action of the sunlight on the skin. Although it is available in fortified foods like margarine, a little natural light every day (even if it’s cloudy) is all you need.

30. Do vegetarians get an adequate amount of vitamin B12?
The human body needs only minute amounts of vitamin B12. Although deficiency is rare, it is recommended that vegans regularly take a B12 supplement or regularly consume sufficient B12-fortified foods. Vegetarians obtain the vitamin from dairy products and eggs, although they still may be low in this vitamin. Deficiency is usually caused by an inability to absorb the vitamin rather than a dietary deficiency.

31. Don’t vegetarians have to eat too much and too often?
Totally untrue as any vegan or vegetarian will tell you. Try it and see!

32. Aren’t vegetarians unhealthy?
There are healthy and unhealthy vegetarians. Vegetarians who eat a very limited range of foods or who are very fussy eaters can have health problems just like a very fussy meat eater who eats a limited range of plant foods. It’s not the vegetarian diet itself that is the problem, but the limited diet. No reputable scientific studies have concluded that a well-balanced vegetarian diet cannot provide all essential nutrients required by the human body.

33. What would we do with all those chickens, cows, sheep and pigs? Wouldn’t we be overrun with livestock?
It’s unrealistic to expect that everyone will stop eating meat overnight. As the demand for meat decreases, the number of animals bred will decrease. Farmers will stop breeding so many animals and will turn to other types of agriculture.

34. What would happen to all the farm animals?
See 33.

35. Wouldn’t there be fewer animals in the world?
A very large percentage of agricultural land is used either directly or indirectly to feed livestock. In an ideal world, if everyone was vegetarian it would free up vast areas of land that could be returned to the wild. All those millions of acres of grazing land and land dedicated to crops for livestock feed could revert to more natural and densely populated ecosystems.

36. Wouldn’t many customs and traditions be lost?
Other examples of customs and traditions include sexism, racism, torture, public executions and witch
burning. For society to progress some customs and traditions have to be abandoned.

37. Would there be enough food?
As mentioned, a very large percentage of agricultural land is used either directly or indirectly to produce feed for livestock. Only 5–10 per cent of the food energy consumed by the livestock is converted to food energy obtainable by eating the livestock. In effect, we are wasting over 90 per cent of the food energy simply because we like to eat meat. At the same time there are over 500 million severely malnourished people in the world with 50,000 dying of starvation every day.

Although political factors play a major role in feeding the starving of the world, no one can argue against the fact that it is much more efficient overall for us to eat lower on the food chain.

38. Wouldn’t a lot of people lose their jobs?
The move towards vegetarianism/veganism is a gradual process. As less and less people are employed in animal-based industries, more and more will find work in the industries that replace them.

39. Who’s responsible for the death of the animals?
The people who buy meat are solely responsible for the deaths of billions of animals every year. The killing is done at their request and financed with their money. Their guilt is inescapable.

40. Aren’t the animals killed humanely?
Very few people could watch animals be slaughtered at an abattoir, watch the carcass be skinned, gutted and carved up, then sit down straight away and enjoy a steak.

We challenge you to visit an abattoir, or see some of the cruelty involved in modern livestock production by checking out a copy of our FREE ‘Meet Your Meat’ CD. Then you will be able to make an informed decision about how humane and acceptable it is!

Most of us have an innate sense of compassion and concern about suffering, it is often just that what is out of sight is out of mind. The conditions at slaughter are not the only issue anyway. Would we ever excuse a child murderer for killing his victims ‘humanely’?

41. Aren’t the animals bred for it?
Animals that are bred for food are just as capable of suffering as other animals, and being bred for meat does not justify their appalling treatment.

42. Aren’t the animals here to be used?
Animals are not a means to a human end; they are independent, free-thinking and have their own needs and desires. Ethically, we have no need and therefore no right to cause them suffering and death.

43. If it wasn’t for the meat industry, wouldn’t the animals have never been born?
Life on factory farms is so miserable that it is hard to see how we are doing animals a favour by bringing them into that type of existence. Surely it is better for an animal to never be born at all, than be born into such a short miserable and painful life ending in death at the slaughterhouse. Which would you prefer?

And how do you feel about young children born into a Third World country who die a miserable death from disease and starvation by two years of age? Is it a good thing that at least they’ve had this short life?

44. Isn’t it OK to eat meat as the animals have never known anything better?
Not having known anything better does not alleviate the suffering of the animal. Its fundamental desires remain and it is the frustration of those desires that is a great part of its suffering. There are so many examples: the dairy cow who is never allowed to raise its young, the battery hen who can never scratch in the dirt or stretch its wings, the sow who can never build a nest or root for food in the forest litter etc.

45. Don’t the animals have to die sometime anyway?
Humans have to die sometime too, but that does not give one a reason or excuse to kill someone, or to cause them a lifetime of suffering.

46. Isn’t vegetarianism/veganism socially difficult?
It is very easy to be vegetarian these days. It is not socially difficult and it has, in fact, become widely accepted. Veganism, however, is still regarded with suspicion by most people but this will change as veganism grows.

In effect, what you are saying is that it is OK for an animal to suffer or die to save you a little social inconvenience. Surely a life is worth more than that.

47. Can me turning vegetarian/vegan make any difference?
In their lifetime the average meat eater eats 36 pigs, 36 sheep, 8 cattle and 550 poultry. That may be only a comparatively tiny contribution to the meat industry, but it makes a big difference to those individual animals! I was inspired by others to become vegetarian (and later vegan), people have followed me and still others have followed them. We can all make a difference.

48. Aren’t animal product industries worth a lot of money?
One cannot simply justify or defend a practice on the grounds that it is profitable. After all, a great many crimes are very profitable too. We should ask ourselves not how much an animal’s life is worth to us but how much it is worth to the animal – for whom it is everything.

49. Haven’t animals adapted to farming?
Animals have been forced into adaptations that increase their productivity by straining their bodies often beyond their physical limits.
Typical examples include the dairy cow who may go lame as it breaks down its own body tissues to produce 10 times its natural milk yield (see 13), and broiler chickens, 6 per cent of whom die from the physical strain of increasing their body weight 50-60 times in 7 weeks. Forced adaptations only increase the suffering of farm animals.

**OTHER POINTS**

**50. Isn’t vegetarian/vegan food expensive?**

Animal products, especially meat and cheese are the most expensive of all our staple food stuffs.

As more people become vegetarian, commercially-produced vegetarian products are becoming cheaper.

**51. Wouldn’t vegan farms deprive wild animals of their habitat?**

It has been estimated that the land required for vegan diets is about 25 per cent of the land required for meat-based diets. This would free vast areas that could be returned to natural habitat.

**52. Is vegetarianism/veganism safe during pregnancy?**

Pregnant women have special dietary needs and must always take care to ensure they receive all the nutrients that they and their developing baby need. These nutrients can all be obtained on vegan and vegetarian diets.

**53. Is vegetarianism/veganism safe for babies and children?**

The British Medical Journal report ‘Nutrition and Health’ states that: “the vegetarian diet is adequate for the nutritional needs of infants”.

Vegan and vegetarian children thrive. Vegan children in particular tend to be slimmer than their peers and therefore less prone to obesity-related diseases.

**54. Does a vegetarian/vegan diet require specialist knowledge?**

The basic principles of healthy eating are not difficult to grasp and have nowadays become almost common knowledge. The same principles apply whether you be vegan, vegetarian or otherwise: eat more fresh fruit, vegetables, and whole foods and cut down on saturated fats, sugar, salt and alcohol.

There is nothing in animal products that has to be carefully compensated for (except, perhaps, vitamin B12. see 30). Many of them do us a lot more harm than good (see 4, 9, and 16). Cutting out animal products only makes a ‘healthy’ diet healthier.

**55. How do you know that plants don’t suffer?**

To experience physical suffering an organism needs to have a central nervous system that is able to interpret certain stimuli as pain. A plant does not have this ability. We therefore have no reason to believe that they suffer.

**56. What’s wrong with free-range meat?**

It is preferable to eat meat from free-range animals than from intensively farmed animals. But free-range animals are no more deserving of an unnecessary death than any other animal.

**57. Don’t animals convert plants that we can’t eat into meat that we can?**

True, but more relevant is the fact that a lot of food we could eat is being fed to animals, in particular intensively-farmed animals.

**58. What if I made use of an animal that was already dead?**

It is not the eating of meat that is being questioned but the killing of animals unnecessarily.

If you somehow managed to obtain some meat without killing an animal (or by paying someone else to kill it for you) – for example, by stumbling across an animal that was already dead – then I can see no moral objection to you eating it.

**59. If you were starving on a boat at sea, and there was an animal on the boat, would you eat the animal?**

Humans will go to extremes to save their own lives, even if it means hurting someone or something. (People have killed and eaten other people in such situations.) This example, however, isn’t relevant to our daily choices. For most of us, there is no emergency and no excuse to kill animals for food.
WHY VEGAN?

For reasons relating to health, the environment and animal welfare, many people are questioning their dietary habits. The Vegan Society NSW explains why.

Millions of people around the world are questioning their dietary habits. The typical high fat, high cholesterol, high protein, low fibre, largely refined diet has been increasingly indicted as the prime contributing cause of heart disease, strokes, circulatory ailments; diabetes; various types of cancer and numerous other serious health problems. Public attention is also being drawn to the injustice and cruelty of preventing animals from living their own natural lives in glaring contrast to the brutal realities of the appalling conditions in which our slave ‘food-animals’ are usually raised and slaughtered.

Another major source of urgent concern, is that the greatest waste of natural resources, the worst producer of desert and famine, a prime motive for the despoiling of vitally needed tropical rainforest and the most wasteful use and pollution of precious water supplies, all involve the raising, feeding and slaughtering of livestock for food. The terrible ecological results of this human short-sightedness and callousness may in many areas be passing the point of irreversibility.

Thoughtful, caring people realise there has to be a better way and there is. Veganism is an ethical way of living without the use of animal products such as meat, fish, poultry, eggs and dairy foods. Vegans enjoy a plant-based diet including as basic sources, vegetables, grains, legumes, fruit, nuts, and seeds. A typical vegan cookbook lists wide varieties of delightful recipes for soups, entrees, salads, dressings, vegetable dishes, casseroles, sauces, ‘dairy substitutes’, breads, pasta, pizzas and desserts (ice creams, puddings, cakes, pies and biscuits) – all made without ingredients of animal origin. This is the time-tested total vegetarian system that is nutritionally balanced, helpful and humane, ethically and scientifically sound, naturally rich in vitamins and minerals, high in fibre and complex carbohydrates, low fat and low sodium and contains no cholesterol.

Vegans also oppose the use of leather shoes, fur coats, woollen garments and other products of animal cruelty, suffering and death. Vegans realise that it makes no difference to the animal whether we kill her to eat her and wear her and that there is no ‘innocent by-product’ of animal cruelty and exploitation.

The natural results of widespread veganism are not only better human health and happier circumstances for the animal nations but also a tremendous alleviation of the environmental burden placed upon this planet. As it takes 2 or 3 acres to feed someone on the Standard Australian Diet, but only a fraction of an acre to feed a vegan, the land use of economy factor has a ratio of about 10:1. In terms of water used to grow food, it takes less than 1/3 as much to feed a lacto-ovo vegetarian (one who still consumes milk and eggs) but it takes less than 1/13 of the usual amount of water to grow the food for a vegan.

There is a better way than perpetual animal slavery, suffering and slaughter, human hunger and malnutrition, waste of natural resources and pollution of our environment.

What’s wrong with dairy?
The life of a dairy cow and her offspring is painfully hard. Just like humans, cows only give milk after the birth of a baby. This means that to continue to take milk from a cow, the farmer must repeatedly impregnate her on what are commonly called ‘rape racks’. The calves born by dairy cows become a ‘waste product’ of the dairy industry. They are taken away from their mother shortly after birth, causing stress to both mother and baby. Many calves are sent straight to the slaughterhouse and killed when they are just a few days old. Others are confined in small crates for a few months until they are slaughtered and their flesh sold as ‘white’ veal. Some of the female calves become dairy cows themselves. Because she has been bred to have an unnaturally large udder, she may suffer from mastitis, an inflammation of the mammary gland which causes severe pain and distress. She may also suffer from lameness, due to the distension of her huge udder, which causes her great pain, forcing her to lie down as much as possible. After 7 or 8 years she is ‘spent’ and taken to slaughter. In the wild she could live to be 20 years old.

What about eggs?
Under natural conditions, hens live about 10 years. But the life span of a hen used for egg production is about 18 months. She spends all of this time packed into a tiny cage stacked on top of each other in huge sheds. She never sees the sunlight and is constantly stressed. She is manipulated to lay an egg almost every day of her life, laying so many eggs that her bones snap from osteoporosis. The unwanted by-products, day-old male chicks, are killed by gassing, suffocation or crushing to death.

The cruelty of fishing
Pain begins when the hook pierces the mouth and the fish is reeled in. Many people remove the hook while the fish is still alive. Pain is further increased if large fish are landed with a gaff hook. The large hook on a handle rips into the flesh of the live fish to pull out of the water. Live baiting is another barbaric activity that increases pain. A live small fish is threaded up as bait for larger fish. The needle is passed through the front of the eye socket of both eyes. The material is then pulled through so that the hook sits on the head of the bait fish. Remember the bait fish is alive and feels pain, just as a dog or cat (or indeed a human) would.

“As long as human beings will go on shedding the blood of animals, there will never be any peace.” — Isaac Bashevis Singer

Vegan Society NSW | www.vegansocietynsw.com
A vegetarian is generally referred to as someone who does not eat meat, but who does eat dairy products and eggs. A vegan however, does not eat or wear anything that has required using a animal. Therefore vegans, in addition to abstaining from meat, don’t eat milk or cheese, don’t eat eggs or honey, and don’t wear leather, wool or fur. Most vegans also avoid using products that have been tested on animals.

Most packages of food in Western countries have a list of ingredients, so it is very easy to check to see if a food contains any animal products.

There is a fantastic overview of veganism at the Vegan Society of NSW website. We can’t say it better, so rather than reproducing it here, go to their website and have a look.

**EXCUSES FOR LEATHER**

**People have always used leather**

People have certainly been using leather for at least 600,000 years but we’ve been having wars and murdering each other just as long. The antiquity of a practice is neither a guarantee of its morality nor a justification for it.

**Leather is environmentally friendly**

Leather is far from environmentally friendly; its production involves the use of lead, zinc, formaldehyde and cyanide-based products. On the other hand, the synthetic alternatives can be just as bad. Environmentally speaking there is little to choose between them. The big difference is that the leather is a product of the suffering and death of millions upon millions of animals. The ethical choice is clear. But at the same time, every effort must be made to protect the environment. It seems that the best choice, whenever possible, is canvas.

**There is no substitute for leather**

When people say there is no substitute for leather they are usually referring to their footwear. But there are many alternatives. Canvas, for example, is a natural and hard-wearing material that will see you through most (if not all) of the year. Then there are plastics (even leather shoes usually have plastic soles) and rubber.

More recently, advances have been made with waterproof and breathable synthetics like Goretex and there are now companies specialising in using materials that have the appearance and qualities of real leather. Canvas shoes are widely available but some of the newer products are not. Their availability will only increase with demand, so seek them out.

**What if I made use of an animal that was already dead?**

It is not the eating of meat that is wrong but the killing of animals unnecessarily. As meat eating is unnecessary and generally requires the killing of an animal, it usually follows that meat eating is wrong. If, however, you managed to obtain some meat without killing an animal (or by paying someone else to kill it for you) – for example, by stumbling across an animal that was already dead – then there is no moral objection to eating it. Recent archaeological evidence suggests that early humans were much more inclined toward scavenging than hunting.

**The animal was killed for food not leather**

The animal was killed for profit and every last part of it was sold to achieve that profit. It makes no difference which particular parts you buy, the money all goes the same way. The skin actually represents up to 50 per cent of the animal’s ‘value’!!

**DAIRY IS GOOD FOR YOU ... ISN’T IT?**

“I see TV ads all the time telling me that I need to eat dairy three times a day or I’ll suffer from osteoporosis, and my teeth will fall out.”

Do you believe that? Do you think that these ads are run as a community service announcement? The fact is that these ads are run for one purpose only - to sell more milk. Sure, many people (including doctors) believe this. But this is far from the truth.

If this was truly the case, why is it that the countries with the highest dairy intake, have the highest incidence of osteoporosis? Why is it that the countries with the lowest intake of dairy have the lowest incidence of osteoporosis?

The consumption of animal proteins causes loss of calcium – and the best sources of animal protein are milk and meat. The body will absorb calcium much better from vegetable sources. Magnesium assists in the absorption of calcium. Good sources of magnesium include beans, green leafy vegetables, whole grains and orange juice. Non-dairy sources of calcium include green leafy vegetables, almonds, asparagus, broccoli, cabbage, oats, beans, parsley, sesame seeds and tofu.

**INTERESTING DAIRY FACTS**

➤➤ Milk is full of casein. Casein is the main ingredient in adhesives and glues. Have you ever wondered why you’re always full of mucous, and why your children are always crying with ear infections or asthma?

➤➤ Dairy cattle are fed antibiotics as a matter of course. Recently, an organisation in the USA called Consumer’s Union tested milk in the New York metropolitan area and found the presence of 52 different antibiotics in milk samples!!

➤➤ Milk contains hormones that are fed to cattle

➤➤ In an interesting scientific curiosity, nowhere else in the animal kingdom do two species share a common hormone – except cows and humans share one called IGF-1. Excess IGF-1 has been shown to be an accelerant in the growth of cancer in the human body.
All these facts and much more scientific data can be found on the NotMilk website, www.notmilk.com. We would encourage everyone who cares about their health, who cares about their family, to go to this website and read through it thoroughly. If you are NOT convinced after reading this that dairy is not only unnecessary to good health, but actually highly detrimental to your health, then nothing will convince you.

Remember, we have nothing to gain by telling you this information. The dairy industry has everything to gain by hiding it.

Source: US website www.notmilk.com

“There’s no reason to drink cow’s milk at any time in your life. It was designed for calves, not humans, and we should all stop drinking it today.” Dr. Frank A. Oski, Former Director of Pediatrics, Johns Hopkins University

IT’S NOT HARD ON THE COW IS IT?

There are huge number of cows suffering horrendously from overly large udders caused by over-milking.

WHAT ABOUT EGGS?

All egg production involves cruelty, one of the reasons for this is because half of all chicks are killed because they are males and hence don’t lay eggs, so economics dictates they don’t live.

Also, all laying hens, regardless of the system they are used in, still undergo stress of transportation and slaughter when their egg laying declines.

Vegans choose not to eat eggs at all. Eggs are not essential to a person’s wellbeing, nor are they essential to use as an ingredient in cooking, there are many substitutes for eggs in recipes.

We will look at some of the health myths of eggs and provides alternatives for substituting eggs in recipes.

EGGS AND HEALTH

The average egg contains 213 milligrams of cholesterol, entirely in the yolk. This is the most concentrated cholesterol level in any common food.

According to Dr Neal Barnard, president of the Physicians Committee for Responsible Medicine in the USA, some people mistakenly believe that since our bodies use cholesterol we need it in our diet. Barnard says that the human body makes plenty of cholesterol for use and there is no need to add any.

Barnard says eating even one egg a day can be hazardous to your health, because it raises cholesterol levels substantially. Extra cholesterol added to the human body ends up causing plaque which clogs the arteries. The higher your cholesterol, the more susceptible one is to develop coronary artery disease.

“There is no ‘good cholesterol’ as far as foods are concerned. Simply put, cholesterol in food raises your cholesterol level.” Food For Life: How the New Four Food Groups can save your life, Neal Barnard, Harmony, 1993

About 70 per cent of the calories in eggs are from fat, and a large portion of that fat is saturated.

Saturated fat is the worse kind of fat. Saturated fat stimulates the liver to make more cholesterol.

Eggs have also been identified as being among the common triggers of arthritis and migraine. In the medical journal, The Lancet of October 12, 1991, researchers gave the results of a carefully controlled study that used a menu designed to avoid foods that trigger arthritis pain. Among the foods the controlled group avoided were eggs and many patients in the control group improved dramatically with pain either diminished gone away, and joint stiffness was no longer the routine morning misery. The same benefit has been seen for migraines.

Eggs can pose other health threats as well. Because eggshells are fragile and porous, eggs are perfect hosts for salmonella. Salmonella poisoning symptoms (vomiting, diarrhoea, abdominal cramps and fever) are very similar to the flu and many people are often unaware they have been infected.

REPLACING EGGS

Eggs are often used in baked products because of their binding and leavening properties. But there are many good substitutes for eggs.

Try one of the following next time you prepare a recipe which calls for eggs:

➤ If a recipe calls for just one or two eggs, you can often skip them. Add a couple of extra tablespoons of water for each egg eliminated to balance out the moisture content of the product

➤ Eggless egg replacers such as Egg-Like, are available in many health food stores and supermarkets (in either the health or cooking sections). Egg replacers are egg-free and are usually in a powdered form. Replace eggs in baking with a mixture of the powdered egg replacer and water according to package directions

➤ Use one heaped tablespoon of soy flour or cornstarch plus two tablespoons of water to replace each egg in a baked product

➤ Use a quarter of a cup of mashed silken tofu in place of an egg

➤ In muffins and cookies, ½ mashed banana can be used instead of an egg, though it will change the flavour of the recipe somewhat.

VEGETARIAN EATING

Nutrition advice from a fact sheet produced by Better Health Channel

Vegetarians are people who don’t eat meat or seafood and may not eat eggs or dairy foods. Vegans follow a form of vegetarianism but consume only plant foods. Well-planned vegetarian diets have many health benefits and can provide all the essential vitamins and minerals necessary for a long and healthy life.

Types of vegetarians

There are three main types of vegetarianism. These are:

➤ Lacto-ovo vegetarians – people who avoid meat and seafood, but include dairy foods (such as milk and eggs) and plant foods
➤ Lacto-vegetarians – people who avoid meat, seafood and eggs but include dairy foods and plant foods
➤ Vegans – people who consume only plant foods.

Health benefits of a vegetarian diet

A well-balanced vegetarian or vegan diet can provide many health benefits, such as a reduced risk of chronic diseases, including:

➤ Obesity
➤ Coronary artery disease
➤ Hypertension (high blood pressure)
➤ Diabetes
➤ Some types of cancer.

Vegetarians and vegans also have lower rates of illness and death from a number of degenerative diseases.

Meeting nutritional needs

If you choose to be vegetarian or vegan, you need to plan your diet to make sure it includes all the essential nutrients. The wider the variety of foods you eat, the easier it will be to meet your nutritional requirements.

Some essential dietary requirements, which could be missing from a vegetarian diet if it isn’t carefully planned, include:

➤ Protein
➤ Minerals (including iron, calcium and zinc)
➤ Vitamin B12
➤ Vitamin D.

Protein

Protein is essential for many bodily processes, including tissue building and repair. Protein is made up of smaller components called amino acids. A complete protein has all the amino acids necessary to make up protein. Most individual plant foods are not complete proteins – they only have some of the amino acids. Soy is one of the only complete vegetable proteins.

It was once thought that vegetarians and vegans needed to combine plant foods at each meal to ensure they consumed complete proteins. Recent research has found that this is not the case. Consuming various sources of amino acids throughout the day should provide the complete complement of protein. Generally, lacto-ovo vegetarians and lacto-vegetarian diets meet or exceed their protein requirements but some vegan diets may be low.

Some good plant sources of protein include:

➤ Legumes such as beans, peas and lentils
It is recommended that vegetarians and vegans eat legumes and nuts daily, along with wholegrain cereals, to ensure adequate nutrient intakes.

**Minerals**

If you're vegetarian or vegan, you need to make sure you get the right amount of essential dietary minerals.

Some of these minerals, and suggested food sources, include:

- **Iron** – vegetarian and vegan diets are generally high in iron from plant foods; however, this iron is not absorbed as well as the iron in meat. Good food sources of iron include green leafy vegetables, peas and wholegrains, enriched cereals and legumes. Combining these foods with foods high in vitamin C and food acids, such as fruit and vegetables, will help your body absorb the iron.

- **Zinc** – performs essential functions in the body, including the development of immune system cells. Good food sources of zinc include nuts, tofu, miso, legumes, wheat germ and wholegrain foods.

- **Calcium** – is needed for strong bones and teeth. Good food sources of calcium include dairy products, fortified cereals and fruits juices, fortified soy milk, tahini and some brands of tofu. Leafy dark green vegetables (especially Asian greens), legumes, almonds and Brazil nuts also contain calcium.

- **Iodine** – our bodies need iodine for the thyroid gland and other associated hormones to function normally. Iodised salt is the most common source of iodine in the Western diet. Iodine is found in seafood, which is a rich source of this element. Sea vegetables (seaweed) also contain iodine, but are also high in salt.

**Vitamin B12**

Vitamin B12 is important for the production of red blood cells – it helps to maintain healthy nerves and a healthy brain. Vegans are at risk of developing vitamin B12 deficiency because it is not found in plant products.

Anaemia is a common result of B12 deficiency. If a breastfeeding mother is following a vegan diet, the lack of vitamin B12 in her milk can interfere with normal brain development of her baby. Vitamin B12 can be found in dairy products and eggs. There are fortified vegan foods such as some soy beverages and some vegetarian sausages and burgers. If vegans don’t obtain their B12 requirement from these foods, they are advised to take B12 supplements. Vitamin B12 absorption becomes less efficient as we age, so supplements may also be needed by older vegetarians.

Mushrooms, tempeh, miso and sea vegetables are often claimed to be a source of B12. However, this is not accurate. They contain a compound with a similar structure to B12 but it doesn’t work like B12 in the body. They may contain some B12 on their surface, from soil (bacteria) or fertiliser contamination.

**Vitamin D**

The main source of vitamin D for most Australians is sunlight. There are few foods that contain significant amounts of vitamin D. There is very little vitamin D in most people’s diets unless they eat fatty fish, eggs, liver or foods fortified with vitamin D (such as margarine). Fortified low fat and skim milk is another source of vitamin D, but the levels are low.

Vegans can increase their chances of avoiding vitamin D deficiency by consuming fortified soy milk and cereals. As the sun is also a major source of vitamin D, dietary intake is only important when exposure to UV light from the sun is inadequate – for example, in people who are housebound or whose clothing covers almost all of their skin.

**Vegetarian diets and children**

Well-planned vegan and vegetarian diets are appropriate for all stages of a person’s life. However, special care needs to be taken with young children.

Infants consuming breast milk or commercial infant formula usually have their nutritional needs met. Upon weaning, it is important to include protein and energy rich foods for growth, such as mashed tofu or cottage cheese. Later, add cheese, cow’s milk, full fat soy milk and legumes. One way to ensure that vegetarian children meet their energy needs is to give them frequent meals and snacks. It is particularly important that vegan children have energy and nutrient dense foods regularly (examples include full fat soy drink, tofu, mashed avocado, tahini spread and vegetables cooked with oil).

**A global view**

Some people choose to become vegetarian or vegan as a healthy lifestyle choice or for ethical reasons. There are also sound social reasons to be a vegetarian. Livestock production accounts for nearly 80 per cent of greenhouse gas emissions from agriculture worldwide. Livestock production places a much heavier burden on water, land and fossil fuel resources than grains and other crops.

WHERE TO GET HELP

- Your doctor.
- An Accredited Practising Dietitian, contact the Dietitians Association of Australia.

THINGS TO REMEMBER

- Vegetarians don’t eat meat for a range of health, environmental, ethical, religious or economic reasons.
- A well-planned vegetarian diet can meet nutritional needs over all the stages of life.
- More restrictive vegetarian diets, such as vegan and raw food diets, are more likely to lead to nutritional deficiencies.

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www.betterhealth.vic.gov.au
**Meeting nutritional needs on a vegetarian diet**

- **Lacto-vegetarian** – eats dairy foods but not eggs, meat, poultry or seafood
- **Ovo-vegetarian** – eats eggs but not dairy foods, meat, poultry or seafood
- **Vegan** – does not eat any animal products including meat, poultry, seafood, eggs and dairy foods.

**Health benefits of vegetarian diets**

Numerous studies demonstrate the health benefits of a vegetarian or plant based diet.

In general, vegetarian diets:

- Are low in fat, particularly saturated and trans fats
- Contain a high proportion of monounsaturated and polyunsaturated fats
- Are low in cholesterol (a vegan diet is cholesterol-free)
- Are high in dietary fibre
- Contain large quantities of fruits, vegetables and legumes
- Are high in antioxidants and phytochemicals.

It is likely the combination of these factors provides vegetarians with an advantage when it comes to health.

**MEETING NUTRITIONAL NEEDS**

A well-planned vegetarian diet that includes a variety of plant based foods can meet nutritional needs. However, some nutrients may need special attention.

**Protein**

Vegetarian diets usually exceed protein requirements, although they may provide less protein than a non-vegetarian diet.

As most plant foods contain limited amounts of one or more essential amino acids, it was once thought that certain combinations of plant foods had to be eaten at the same meal to ensure sufficient essential amino acids. It is now known that strict protein combining is not necessary, provided energy intake is adequate and a variety of plant foods are eaten each day including legumes, wholegrains, nuts and seeds, soy products, and vegetables. Furthermore, soy protein has a protein digestibility corrected amino acid score (PDCAAS) that is almost identical to meat.

**Tips for meeting protein needs**

Ensure protein rich foods are part of the daily diet, including:

- Legumes such as soybeans, chickpeas, lentils, kidney beans, split peas and baked beans
- Wholegrains such as brown rice, buckwheat, polenta, quinoa, amaranth, barley and oats
- Dairy foods and eggs (lacto-ovo vegetarians)
- Soy products such as soy beverages, soy yoghurt and tofu
- Nuts and seeds.

**Vitamin B12**

Vitamin B12 (cobalamin) is found only in animal products so deficiency is a potential concern for any person following a vegetarian diet (especially a vegan diet), or any person who significantly restricts the consumption of animal products from their diet.

Serum levels of vitamin B12 are generally lower in vegetarians (especially vegans), and levels decrease the longer a person is on this type of diet. Although it can take several years for deficiency symptoms to develop, any person excluding the consumption of animal products from their diet will eventually become deficient if their diet is not adequately supplemented. All vegans should supplement their diet with vitamin B12. This is particularly important for women who are pregnant or breastfeeding, to prevent deficiency in their baby.

Small frequent doses of about 2 μg are recommended as bioavailability decreases with increasing intake.

While plant foods (including mushrooms, tempeh, miso and sea vegetables) are often reported to provide some vitamin B12, they are not a reliable source and will not prevent deficiency. These foods contain an inactive form of B12, which interferes with the normal absorption and digestion of the vitamin.
metabolism of the active form in the body. A reliable source of biologically active vitamin B12 is recommended on a regular basis, either from fortified foods or supplements.

Tips for meeting vitamin B12 needs
➤ Include dairy foods and eggs in the diet regularly (one glass of milk, plus one tub of yoghurt, plus one egg, plus 40 g cheese provides the daily requirement)
➤ For those following a vegan diet, include fortified soy beverages. There are also some other fortified foods such as vegetarian burgers, sausages and yeast extracts (2.5 glasses of a fortified soy beverage provides the daily requirement)
➤ For those who do not eat foods containing vitamin B12, a B12 supplement should be taken.

Iron
There are two types of iron in food: haem and non-haem iron. Haem iron is found in animal foods and nonhaem iron is found in eggs and plant foods. Non-haem iron is not as well absorbed by the body, but its absorption is increased significantly in the presence of vitamin C. Absorption is also regulated by requirements; lower body stores result in increased absorption and reduced excretion. Tannins in tea and coffee, and phytates in wholegrains and legumes can inhibit the absorption of iron, although the presence of vitamin C can help overcome the effects of these inhibitors.

Vegetarian diets can contain as much or more iron (nonhaem) than mixed diets, primarily from wholegrain breads and cereals. Surprisingly, iron deficiency is not more common in vegetarians, although iron stores (serum ferritin levels) are often lower.

Tips for meeting iron needs
➤ Eat legumes, tofu, tempeh, nuts, seeds, brown rice and wholegrains (breads, cereals) regularly
➤ Use sprouted legumes (e.g. mung beans) in salads and sandwiches
➤ Avoid excessive intake of unprocessed wheat bran.

Zinc
While zinc is found widely in plant foods, its absorption is dependent on body stores and requirements; the body appears to adapt to lower intakes by reducing losses and increasing absorption. As with iron, absorption is reduced by phytates found in wheat bran, wholegrains and legumes. Processing a food by leavening (yeast in breads), soaking, fermenting or sprouting can reduce the phytate level and make zinc more readily available.

Tips for meeting zinc needs
➤ Eat legumes, tofu, tempeh, nuts, seeds, brown rice and wholegrains (breads, cereals) regularly
➤ Use sprouted legumes (e.g. mung beans) in salads and sandwiches
➤ Avoid excessive intake of unprocessed wheat bran.

Calcium
Research has found calcium intakes are generally similar between vegetarians and non-vegetarians, and a recent review of the literature concluded that there are no differences in bone health between lacto-ovo vegetarians and non-vegetarians. Plant versus animal sources of calcium and their effectiveness in maintaining bone health remain contentious. Despite a much lower intake of calcium, one recent study found that calcium intakes, not differences in bone density, are identical between lacto-ovo vegetarians, and non-vegetarians. For lacto-ovo vegetarians, dairy foods provide plenty of calcium. With some careful planning, vegans can obtain their calcium from calcium fortified soy beverages, calcium fortified yoghurt, tofu (set in calcium salts) or other plant foods containing calcium. Some plant foods provide a significant amount of bioavailable calcium, despite often having lower calcium content than dairy foods. Absorption of calcium is improved in the presence of vitamin D and some research has found it to be inhibited by sodium, caffeine and excess animal protein.

Tips for meeting calcium needs
➤ Aim for three serves of calcium-rich foods each day from a variety of sources including dairy products, calcium fortified products and plant foods, such as tofu set with calcium, almonds, unhuessed tahini, dried figs and dark green leafy vegetables (e.g. broccoli and Asian greens such as bok choy, kale, collard greens and Chinese cabbage).

One serve is equal to:
- 250 mL milk or calcium-fortified soy beverage (with at least 100 mg calcium per 100 mL)
- 40 g cheese
- 200 g yoghurt or calcium-fortified soy yoghurt
- 150 g of calcium set tofu
- 1.5 cups Asian greens
- 1 cup almonds
- 5 dried figs
- 3 tablespoons of unhuessed tahini
➤ Limit salt intake
➤ Limit caffeine found in tea, coffee, cola and ‘energy’ drinks
➤ Ensure adequate vitamin D – for most people this can be obtained from a sensible and safe amount of natural sunlight on the skin.

CONCLUSION
A varied and well-balanced vegetarian diet can provide all of the nutrients needed for good health. A vegetarian diet that is low in saturated fat, high in fibre (with plenty of wholegrains, fruits and vegetables), contains moderate amounts of protein foods and includes limited added fats and sugars will closely match healthy eating recommendations for the general population. However, a vegetarian diet requires careful planning, particularly for new vegetarians, to ensure nutritional needs are met. Key nutrients to consider in planning a vegetarian diet include protein, vitamin B12, iron, zinc and calcium. An Accredited Practising Dietitian can provide individual, practical nutrition advice to assist vegetarians to enjoy a varied and well-balanced diet (see Resource).

RESOURCES
For more information on vegetarian eating, visit the Dietitians Association of Australia website at www.daa.asn.au. To refer to a local Accredited Practising Dietitian, check out the ‘Find an APD’ search tool on the website.
Numerous scientific studies have shown that people who eat a healthy vegetarian diet are less likely to develop:

- Obesity or be overweight
- Heart disease
- Type II diabetes
- Some forms of cancer.

Scientific studies show vegetarians, on average, are thinner and have a lower body mass index than non-vegetarians.  
Vegetarians have a lower risk of developing heart disease and are 24 per cent less likely to die from heart disease compared with non-vegetarians.  
Vegetarians are twice as likely to have lower blood pressure compared to non-vegetarians.  
Non-vegetarians have a 54 per cent increased risk of developing prostate cancer and an 88 per cent increased risk of developing bowel cancer.  
The World Cancer Research Fund estimates that the incidence of cancer can be reduced by 30-40 per cent if people consume plant-based diets, are physically active and maintain a healthy body weight.

Vegetarians enjoying a plant-based diet have a higher fibre intake, between 50 per cent and 100 per cent more fibre than non-vegetarians, helping to reduce constipation and the risk of developing diverticular disease.

Vegetarians may be half as likely to develop gallstones as non-vegetarians.

A high animal protein intake has been linked with an increased risk of developing osteoporosis. Growing evidence suggests higher intakes of potassium, magnesium and fruit and vegetables are associated with a beneficial impact on bone strength.

ENDNOTES


Health benefits of being vegetarian

The American Dietetic Association agrees that a well-planned vegetarian diet, with a wide variety of plant-based foods such as fruits, vegetables, breads, cereals, wholegrains, legumes, dairy products or alternatives and nuts and seeds can be nutritionally adequate and healthy.¹

A well-planned vegetarian diet provides essential nutrients including protein, iron, calcium, zinc, vitamin B12, iodine and essential fatty acids, and is suitable for all ages, including infants and children, and also breastfeeding and pregnant women. ¹

Vegetarians have lower levels of the hormone oestrogen, and this may be the reason why they have a lower incidence of breast cancer.²

Vegetarians may be half as likely to develop gallstones as non-vegetarians.³

Vegetarians have a lower risk of developing heart disease⁴ and are 24 per cent less likely to die from heart disease compared with non-vegetarians.⁵

Vegetarians are twice as likely to have lower blood pressure compared to non-vegetarians.⁶

Non-vegetarians have a 54 per cent increased risk of developing prostate cancer and an 88 per cent increased risk of developing bowel cancer.⁷

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REFERENCES

Vegetarians are people who don’t eat meat and meat products. People may be vegetarians or vegans for ethical, environmental, health or cultural reasons. If parents are vegetarians, they may want their children to eat the same way that they do.

For most healthy children, a vegetarian diet can provide a nutritious alternative to a diet that includes meat. However, special care needs to be taken with children on all vegetarian diets, especially vegan diets. Strict vegan diets are generally not recommended for very young children.

Types of vegetarians

There are different types of vegetarians, determined by the types of foods a person does not eat.

Vegetarians can be classified into the following groups:

➤ Lacto-ovo vegetarians – exclude red meat, offal, fish and poultry. Obtain protein from dairy products, eggs, beans, legumes, pulses and nuts

➤ Lacto-vegetarians – exclude red meat, offal, fish, poultry and eggs. Obtain protein from dairy products, beans, legumes, pulses and nuts

➤ Vegans – exclude red meat, offal, poultry, fish, eggs and dairy products. Obtain protein from beans, legumes, pulses, nuts and soy products like tofu.

The type of vegetarian diet most commonly associated with significant nutritional problems in children is the vegan diet.

Vegetarian mothers and breastfeeding

If your diet is healthy, breast milk alone will be enough until your baby is around 6 months.

Make sure you eat plenty of the following foods because they contain important vitamins and minerals:

➤ Protein foods such as nuts, eggs, dried beans and lentils, and tofu

➤ Dairy products such as cow's milk, cheese and yoghurt or soy products fortified with calcium

➤ Cereal and grain foods, including fortified or wholegrain cereals and grains

➤ A variety of fruit and vegetables, including green leafy vegetables

➤ Polyunsaturated or monounsaturated oils.

A severe lack of vitamin B12 in breast milk can cause brain damage to your baby. It can also cause anaemia in the mother. Vitamin B12 deficiency could occur if your diet has excluded all foods of an animal origin over a number of years. Vitamin B12 is found mainly in animal products, milk and eggs.

Mushrooms are often claimed to be a source of B12. However, this is not accurate. They contain a compound with a similar structure to B12 but it doesn’t work like B12 in the body.

If you are a vegan and are breastfeeding, you may need vitamin or mineral supplements. Talk to your doctor or dietitian.

Children need good nutrition

To make sure your child gets enough of all the nutrients needed for a growing child, their vegetarian diet must include:

➤ Protein alternatives such as nuts, eggs, legumes and tofu

➤ Energy for growth and development

➤ Iron to prevent anaemia

➤ Vitamin B12

➤ Vitamin D and calcium to prevent bone disease

➤ Suitable fats from non-meat sources

➤ Food in the correct form and combination to make sure nutrients can be digested and absorbed.

Breast milk or formula will remain an important food for babies up until 12 months. Talk to your child and maternal health nurse about the introduction of solids.

Recommended sources of protein

Meat provides an easily absorbed, concentrated source of protein but other foods can also provide a good source of protein. These include dairy products, eggs, grains, legumes, pulses and various soy foods (such as tofu, tempeh and seitan). It is possible to consume enough protein for...
proper growth and development by following a vegan or vegetarian style of eating.

**Beans and legumes**

Small serves of protein should be included at each main meal. Suggestions for beans and legumes include:

- Baked beans
- Lentils
- Chickpeas and hummus
- Red kidney beans
- Butter beans
- Cannellini beans
- Borlotti beans
- Three bean mix
- Haricot beans
- Smooth nut butters.

Pulses should be thoroughly cooked to destroy toxins and to help digestion. Undercooked pulses can cause vomiting and diarrhoea.

**Children’s high-energy needs**

Young children have high-energy needs and a small stomach. You should include a mixture of refined and unrefined (wholegrain) cereals and a variety of energy-giving foods in your child’s diet.

These can be found in the following foods:

- **Cereals** – all types of cereal are suitable for vegetarian diets. This includes baby cereals such as infant rice cereal and wholegrain cereals and refined cereals like pasta, flour, white rice and white bread
- **Dairy products** – full fat dairy products are the most common choice. An alternative is soy milk with added calcium. Some soy milks also have added vitamin B12
- **Fruit and vegetables** – include a wide variety of fruit and vegetables every day. As a guide, aim for two small serves of fruit and three small serves of vegetables
- **Oils** – include soy and canola oils because they contain linolenic acid, which is important for brain and nervous tissue function. Oils also provide energy.

**Be careful with fibre**

Watch the amount of fibre in your child’s diet. Too much fibre can lead to poor absorption of important nutrients including:

- Iron
- Zinc
- Calcium.

Too much fibre can also be extremely filling, which may prevent a child from eating enough food for their energy needs. Try to introduce a variety of high-energy foods, such as avocados and vegetable oils, to meet your child’s energy needs.

**Vegetarian diets for very young children**

Suggestions for a vegetarian diet for baby and young child include:

- **Milk** – continue breastfeeding or using fortified infant formula until at least 12 months
- **Solids** – don’t delay the introduction of solids
- **Grains, fruit and vegetables** – include baby rice cereal, fruits and vegetables (consider continuing with iron-fortified rice cereal for longer) as first solids
- **Offer a variety of solids** – after 6 months begin with pureed fruit and vegetables. On advice from your child and maternal health nurse, you can later add soft cooked beans, lentils and pulses, tofu, pasteurised yoghurt, cheese, egg, avocado, smooth peanut and other nut pastes or sesame seed paste (tahini).

**Tips for your child’s vegetarian diet**

For a family considering a change to a vegetarian diet, or for those who want to bring up a child on a vegetarian diet, it is important to:

- Understand what foods need to be substituted in the diet as energy, protein and vitamin sources may need to be ‘topped up’
- Encourage your child to eat a wide variety of foods
- Alternate wholegrain and refined cereal products
- Combine lower energy vegetarian foods, such as vegetables, with higher fat foods: for example, vegetable fritters
- Increase the energy value of food by the use of nut butters, avocado, full fat dairy products, fat spreads and oils
- Give your child regular meals and snacks
- Combine foods containing vitamin C with foods that are high in iron. For example, offer an orange with baked beans on toast. Vitamin C enhances the absorption of iron.

*If you are going to place your child on a vegetarian diet, it is a good idea to see a health professional for advice about a balanced diet and supplements.*

**WHERE TO GET HELP**

- Your doctor.
- Your maternal and child health nurse.
- An Accredited Practising Dietitian, contact the Dietitians Association of Australia.
- Royal Children’s Hospital Tel. (03) 9345 5522.

**THINGS TO REMEMBER**

- In healthy children a vegetarian diet can provide a nutritious alternative to a diet that includes meat.
- Vegetarian diets are prone to vitamin and protein deficiencies, so care must be taken that nutritional needs are met.
- Very young children and babies should not eat a strict vegetarian diet.

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www.betterhealth.vic.gov.au
Vegetarian eating for young people

Increasingly, young people are choosing not to eat meat. **Women and Children’s Health Network** examines the nutritional requirements of young vegetarians.

There are a number of different styles of vegetarian eating, with the main ones being:

- Vegetarian – avoids all meat or fish products
- Lacto-ovo vegetarian – avoids meat, but eats egg and milk products
- Vegan – avoids all foods of animal origin, e.g. dairy foods, eggs, and gelatin.

Some people will eat limited amounts of meat, chicken and fish – but this is not a true vegetarian diet.

**WHY PEOPLE CHOOSE TO BECOME VEGETARIAN**

An increasing number of young people, especially young girls are choosing not to eat meat, particularly red meat.

Vegetarianism may be a short-lived decision for some young people – for others it may be for a lifetime.

Reasons for choosing to become a vegetarian include:

- Concerns about the killing of animals
- Some young people choose not to eat meat because it makes them feel ‘heavy’
- Taste – they don’t like meat
- Living in a vegetarian household
- Religious beliefs
- It is trendy
- Budget reasons – meat can be expensive
- A small number may become vegetarian when they have an eating disorder such as anorexia nervosa.

**VEGETARIAN EATING AND HEALTH**

- A well-planned vegetarian diet will help keep excellent health and may lessen the risk of some diseases such as high blood pressure, heart disease and some cancers
- Vegetarians in non-vegetarian households may not eat as well because they may be less likely to get help about what they need to eat if the family is not used to planning vegetarian meals
- A vegan diet has a greater chance of causing health problems than other kinds of vegetarian diet
- Young people, especially, have high needs for the right kinds of food because they are growing quickly. Many adolescent girls do not get enough protein, calcium, iron and zinc even when they do eat meat
- It is very important that young people on a vegetarian diet plan their meals and snacks to make sure that their health needs are met
- A young woman who becomes pregnant has added needs for vitamins, protein and minerals and needs to take extra care with her diet.

**GETTING ENOUGH IRON**

- Lack of iron can be one of the health problems for young girls on a vegetarian diet. This is often seen as anaemia (lack of red blood cells in the blood) causing of lack of energy
- Low iron in females is most likely to happen in the 13-22 year age group
- Starting periods means that young women need more iron because they are losing some blood. The amount of iron they get may be even less because teenagers sometimes tend to be irregular about their meals and what they eat.

Getting the most iron from food can be helped by the following:

- Eating foods every day which are high in easily digested iron, such as chicken or fish (if these are eaten)
- Eating plant foods every day which contain iron, as suggested in the list below
- Eating together foods containing Vitamin C and foods containing plant sources of iron, helps the body to use the iron better. For example if orange juice is part of breakfast, the Vitamin C in the orange juice helps to make best use of the iron in the other foods (such as cereals)
- Eating foods which have added iron, e.g. breakfast cereals, bread, pasta
- Avoiding tea and coffee at meals as this can prevent all of the iron being digested
- Avoiding eating too much bran.

**Note:** Iron from animal foods is more easily absorbed than iron from plant foods.

Vitamin C is found in many foods. Some examples are:

- Vegetables such as capsicum, tomato, broccoli, cauliflower, cabbage and potato
- Tropical, berry and citrus fruit juices (e.g. orange and lemon juice)
- Berries
- Citrus fruits (e.g. oranges, lemons, grapefruit)
- Tropical fruit (e.g. bananas, pineapples, mangoes).

**VEGETARIAN FOODS HIGH IN IRON**

The amount of iron needed each day is:

- 6-8 mg per day for children up to 11 years
- 10-13 mg per day for all young people 12-19 years old (male and female), and for women who are having periods or are pregnant
- 7 mg per day for men and post-menopausal women.

**GETTING ENOUGH ZINC**

Zinc is needed for growth and...
repair of body cells. Vegetarians can get zinc when they eat legumes (see Legumes), eggs, milk and milk foods.

**GETTING ENOUGH VITAMIN B12**

- B12 is a vitamin essential for making blood cells and nerves
- The only reliable sources of vitamin B12 are animal foods
- Lacto-ovo vegetarians should be able to meet their needs with eggs, milk and milk products
- Vegans can be at risk of not getting enough and should make sure they get extra vitamin B12 in their diet. Look for foods like soy milk with added B12. B12 may also be found in fermented foods such as miso, tempeh, cider and fermented sauerkraut
- Young women who are vegans and are pregnant or breastfeeding a baby need a lot of extra vitamin B12 for normal development of the baby’s brain. They probably need to take vitamin tablets which contain B12
- It is important for vegans to see a dietitian before they are pregnant or as soon as possible after they get pregnant.

**GETTING ENOUGH CALCIUM**

Calcium is essential for strong, healthy bones and teeth. It is also needed for the nerves, muscles and blood clotting. Low calcium in the diet for a long time can lead to osteoporosis (thin, weak bones).

There is plenty of calcium in milk and milk foods so lacto-ovo vegetarians should have dairy foods in their daily meals. Vegans can get more calcium by eating nuts, soybeans, calcium-enriched soy milks, dried fruits, broccoli and sesame seeds.

**VITAMIN SUPPLEMENTS**

Vitamin supplements are not generally needed for someone who is a vegetarian

- A doctor can do blood tests to check whether the person is getting the right kind of foods for health
- A dietitian can help to work out a healthy and balanced eating plan to suit the each person’s needs and taste

<table>
<thead>
<tr>
<th>FOOD</th>
<th>AMOUNT</th>
<th>AMOUNT OF IRON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lentils/dried beans, peas</td>
<td>1 cup cooked</td>
<td>3-4 mg</td>
</tr>
<tr>
<td>Baked beans</td>
<td>½ cup</td>
<td>2 mg</td>
</tr>
<tr>
<td>Cooked peas</td>
<td>½ cup</td>
<td>1.2 mg</td>
</tr>
<tr>
<td>Cooked broccoli</td>
<td>1 cup</td>
<td>1.5-2 mg</td>
</tr>
<tr>
<td>Cooked spinach</td>
<td>½ cup</td>
<td>2.2 mg</td>
</tr>
<tr>
<td>Boiled/baked potato</td>
<td>1 cup</td>
<td>½ to 1 mg</td>
</tr>
<tr>
<td>Iron fortified cereals</td>
<td>30 g</td>
<td>2-3 mg</td>
</tr>
<tr>
<td>Wholemeal bread</td>
<td>1 slice</td>
<td>1 mg</td>
</tr>
<tr>
<td>Egg</td>
<td>1 egg (60 g)</td>
<td>1 mg</td>
</tr>
<tr>
<td>Dried apricots</td>
<td>5-6 pieces (30 g)</td>
<td>1.5 mg</td>
</tr>
<tr>
<td>Dried peaches</td>
<td>2-3 pieces (30 g)</td>
<td>2 mg</td>
</tr>
<tr>
<td>Dried figs</td>
<td>3 med (60 g)</td>
<td>1 mg</td>
</tr>
<tr>
<td>Raisins</td>
<td>30 g</td>
<td>0.6 mg</td>
</tr>
<tr>
<td>Almonds/walnuts</td>
<td>30 g</td>
<td>1 mg</td>
</tr>
<tr>
<td>Cashew nuts</td>
<td>30 g</td>
<td>1.5 mg</td>
</tr>
<tr>
<td>Tahini/sesame butter</td>
<td>1 tablespoon</td>
<td>1.8 mg</td>
</tr>
<tr>
<td>Peanut butter</td>
<td>1 tablespoon</td>
<td>0.5 mg</td>
</tr>
<tr>
<td>Milo</td>
<td>4 heaped teasp. (20 g)</td>
<td>4.7 mg</td>
</tr>
<tr>
<td>Ovaltine</td>
<td>3 heaped teasp. (15 g)</td>
<td>2.6 mg</td>
</tr>
</tbody>
</table>

**WHAT PARENTS CAN DO**

- Encourage your daughter or son to see a nutritionist and work out a healthy eating plan that suits their needs and what they like to eat
- Encourage your daughter or son to help with shopping for food, planning and getting meals
- Don’t pressure young people to eat meat as there is a risk of pushing the them ‘into a corner’ where they eat an even less healthy diet
- If you are worried about their weight or health get them to see a doctor to have a general health check and a blood test
- Have vegetarian meals for the whole family more often. Remember these can be tasty and good for the rest of the family as well.

**Meal ideas**

Every day have a good serve of legumes such as lentils, chilli beans, soybeans, chickpeas etc or meat substitute such as TVP (Textured Vegetable Protein) or nut protein

- Extra vitamins may be suggested by the doctor or dietitian if they find there are some food needs that are not being met.
- Vegans should include two kinds of plant protein at each meal if possible i.e.:  
  - Cereal and nuts/seeds (peanut paste sandwich)
  - Cereal and legumes (beans and rice)
  - Legumes and nuts/seeds (humus dip)
- Look in the vegetarian sections at the supermarket for new ideas and foods
- Mix boiled rice and steamed vegetables. Stir fry if preferred in a little oil or tasty sauce. Sprinkle with walnuts
- Try new forms of grains for variety e.g. couscous, burghul. These are easily prepared and mix well with legumes, vegetables and nuts
- Zucchini slice is an easy meal for vegetarians who eat cheese and milk
- Buy firm tofu, cut it up into small cubes and marinate (soak in soy sauce for example) for a couple of hours then fry in a little oil until crisp. Stir fry vegetables, mix in the tofu and serve with rice.
LEGUMES

Legumes are foods such as fresh and dried peas and beans (also known as pulses) and lentils. Dried legumes are good for vitamins, protein, minerals and fibre. They can be stored easily as they keep for a long time. They include soybeans, chickpeas (used to make hummus), haricot beans (used in baked beans), aduki beans, black beans, black-eyed beans, borlotti beans, broad beans (these can be eaten fresh or dried), butter beans, cannellini beans, lima beans, kidney beans, mung beans, marrow beans, and lentils.

Preparing Legumes

- Dried beans and peas need to be soaked in water (e.g. overnight), rinsed and then gently boiled until they are soft. You can cook them with herbs and/or spices to vary the flavour. After this they can be added to any recipe
- It is often easier to buy chickpeas and soybeans precooked in cans because uncooked ones take a long time to cook
- Red and green and brown lentils should be soaked in water for an hour or two. Rinse under running water and cook in boiling water for two minutes (red lentils) to ten minutes (green/brown lentils)
- Legumes can be cooked in large amounts and frozen for future use.

Ways to use legumes

- Cook them with herbs and/or spices to vary the taste
- Add canned/cooked beans to vegetarian tomato sauces for use over pasta
- Buy or make humus as a dip with crackers. Humus can be made with a can of chickpeas, drained, a cup of tahini, juice of 2 lemons, 4 cloves of garlic and as much of the liquid from the can as needed to make a dip. Blend in a food processor
- Mash canned legumes and mix with yoghurt and herbs and/or spices to make a quick sandwich filler or dip
- Use canned legumes in salad. Rinse with cold water and drain before use
- Use lentils and/or dried beans in winter soups with lots of vegetables i.e. minestrone. Serve with crusty rolls
- Use beans and TVP to make a vegetarian chilli-con-carne which can be used over rice, in taco shells, over baked potatoes, etc
- Buy a taco kit and add a cup of cooked brown lentils with the taco seasoning
- Make pasta sauce with lentils instead of mincemeat
- Buy/make refried beans for use on nachos
- Beans can be pureed (blended) and used in sauces for extra protein and nutrients
- Make lentil or chickpea and potato curry and serve with rice and mango chutney.

Beans and gas

Some people believe that adding baking soda to the soaking water reduces the gas produced from eating beans. It is unclear whether this does have a beneficial effect and it may lead to the loss of B vitamins. Rinsing beans after soaking may be helpful. When you start eating beans it is best to start with small amounts and build up gradually. This helps prevent gas and gastric upsets.

SAMPLE MENUS

<table>
<thead>
<tr>
<th>MEAL</th>
<th>VEGAN</th>
<th>LACTO-OVO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>Orange juice</td>
<td>Orange juice</td>
</tr>
<tr>
<td></td>
<td>Porridge or muesli and soy milk (fortified)</td>
<td>Porridge or muesli with milk</td>
</tr>
<tr>
<td></td>
<td>Wholemeal toast and margarine</td>
<td>Wholemeal toast and margarine</td>
</tr>
<tr>
<td></td>
<td>Peanut butter or baked beans</td>
<td>Egg</td>
</tr>
<tr>
<td>Lunch</td>
<td>Wholemeal salad sandwich</td>
<td>Wholemeal cheese or peanut butter sandwich</td>
</tr>
<tr>
<td></td>
<td>Nuts and dried fruit</td>
<td>Salad</td>
</tr>
<tr>
<td></td>
<td>Fresh fruit and juices</td>
<td>Fresh fruit or juice</td>
</tr>
<tr>
<td>Tea/dinner</td>
<td>A meal made with legumes e.g. chilli beans</td>
<td>A meal made with legumes e.g. chilli beans</td>
</tr>
<tr>
<td></td>
<td>lentil patties, soybean patties **</td>
<td>lentil patties, soybean patties **</td>
</tr>
<tr>
<td></td>
<td>Baked potato or brown rice</td>
<td>Baked potato or brown rice</td>
</tr>
<tr>
<td></td>
<td>Green and yellow vegetables</td>
<td>Green and yellow vegetables</td>
</tr>
<tr>
<td></td>
<td>Wholemeal roll</td>
<td>Wholemeal roll</td>
</tr>
<tr>
<td></td>
<td>Dried fruit and nuts</td>
<td>Fresh fruit and cheese</td>
</tr>
<tr>
<td></td>
<td>or fruit salad and sunflower seeds</td>
<td>or fruit salad and yoghurt</td>
</tr>
<tr>
<td>Snacks</td>
<td>Fruit – fresh or dried</td>
<td>Fruit – fresh or dried</td>
</tr>
<tr>
<td></td>
<td>Juice</td>
<td>Juice</td>
</tr>
<tr>
<td></td>
<td>Wholemeal bread or biscuits</td>
<td>Wholemeal bread or biscuits</td>
</tr>
<tr>
<td></td>
<td>Soy milk</td>
<td>Cheese/yoghurt/milk</td>
</tr>
<tr>
<td></td>
<td>Nuts</td>
<td>Nuts</td>
</tr>
</tbody>
</table>

** Bean patties can be made very simply by mashing a can of beans and mixing with a lightly fried onion, garlic and chilli if liked. Add one cup of packet seasoning (stuffing) mix and then add hot water to make a stiff mixture. Form into patties and fry.

REFERENCES


This information should not be used as an alternative to professional care. If you have a particular problem, see a doctor, or ring the Parent Helpline on 1300 364 100 (local call cost from anywhere in South Australia). This topic may use ‘he’ and ‘she’ in turn – please change to suit your child’s sex.

Women and Children’s Health Network www.cyh.com

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44 Vegetarianism

Issues in Society | Volume 339
Basic vegetarian nutrition

A balanced vegetarian diet will contain all the necessary nutrients for optimum health (including ample protein and iron), and is accompanied by some distinct health benefits. Plant-based diets contain no animal protein or cholesterol, and are typically lower in saturated fatty acids, while containing significantly more folate, fibre, antioxidants, phytochemicals and carotenoids than meat-based diets.

For a healthy, well-balanced diet, a variety of different foods should be consumed regularly, though it is not necessary to fuss over the special combining of nutrients at each meal.

Protein

On average, a typical meat-centric Western diet contains considerably higher protein intakes than recommended (this can lead to some adverse health effects). Plant-based diets on average contain significantly less protein than meat-based diets, but do contain adequate amounts to meet recommendations and sustain optimum health. In order to obtain the full range of amino acids, it is recommended that protein from different sources be consumed (for example, rice and lentils, or beans on toast). Protein from different sources should be consumed throughout the course of the same day, but it is not necessary to combine them at the same meal.

Iron

Many people have been led to believe that sufficient iron can only be obtained from meat. This is not true. As the table above indicates, there are many non-animal sources of iron consumed by vegetarians. Consequently, those who follow a plant-based diet typically have iron levels that are similar if not higher than those who eat meat. This can be attributed to the fact that the absorption of non-haem iron (that found in plant sources) is enhanced by the presence of vitamin C, which is generally present in higher levels in a vegetarian diet. Vegetarians and meat eaters alike face a similar risk of anaemia.

Vitamin B12 is an important nutrient which assists with the proper formation of cells and the function of the nervous system.

Vitamin B12

Vitamin B12 is an important nutrient which assists with the proper formation of cells and the function of the nervous system. It is particularly important for pregnant or breastfeeding mothers to ensure their B12 intake is sufficient. The vitamin is created by bacteria and is found in high doses on the surface of decomposing substances such as meat and other animal products. It is also known to be consumed in higher doses by communities with lower sanitation and hygiene standards than would be found in a typical Western society. Although only a tiny amount (just 2μg daily) of B12 is required, our hygiene-conscious Western society has made it difficult for those consuming a purely plant-based diet to naturally attain adequate amounts of this important nutrient without fortified foods or supplements. Some soy milks and some mock meats (e.g. some veggie sausages) have vitamin B12 added – check the label to be sure. To ensure an adequate supply of vitamin B12, simply have three serves of vitamin B12-fortified foods per day, or take a daily vitamin supplement containing at least 10 micrograms of vitamin B12 (many multivitamin tablets contain this amount).

Omega 3 fatty acids

It is essential to consume regular doses of Omega 3 in order to retain optimum brain function, making Omega 3 an important nutrient in a healthy diet. While Omega 3 from oily fish can be accompanied by

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NON-ANIMAL SOURCES OF NUTRIENTS

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Example Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omega 3 fatty acids</td>
<td>Linseeds (or flaxseeds), soybean oil, rapeseed oil, tofu, walnuts</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>Green leafy vegetables, yellow/orange vegetables or fruits</td>
</tr>
<tr>
<td>Vitamin B2 (riboflavin)</td>
<td>Fortified breakfast cereals, fortified soya drinks, almonds</td>
</tr>
<tr>
<td>Vitamin B12</td>
<td>Exposure to sunlight, fortified breakfast cereals, vegetable margarines</td>
</tr>
<tr>
<td>Calcium</td>
<td>Fortified soya drinks, sesame seeds, white/brown bread, fortified fruit juice, dried figs, broccoli, green leafy vegetables (except spinach), molasses, beans and pulses, tofu, soya mince</td>
</tr>
<tr>
<td>Zinc</td>
<td>Tofu, legumes (e.g. baked beans, chickpeas, lentils), peas, nuts and seeds (e.g. cashew nuts, sunflower seeds), wholegrain cereals and wholemeal bread</td>
</tr>
<tr>
<td>Iron</td>
<td>Fortified breakfast cereals, wholemeal bread, dried fruit (e.g. apricots, prunes, raisins), green leafy vegetables, beans and pulses, molasses, nuts and seeds (almonds, pumpkin seeds, sesame seeds), tofu</td>
</tr>
<tr>
<td>Selenium</td>
<td>Brazil nuts, sunflower seeds, molasses, wholemeal bread</td>
</tr>
<tr>
<td>Iodine</td>
<td>Iodised salt, seaweed</td>
</tr>
<tr>
<td>Protein</td>
<td>Soy products, meat substitutes, legumes, lentils, nuts, seeds, and whole grains</td>
</tr>
</tbody>
</table>

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contaminants including mercury (not to mention the devastating impacts of commercial fishing on the environment), there are sufficient plant-based sources of this important nutrient as well. Reliable plant-based sources of Omega 3 include linseeds (or flax seeds), soybean oil, rapeseed oil, and walnuts. Having a tablespoon of ground flaxseeds (also know as linseed) or 1-2 teaspoons of the oil per day will ensure a good supply of omega 3 fatty acids. As the oil loses its value when heated, add it to a cold drink or use in a salad dressing. Alternatively, flaxseed oil capsules are available.

**Vitamin D**

Vitamin D is essential for calcium absorption and optimum bone health. It is naturally produced in the body, provided that there is regular exposure to sunlight by bare skin. If your exposure to sunlight is less than a few hours a week, taking a supplement such as a daily multivitamin containing vitamin D is recommended.

**Calcium**

As the table on the previous page illustrates, calcium is found in a wide variety of non-animal foods (despite what the dairy industry would like us to believe!). In fact – it is well-documented that high intakes of protein (commonly found in a meat and dairy-laden diets) can significantly reduce calcium retention. In the case of dairy milk, the value of the calcium it contains is compromised by the accompanied high doses of animal protein, resulting in less than favourable calcium retention. This is further illustrated by the fact that countries with the highest dairy intakes are also the countries with the highest incidence of osteoporosis. And similarly, those countries (such as Japan) who consume the least dairy, have the lowest incidence of osteoporosis. A plant based diet containing sufficient calcium-rich foods (and sufficient vitamin D) will ensure optimum bone health.

**Iodine**

Iodine is an important trace element that is necessary for normal physical and mental growth and development. Too little or too much iodine can cause health problems. Vegetarian sources of iodine include seaweed and iodised salt, and small amounts of these should be consumed for good health. Alternatively, a daily multivitamin tablet containing iodine can be take to help ensure an adequate intake.

A well-balanced vegetarian diet containing a variety of foods including fruit, vegetables, nuts, seeds, grains and legumes will ensure optimum health, and even help reduce the risk of some of the major health threats facing Australians today. Naturally, diet is not the only factor in leading a healthy lifestyle. Smoking and the consumption of caffeine, alcohol, and limited exercise are also major factors in health and wellbeing. However, on average, those who follow vegetarian diets are known to have a greater life expectancy.

Those countries who consume the least dairy, have the lowest incidence of osteoporosis.

As is the case with any diet, differing life stages (such as pregnancy, lactation, infancy, childhood, adolescence) require differing nutritional requirements, and should be carefully considered. The Physicians Committee for Responsible Medicine (PCRM) have published extensive information relating to the nutrition of vegetarian diets. Please follow these links from the PCRM website, [www.pcrm.org](http://www.pcrm.org), for further information:

➤ [Vegetarian Nutrition FAQ](http://www.pcrm.org)
➤ [Vegetarian Diets for Pregnancy](http://www.pcrm.org)
➤ [Vegetarian Nutrition for Infants](http://www.pcrm.org)
➤ [Vegetarian Nutrition for Children](http://www.pcrm.org)
➤ [The New Four Food Groups](http://www.pcrm.org)

*WhyVeg.com* is an initiative of Animals Australia, Australia’s most dynamic national animal protection organisation.
HEALTHY EATING TIPS
A DIETARY GUIDE FROM THE SANITARIUM HEALTH AND WELLBEING COMPANY

Eating a balanced vegetarian diet
Eating a healthy and balanced vegetarian diet is easier than you may think and it doesn’t have to be just lettuce leaves and baked beans! Contrary to the perception that plant-based diets are dull and boring, this style of eating permits the enjoyment of a wide variety of foods, flavours and textures, while enhancing energy levels and overall health.

There are a wide variety of nutritious plant foods to choose from – and the right combination of foods helps to ensure you meet your nutrition requirements. Use the information below as a guide to following a healthy well balanced plant-based diet.

Choose mostly from:
Wholegrain foods
Wholegrain cereal foods contain a powerful combination of vitamins, minerals, fibre, protein, carbohydrate and hundreds of naturally occurring antioxidants and phytonutrients. These work synergistically within the body to promote health and protect against disease.

Wholegrains contain all three parts of the grain – the outer bran layer, germ and endosperm.

Types of wholegrains include whole wheat, oats, barley, rice, millet and buckwheat. These grains are found in wholegrain breads, breakfast cereals, crackers, pastas and noodles. It is important to include wholegrain foods in your diet each day.

Try to include at least two serves of wholegrain foods a day. One serve of wholegrain bread is equal to 2 slices of wholegrain bread, 1 cup cooked wholegrain pasta or brown rice, 1 cup cooked porridge, ½ cup untoasted muesli or ½ cup wholemeal flour.

Healthy tips to include more wholegrains in your diet:
➤ Choose cereals made of wholegrains e.g. Sanitarium Weet-Bix, muesli or porridge made from rolled oats
➤ Replace white rice with brown rice
➤ Use wholemeal flours in baking
➤ Try adding brown rice to homemade burgers or rissoles
➤ Add oats in baking, such as muffins, slices and cakes.

Colourful fruits and vegetables
Fruits and vegetables are an essential part of any diet. Fruits and vegetables provide carbohydrate for energy, fibre for digestive health and a wide variety of vitamins and minerals such as vitamin C, folate, riboflavin and beta-carotene. Like wholegrains, fruits and vegetables also provide antioxidants and phytochemicals.

Aim for 2 serves of fruit each day. One serve of fruit is equal to one medium sized piece of fruit (e.g. apple, banana) or 2 small pieces of fruit (e.g. apricots, plums), 2 tablespoons of dried fruit or 1 cup of chopped fresh or canned fruit.

Aim for 5 serves of vegetables each day. One serve of vegetables is equal to ½ cup of cooked vegetables, 1 small potato, 1 cup of fresh salad vegetables or ½ cup of cooked legumes (beans, lentils).

Healthy tips to include more fruit in your diet:
➤ Add chopped fresh fruit or dried fruit to breakfast cereals
➤ Try adding various fruits to smoothies, such as bananas, mangoes and berries
➤ Opt for fruit when craving a sugar fix, rather than cakes and biscuits that are high in sugar and fat
➤ When baking breads, muffins or cakes, try adding fresh or dried fruits such as bananas, pineapple, sultanas, dates or figs.

Healthy tips to include more vegetables in your diet:
➤ Add Asian greens to a quick stir-fry
➤ Try various combinations of vegetables in curries, casseroles and stews, like parsnips, carrots, celery, spinach and cabbage
➤ Eat raw vegetables as an afternoon snack with or without a dip such as hummus. Try using carrots, celery, snow peas and cucumber
➤ Add vegetables on pizza or in pasta dishes
➤ Enjoy vegetable based soups for lunches.

Choose moderate amounts of:
Dairy foods and alternatives
Dairy foods include milk, yoghurt and cheese and provide a good source of calcium and protein. If you don’t include dairy foods in your diet it is important to include alternatives such as fortified soy milk and soy yoghurts. Fortified soy milk such as Sanitarium So Good are fortified with calcium and other essential nutrients found in dairy milk like vitamin B12, riboflavin and vitamin A.

Aim for 2-3 serves of low fat dairy or soy products daily. This may include milk, cheese and yoghurt. Soy alternatives most suitable for vegetarians are those that have been fortified with calcium and vitamin B12, such as Sanitarium So Good.

Healthy tips to include dairy foods and/or alternatives in your diet:
➤ Enjoy milk or soy milk on your breakfast cereal
➤ Add milk or cheese to cooking
➤ Try yoghurt as a quick and easy afternoon snack or dessert
➤ Try fruit and milk based smoothies for something different at breakfast or as an afternoon snack.

Legumes
Legumes, also known as pulses or beans, offer a powerful combination of nutrients and are a great meat alternative for vegetarians. Legumes provide carbohydrate, protein, iron, zinc, folate and fibre.
There are many different types of legumes including kidney beans, lentils, chickpeas, baked beans, soybeans and foods containing these such as burgers, felafel, soups, curries, dhal, dips and spreads. Aim for 1-2 serves of legumes per day. One serve of legumes is equal to ½ cup cooked legumes.

**Healthy tips to include legumes in your diet:**
- Use lentils and beans in cooking, for example lentils instead of mince in dishes like lasagne or pasta and beans in soups and salads
- Include vegetarian options at lunch – why not try a lentil or vegetable burger or add felafels to a salad sandwich
- Tofu is made from soybeans so this is a different way to enjoy legumes. You can add tofu to a vegetable stir-fry or grill on the BBQ with some vegetables for a warm vegetable salad
- Hummus is a tasty and easy way to eat more legumes. Enjoy hummus as a dip with wholegrain crackers and vegetable sticks or spread on sandwiches.

**Eggs**
Eggs can be included in a healthy lacto-ovo vegetarian diet and offer protein as well as vitamins and minerals. Today, you can choose free-range eggs that have been fortified with essential nutrients like omega 3. Eggs can be included regularly in the diet as a meat alternative.

**Healthy tips to include eggs in your diet:**
- For a quick and easy dinner whip up a vegetable omelette
- For a tasty lunch why not try a vegetable quiche
- Simply enjoy a hard boiled egg with wholegrain toast fingers for a tasty Sunday breakfast.

**Nut and seeds**
Nuts and seeds are a source of healthy or ‘good’ fats and also provide essential nutrients like vitamin E, magnesium, selenium, protein and fibre. Types of nuts and seeds include walnuts, cashews, almonds, Brazil nuts, pistachios, hazel nuts, sesame seeds, sunflower seeds, pumpkin seeds and nut spreads such as peanut butter, almond paste and tahini.

Eating a handful of nuts (30-50 grams) most days is beneficial for a healthy heart.

**Tips to include nuts and seeds in your diet:**
- Simply enjoy as a snack
- Sprinkle nuts and seeds over salads and stir-fries
- Enjoy peanut butter on toast
- Use in cooking, for example, add pecans or almonds to muffins and cakes and sprinkle sunflower seeds over the top of quiches or pasta bakes.

**Vegetarian foods**
Foods that have been prepared for vegetarians include soy sausages, vegetable burgers and textured vegetable protein mince and meal bases. For example, the Sanitarium Vegie Delights range, click here for more information www.vegiedelights.com.au. These vegetarian foods are good sources of protein and are often fortified with essential nutrients such as iron, zinc and vitamin B12.

**Eat small amounts of:**

**Extra foods**
- Limit added fats or fatty foods such as chips, cakes, biscuits, pastries and fast food. Avoid using oils and spreads high in saturated and trans fats like butter and lard, instead try using monounsaturated and polyunsaturated oils and spreads such as olive oil, canola oil, almond, macadamia and avocado oil. It is important to include these healthy fats in your diet in small amounts – so it is OK to use margarine and a small amount of oil in cooking
- Limit sugary sweets and drinks. These offer no nutrients and are often referred to as empty kilojoules because they only provide kilojoules or energy to the diet and no nutrients.

**Key nutrients for vegetarian diets**
Following a balanced and well-planned vegetarian diet can provide essential nutrients important for maintaining health and wellbeing and may also reduce your risk of certain diseases such as diabetes, heart disease, overweight and obesity and some forms of cancer.

However, there are key nutrients that will need special attention when planning vegetarian meals to ensure you meet your daily requirement. These include protein, vitamin B12, calcium, zinc, iron and omega 3 fatty acids.

**Protein**
Protein is essential for the growth and maintenance of body cells and the formation of DNA. Hormones and enzymes are made of proteins, which also play important roles in the body. Most plant foods are good sources of protein so as long as vegetarians are consuming moderate amounts of food each day to maintain a healthy weight, it is easy to get enough protein.

**Tips for adding protein to your diet:**
- Eat foods containing legumes daily such as chickpeas, kidney beans, split peas, lentils, baked beans and soybeans
- Enjoy a variety of nuts frequently, either by themselves or sprinkled over salads and stir-fries
- Include a variety of grains daily in your diet (particularly wholegrains) these include wheat, oats, millet, rice, barley and quinoa
- Dairy products and alternatives such as soy milk also provide protein
- Lacto-ovo vegetarians may also obtain protein from eggs in their diet.

**Vitamin B12**
Vitamin B12 plays an important role in the production of red blood cells and the synthesis of DNA. Vitamin B12 is also important for normal functioning of our brain, spinal cord and nerves.

Sources of vitamin B12 are found in animal-based products such as dairy products, meat, seafood and eggs. Therefore, it is important that vegetarians include foods in their diet that have been fortified with vitamin B12 such as soy milk and vegetarian meals or obtain their intake of vitamin B12 by use of a supplement.
Tips for adding vitamin B12 in your diet:
- Include milk and other dairy products or fortified soy milk daily in your diet. Just 2 cups of So Good soy milk provides the recommended dietary intake of vitamin B12 for adults.
- Include plant foods that have been fortified with vitamin B12 such as soy burgers, sausages and Sanitarium marmite.
- Women who are pregnant or breastfeeding may need to take a supplement, if fortified foods are not regularly consumed.

Calcium
Calcium is an important mineral required to maintain strong, healthy bones and teeth, therefore reducing the risk of developing osteoporosis. Calcium is also involved in blood clotting and muscle contraction and the transmission of nerve signals in the body. Sources of calcium include dairy products, calcium-enriched soy milk, almonds, figs, tofu and Asian greens.

Tips for adding calcium in your diet
- Add calcium-enriched soy milk or low fat milk on cereal and in cooking.
- Use legumes in meals, they make excellent fillers in soups and casseroles. Navy beans, green soybeans and tofu are a good source of calcium.
- Limit your intake of foods containing oxalates such as spinach and rhubarb as these inhibit the absorption of calcium.
- Loss of calcium by the kidneys can occur in diets containing too much caffeine and salty foods. These foods should therefore be limited in the diet.
- Dried fruits and nuts such as figs, apricots, almonds and Brazil nuts are sources of calcium. Enjoy these as a snack or try them with your favourite breakfast cereal.
- A calcium supplement may be useful for those whose diets are insufficient in calcium, particularly older people. Vitamin D may also be taken as this aids in the absorption of calcium.

Zinc
Zinc is involved in various roles in the body including reproduction, growth, sexual maturation, wound healing and maintenance of a strong immune system.

Tips for adding zinc to your diet:
- Foods containing zinc include wholegrain breads and cereals, wheat germ, legumes, tofu, tempeh, nuts, seeds and fortified breakfast cereals. Enjoy these on a daily basis.
- Snack on pumpkin seeds, almonds, cashews, sunflower seeds or pecans, or add to salads and muesli.
- Enjoy a variety of grains, nuts and sprouts such as alfalfa and mung beans in salads or in sandwiches.

Iron
Iron assists in the transport of oxygen around the body, as it is a component of haemoglobin found in red blood cells. Iron is also involved in building a healthy immune system. There are two types of iron in the diet, haem iron and non-haem iron. Haem iron is found in animal products and is highest in red meat. Non-haem iron is found in eggs and plant foods.

Tips for adding iron to your diet:
- Enjoy iron-rich foods regularly such as wholegrain breads, iron-fortified cereals, legumes, tofu, nuts and seeds.
- Add foods containing vitamin C, such as citrus fruits, berries, tomatoes, capsicum and broccoli, to enhance iron absorption.
- Also include beta-carotene foods to assist in iron absorption; these include yellow, orange and dark green vegetables.
- Reduce consumption of tea and coffee, particularly at meal times, as tannins found in tea and coffee reduce the absorption of iron.
- Include sprouted beans such as mung beans, grains and seeds in salads or in sandwiches to increase your intake of iron.

Omega 3
Omega 3 fats are ‘good fats’ and are essential in the diet. Omega 3 fats are important for the structure of the body’s cell membranes and are precursors to hormone-like compounds known as eicosanoids, which play a role in numerous bodily processes such as reproduction, blood pressure and inflammation. There are different types of omega 3 fats in the diet. ALA (alpha-linolenic acid) found in plant foods and DHA (docosahexaenoic acid) and EPA (eicosapentaenoic acid) found in marine foods like fish.

All omega 3 fats are beneficial to our health due to their anti-inflammatory properties. However, EPA and DHA have been studied widely and are beneficial for heart health as they can help to lower blood pressure and triglycerides, regulate heart rhythm and help prevent the formation of a blood clot. EPA and DHA are also important for the development of a healthy brain and eyes in infants and children.

Tips for adding omega 3 to your diet:
- If you include fish in your diet choose oily fish like salmon, tuna and sardines as these contain the highest concentration of EPA and DHA.
- If you don’t eat fish, that’s ok, as there are plant sources of omega 3 that contain high amounts of ALA. Include walnuts, linseeds, soybeans, canola oil and foods that are fortified with omega 3 such as bread and eggs.
- Enjoy dried fruit and walnuts as an afternoon snack.
- Try adding ground linseeds or LSA to your breakfast cereal.
ABOUT THIS SECTION

‘Exploring issues’ features a range of ready-to-use worksheets relating to the articles and issues raised in this book.

The activities and exercises in these worksheets are suitable for use by students at middle secondary school level and beyond.

As the information in this book is gathered from a number of different sources, readers are prompted to consider the origin of the text and to critically evaluate the questions presented.

Does the source have a particular bias or agenda? Are you being presented with facts or opinions? Do you agree with the writer?

The types of ‘Exploring issues’ questions posed in each Issues in Society title differ according to their relevance to the topic at hand.

‘Exploring issues’ sections in each Issues in Society title may include any combination of the following worksheets: Brainstorm, Research activities, Written activities, Discussion activities, Quotes of note, Ethical dilemmas, Cartoon comments, Pros and cons, Case studies, Design activities, Statistics and spin, and Multiple choice.

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WORKSHEETS AND ACTIVITIES

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Brainstorm, individually or as a group, to find out what you know about vegetarianism.

1. Why do so many people eat meat?

2. List at least 5 reasons why vegetarians might choose not to include meat in their diet.

3. What are the claimed health benefits of eating a vegetarian diet?

4. What are the major nutritional considerations in order to maintain a balanced vegetarian diet?

5. What are the key ethical concerns for vegans regarding the use of animal products?
1. A balanced, well-planned vegetarian diet can provide essential nutrients important for maintaining health and wellbeing, and may also reduce the risk of certain diseases. However, there are key nutrients that require special attention when planning vegetarian meals to ensure daily requirements are met.

Provide at least 3 vegetarian food sources which include the following nutrients:

- **Protein:**

- **Vitamin B12:**

- **Calcium:**

- **Zinc:**

- **Iron:**

- **Omega 3 fats:**

- **Iodine:**
Quotes of Note

After reading each of the following statements, consider your own position on the opinions expressed and explain why you agree or disagree. You may wish to discuss the statements in pairs, or use them as starting points for group debates.

1. Most people who have chosen a vegan lifestyle have done so because they have become aware of the cruelty and exploitation involved in the making of animal products. (Vegetarian Victoria, p.1)

2. More than 50 billion animals are systematically killed in slaughterhouses around the world each year (over seven times the human population!). It is nothing more than an undercover massacre which we, as consumers, contribute to by distancing ourselves from the truth. Animals suffer enormously in the process. (Australian Vegetarian Society, p.3)

3. Meat is expensive to produce, both economically and agriculturally. With so many starving people in the world today it is a criminal waste of food to produce it. (Australian Vegetarian Society, p.3)

4. Meat-eating in the quantity our society eats it today really began with the Industrial Revolution. Better machines led to more efficient agriculture. When a surplus of crops was produced, this was fed to animals and the animals eaten by those who could afford meat. Thus meat became something of a status symbol. Unfortunately, the status symbol developed into a habit so that most of us in the wealthier countries think that is a normal part of our diet. In the 21st century it is high time we turned back to the healthier, less wasteful diet of our forebears. (Australian Vegetarian Society, p.6)

5. If we want to preserve and restore our environment in Australia, we must make changes to our diet. The food we eat has a major effect on our waterways, the quality of the air we breathe and on the environment around us. (Vegetarian Victoria, p.12)

6. The pressure to produce inexpensive beef, chicken, pork, veal, fish, eggs, milk and dairy products has led modern farming to treat animals as mere commodities or machines. There is a trend worldwide to replace small family farms with intensive, industrialised, factory farms. The philosophy of mass production is what lies behind it all. (Vegetarian/Vegan Society of Queensland, p.13)

7. There are healthy and unhealthy vegetarians. Vegetarians who eat a very limited range of foods or who are very fussy eaters can have health problems just like a very fussy meat eater who eats a limited range of plant foods. It’s not the vegetarian diet itself that is the problem, but the limited diet. No reputable scientific studies have concluded that a well-balanced vegetarian diet cannot provide all essential nutrients required by the human body. (Vegetarian Victoria, p.29)

8. For most healthy children, a vegetarian diet can provide a nutritious alternative to a diet that includes meat. However, special care needs to be taken with children on all vegetarian diets, especially vegan diets. Strict vegan diets are generally not recommended for very young children. (Better Health Channel, p.40)
## Pros and Cons

Expand on the pros and cons provided and develop your own debate on the issue of vegetarianism. Complete your arguments on a separate sheet of paper.

### Should human beings stop eating other animals and become vegetarian?

**YES**

- Eating meat means that animals suffer greatly and on a mass scale. Animals have rights and it is wrong to kill them needlessly.
- Farming animals for meat is inhumane. Battery farms are unnatural and cruel.
- The fact that human beings are omnivores – as well as rational agents with free will – means that humans can choose whether to eat meat, vegetables, or both.
- Vegetarianism is an environmentally friendly way to live. Farming animals is hugely wasteful in land – plant crops require a small part of the space to produce the same amount of calories as livestock.
- A vegetarian diet is healthier for you. A vegetarian diet contains high quantities of fibre, vitamins, and minerals, and is low in fat. In contrast, meat and dairy eaters consume too much fat, protein and cholesterol, and often far too little fibre and vitamins.
- Meat eating is riskier than being vegetarian because it is linked to a range of serious illnesses. Almost all dangerous types of food poisoning are passed on through meat or eggs.

**NO**

- There is a great moral difference between humans and animals, eating meat is not murder. Eating meat does not need to mean cruelty to animals.
- It is natural for human beings to farm, kill, and eat other species. Treating animals cruelly is wrong, but farming in general is far from unkind. Animals are given food, shelter and care if they become ill or injured.
- Humans are omnivores, and are meant to eat both meat and plants. Human beings have evolved to eat meat, having sharp canine teeth for tearing animal flesh and digestive systems adapted to eating meat and fish, as well as vegetables.
- You don’t have to be vegetarian to be green. Many low-impact grazing environments have been created by livestock farming. Growing crops can also damage the environment, with fertilisers and pesticides polluting rivers, lakes and seas.
- It is most healthy to eat a balanced diet with both meat and vegetable products. The key to good health is a balanced diet, not a diet free of meat and fish which are both good sources of protein, iron, and other vitamins and minerals.
- Hygiene and food safety are very important and the highest standards should be enforced. But this does not mean that humans should simply stop eating meat, which is a natural and healthy thing to do.
MULTIPLE CHOICE

Complete the following multiple choice questionnaire by circling or matching your preferred responses. The answers are at the end of the next page.

1. Which one of the following are not strictly considered to be forms of vegetarianism:
   a. Pure vegetarian
   b. Fruitarian
   c. Vegan
   d. Pesco-vegetarian
   e. Pollo-vegetarian
   f. Omnivore
   g. Humanitarian
   h. Semi-vegetarian
   i. Carnivore
   j. Semi-vegetarian
   k. Ovo-vegetarian
   l. Herbivore
   m. Lacto-vegetarian

2. Match the following terms to their corresponding definitions:
   a. Protein
   b. Factory farming
   c. Free range
   d. ‘Vegetus’
   e. Anaemia
   f. Calcium
   g. Vitamin D
   h. Vitamin B12
   i. Iron
   j. Zinc
   k. Iodine
   l. Omega 3

   1. Important mineral needed to maintain strong, healthy bones and teeth, reducing the risk of developing osteoporosis; also involved in blood clotting and muscle contraction and transmission of nerve signals in the body.
   2. Plays an important role in the production of red blood cells and the synthesis of DNA; also important for normal functioning of the brain, spinal cord and nerves.
   3. Latin word, meaning ‘lively’ or ‘vigorous’. The term ‘vegetarian’ was coined from this word in 1847 by the British Vegetarian Society.
   4. Essential for many bodily processes, including tissue building and repair; made up of smaller components called amino acids.
   5. Raising livestock in confinement at high stocking density.
   6. Method of farming in which animals are allowed to roam freely instead of being contained in any manner.
   7. Essential for calcium absorption and optimum bone health; naturally produced in the body, provided that there is regular exposure to sunlight by bare skin.
   8. Assists in the transport of oxygen around the body, as it is a component of haemoglobin found in red blood cells; also involved in building a healthy immune system.
   9. Decrease in number of red blood cells (RBCs) or less than the normal quantity of haemoglobin in the blood.
   10. Involved in various roles in the body including reproduction, growth, sexual maturation, wound healing and maintenance of a strong immune system.
   11. Important trace element necessary for normal physical and mental growth and development. Too little or too much of this can cause health problems.
   12. ‘Good fats’ that are essential in the diet; important for the structure of the body’s cell membranes and precursors to hormone-like compounds known as eicosanoids, which play a role in numerous bodily processes such as reproduction, blood pressure and inflammation.
MULTIPLE CHOICE

Complete the following multiple choice questionnaire by circling or matching your preferred responses. The answers are at the end of this page.

3. Match the following terms to their corresponding definitions:
   a. Pure vegetarian
   b. Vegan
   c. Pesco-vegetarian
   d. Lacto-ovo vegetarian
   e. Semi or demi vegetarian
   f. Fruitarian
   g. Pollo-vegetarian
   h. Omnivore
   i. Carnivore
   j. Ovo-vegetarian
   k. Herbivore
   l. Lacto-vegetarian

   1. Eats only the ripe fruits of plants and trees, i.e. foods that can be harvested without killing plants or trees.
   2. Eats fish, but all other meats are avoided.
   3. Does not eat meat, poultry, fish or seafood. Milk, dairy products and eggs are still consumed.
   4. An animal that eats other animals.
   5. Does not eat meat, poultry, fish, seafood or eggs; still consumes milk and dairy products.
   6. Does not eat meat, poultry, fish, seafood; still consumes eggs.
   7. Eats chicken, but all other meats are avoided.
   8. An animal that eats only plants.
   9. Eats mainly vegetarian food, but occasionally eats meat and/or other animal products (e.g. for social, practical or cultural reasons).
   10. Does not eat meat, poultry, fish, seafood, milk, dairy products or eggs.
   11. Excludes animal products from their entire lifestyle.
   12. An animal that eats flesh and plants.

MULTIPLE CHOICE ANSWERS

1 = d, e, f, g, h, i, j; 2 – a = 4, b = 5, c = 6, d = 3, e = 9, f = 1, g = 7, h = 12, i = 4, j = 6, k = 8, l = 11.
The term ‘vegetarian’ comes from *vegetus*, the Latin for ‘enlivened’, and has no connection, apart from a linguistic one, with vegetables. (p.1)

By following a low-fat vegetarian diet, the risk of food poisoning is decreased by 80%. (p.3)

More than 50 billion animals are systematically killed in slaughterhouses around the world each year. (p.3)

It takes 17 kg of corn, beans, grains, etc., to produce 1 kg of beef in feedlot cattle. (p.3)

1 kg of animal protein typically takes 100 times as much water to produce as 1 kg of plant protein. (p.4)

The production of 1 kg of beef takes between 100,000 and 200,000 L of water, depending on growing conditions. (p.4)

87% of the fresh water consumed worldwide is used for agriculture. (p.4)

The amounts of carbon dioxide emitted by 1 farm animal per year are about 4,000 kg for cattle, 400 kg for sheep and 450 kg for pigs. This compares with about 300 kg for a human being and 5,500 kg for a typical passenger car. (p.4)

In Central America, entire forests are felled or burnt to provide land for grazing cattle. Most of these cattle end up as second-quality hamburger meat for the North American junk food market. (p.4)

Production of 1 kg of fish-eating species such as shrimp, salmon, tuna or cod demands between 2-5 kg of wild-caught fish that is processed into meal and oil for feeds. (pp.4,11)

Our digestive system resembles that of herbivores and frugivores (fruit eaters). It consists of a very long intestine allowing slow digestion of nutrients. (p.5)

The presence of vitamin C with iron in the diet will help iron absorption by up to 30%. (p.5)

Some half a million people are adopting a vegetarian lifestyle each year in the US while the number of British vegetarians is now more than 5 million. (p.6)

It is estimated that the average vegetarian saves the lives of 6 cows, 22 pigs, 30 sheep, 800 chickens, 50 turkeys, 15 ducks and half a tonne of fish. (p.8)

Depending on the type of animal it takes between 10-20 kg of feed to produce 1 kg of meat. (p.8)

A massive 92% of all land degradation in Australia is caused by animal industries. (p.9)

At least 32.6 billion tons of carbon dioxide equivalent annual emissions can be attributed to livestock and their by-products. (p.10)

Animals raised for food in Australia produce about 3 megalotnes of methane annually. (p.10)

Nearly 60% of the Australian continent is grazed by animals raised for human consumption. (pp.10,11)

The destruction of fish populations is accelerating, with 13 of the world’s 17 major ocean fishing zones already depleted or in serious decline, and the remaining 4 fully or over exploited. (p.11)

We grow enough edible grain to provide 50% more than is required for every person in the world. Most of this edible grain is used to feed animals for meat, dairy and egg production. (p.12)

80-95% of food energy and protein available in plants is wasted when converted to meat for human consumption. (p.12)

Studies show that vegetarians outlive their non-vegetarian counterparts by between 5-10 years. (p.12)

The life span of a commercial egg-producing hen (whether battery, barn or free range) is approximately 18 months as opposed to 10-12 years in natural conditions. (p.13)

Over 6 million pigs are slaughtered every year in Australia, with more than 98% being kept in intensive conditions for their entire lives. (p.14)

The modern dairy cow now yields around 35-50 litres of milk per day – about 10 times more milk than her calf would ever need. (p.14)

The average Australian meat-eater, in one lifetime, consumes 92 sheep, 17 beef cattle, 15 pigs, 1,171 chickens, innumerable fish and other animals. (p.16)

Vegetarians on average have lower body weight, cholesterol, and blood pressure, and lower rates of type 2 diabetes, heart disease, prostate cancer, and colon cancer. (p.17)

It takes more than 15 times as much energy to produce 1 kg of pork, for example, as it does to produce 1 kg of fresh fruits and vegetables. (p.21)

Animal excrement and fertilisers have been blamed for some 40% of the nitrogen and 35% of the phosphorous released into our rivers, lakes and streams. (p.22)

Almost 10 times as many animals die for human consumption as for all other causes combined. (p.22)

1.3 billion people could be fed with the grain and soybeans eaten by US livestock. (p.22)

All necessary nutrients – except vitamin B12 – can be obtained by those who eat a total vegetarian diet. (p.23)

A large percentage of the world’s population is deficient in the enzyme lactase, which is necessary for the digestion of milk sugar (lactose). (p.27)

In terms of water used to grow food, it takes less than 1/3 as much to feed a lacto-ovo vegetarian (one who still consumes milk and eggs) but it takes less 1/13 of the usual amount of water, to grow the food for a vegan. (p.32)

The average egg contains 213 milligrams of cholesterol, entirely in the yolk. (p.34)

Livestock production accounts for nearly 80% of greenhouse gas emissions from agriculture worldwide. (p.36)

Non-vegetarians have a 54% increased risk of developing prostate cancer and an 88% increased risk of developing bowel cancer. (p.39)

A high animal protein intake has been linked with an increased risk of developing osteoporosis. Growing evidence suggests higher intakes of potassium, magnesium and fruit and vegetables are associated with a beneficial impact on bone strength. (p.39)

On average, a typical meat-centric Western diet contains considerably higher protein intakes than recommended which can lead to some adverse health effects. (p.45)
B12
A vitamin critical in the formation of red blood cells and for the functioning of the brain and nervous system. B12 is a bacterial product that isn’t reliably found in plant foods. Many breakfast cereals and soy products are fortified with vitamin B12.

Free-range
Meat and eggs labelled as free-range should be sourced from farms where animals are allowed to roam freely instead of being contained in any manner. However, there are claims that the term free-range is currently misleading as there are no official standards for labelling and accreditation.

Fruitarian
Vegans who eat only the ripe fruits of plants and trees, i.e. foods that can be harvested without killing plants or trees. These foods consist primarily of culinary fruits, nuts, and seeds. Some Fruitarians will eat only what falls naturally from a plant or tree.

Iron
Iron is an important dietary mineral that assists various bodily functions, including transporting oxygen in the blood – essential for energy in daily life. Iron deficiency means less oxygen is delivered to the cells. This can lead to fatigue and decreased immunity. Anaemia may result from iron deficiency. Iron is absorbed at a lower rate from a vegetarian diet. Iron absorption is increased markedly by eating foods containing vitamin C along with foods containing iron. Dried beans and dark green leafy vegetables are especially good sources of iron. Molasses is also a high-iron food source often used by vegans as an iron supplement.

Lacto-ovo-vegetarian
Does not eat meat, poultry, fish or seafood. Milk, dairy products and eggs are still consumed.

Lacto-vegetarian
Does not eat meat, poultry, fish, seafood or eggs. Lacto-vegetarians still consume milk and dairy products.

Ovo-vegetarian
Does not eat meat, poultry, fish, seafood or dairy. Ovo-vegetarians still consume eggs.

Pescovegetarian
Eats fish, but all other meats are avoided. This diet is not, strictly speaking, vegetarian.

Pollo-vegetarian
Eats chicken, but all other meats are avoided. This diet is not, strictly speaking, vegetarian.

Protein
Protein is essential for the growth and repair of tissues in the human body. Protein intake in vegetarian diets is only slightly lower than in meat diets and can meet daily dietary requirements. Protein is made up of amino acids, however some ‘essential amino acids’ are unable to be made by the human body. Dairy and egg products provide complete sources for lacto-ovo-vegetarians, however the only vegetable sources with enough of all eight types of essential amino acids are lupin, soy, hempseed, chia seed, amaranth, buckwheat, and quinoa. These essential amino acids can also be obtained by combining a variety of complementary plant sources.

Rennet
An enzyme from the stomach of killed calves used as a coagulation agent in the cheese-making process. Found in many, but not all, dairy cheeses.

‘Semi’ or ‘demi’ vegetarian
Also known as Flexitarians. People who eat mainly vegetarian food, but who occasionally eat meat and/or other animal products (e.g. for social, practical or cultural reasons). They are not, strictly speaking, vegetarian.

Tempeh
A replacement for meat made from cooked and fermented soybeans, combined with grains and processed into a firm mixture. Tempeh contains more protein that tofu.

Tofu
Made from soybeans, water and a coagulant, or curdling agent and pressed into blocks. Tofu can be eaten fresh or cooked and is an excellent source of protein. There are different types of tofu and various uses: extra-firm tofu (good for frying, roasting, grilling or marinating); firm tofu (good for stir-frying, boiling or using as a filling); soft tofu (good for pureeing); and silken tofu (good for pureeing, simmering, egg substitution, and often used in vegan desserts and smoothies).

Textured vegetable protein (TVP)
A textured soy protein made from soy flour and used as a meat substitute. TVP is available as flakes, granules or chunks and can be flavoured or unflavoured. It can be used in place of meat in dishes such as chilli con carne and tacos, pasta sauces, casseroles and soups.

Vegan
Vegans exclude animal products from their entire lifestyle (e.g. wool, leather, soaps that contain animal fats, products tested on animals, etc.).

Vegetarian
Does not eat meat, poultry, fish, seafood, milk, dairy products or eggs. The diet comprises vegetables, vegetable oils, cereals, legumes (peas and beans), nuts, fruit and seeds. Honey is usually seen as being optional.

Zinc
Performs essential functions in the body, including the development of immune system cells. Good food sources include nuts, tofu, miso, legumes, wheat germ and wholegrain foods.
Websites with further information on the topic

Animal Liberation Queensland  www.animalliberationqld.org.au  
Australian Vegetarian Society (NSW)  www.veg-soc.org  
Better Health Channel  www.betterhealth.vic.gov.au  
Vegan Easy  www.veganeasy.org  
Vegan Society of Australia  www.veganaustralia.net  
Vegan World Network  www.vegansworldnetwork.org  
Vegan Society of New South Wales  www.vegansocietynewsw.com  
Vegans Unite (Perth)  http://vegansunite.blogspot.com  
Vegetarian/Vegan Society of Queensland  www.vegsoc.org.au  
Vegetarian Resource Group  www.vrg.org  
Vegetarian Society of ACT  www.vegetariansociety.org.au  
Vegetarian Tasmania  www.tasveg.org  
Vegetarian Victoria (VegVic)  www.vegetarianvictoria.org.au  
VegWeb WA  www.ivu.org/vegwebwa

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