



Education and culture DG

Lifelong learning programme

SUMMARY OF BEST PRACTICE IN NATIONAL GUIDELINES FOR VEGAN DIETS

(www.dietethics.eu 21st May 2013)

CONTENTS:

DIETARY GUIDANCE

1. <i>Introduction</i>	3
2. <i>Vitamin B12</i>	3
3. <i>Calcium and vitamin D</i>	3
4. <i>Iron</i>	4
5. <i>Omega-3 fatty-acids</i>	4
6. <i>Selenium</i>	5
7. <i>Iodine</i>	5
8. <i>Zinc</i>	5
9. <i>Protein</i>	5
10. <i>Riboflavin</i>	5

MORE GENERAL CONSIDERATIONS

11. <i>Sustainable food consumption</i>	6
12. <i>Institutional catering</i>	6
13. <i>Future strategy</i>	6

PREGNANCY AND CHILDREN

14. <i>Pregnancy and lactation</i>	7
15. <i>Children</i>	9

LEGEND:

Roman characters = national authority publications

Italics = additional information

GENERAL GUIDANCE

1. Introduction

Vegans don't eat any foods of animal origin. This includes meat, fish and dairy foods, and also honey¹. A vegetarian or vegan diet can be suitable for everyone, regardless of their age. Follow our advice on healthy eating for vegans to ensure you have a balanced and varied diet². A healthy vegan diet contains:

- plenty of fruit and vegetables
- plenty of starchy foods
- some non-dairy sources of protein such as beans and pulses
- some dairy alternatives such as fortified soya drinks
- just a small amount of fatty and sugary foods³
- vitamin B12 tablets⁴ *or fortified foods*
- avoid foods that are high in fat, sugar or salt⁵

2. Vitamin B12

Vegans are advised to take vitamin B12 tablets. Algae and seaweeds contain a vitamin B12-like substance, but the substance has no vitamin-like activity. There were no known adverse effects on people with long term high intakes of B12⁴. See also [What every vegan should know about Vitamin B12](#)⁶.

3. Calcium and vitamin D

Calcium is needed for strong and healthy bones and teeth. Good sources of calcium for vegans include:

- fortified soya, rice and oat drinks
- calcium-set tofu
- sesame seeds and tahini³

Leafy vegetables and cabbage of all kinds (especially kale), root vegetables, almonds, rosehips and blackcurrants are examples of important sources of calcium for vegan diets⁷.

The body needs vitamin D to absorb calcium. Vegan sources of vitamin D are:

- exposure to summer sunshine – remember to cover up or protect your skin before it starts to turn red or burn
- fortified fat spreads and breakfast cereals (with vitamin D added)
- vitamin D supplements

Read the label to ensure that the vitamin D used in a product is not of animal origin³. Bones get stronger when you use them, and the best way to do this is with regular exercise⁸.

4. Iron

Iron is essential for the production of red blood cells. Good sources of iron for vegans are:

- pulses
- wholemeal bread and flour
- breakfast cereals fortified with iron
- dark-green leafy vegetables such as watercress, broccoli, spring greens and okra
- nuts
- dried fruits such as apricots, prunes and figs³.

Vitamin C, which increases the absorption of iron, is found in vegetables, fruits and root vegetables. Including those foods in main meals is good⁹. Cutting down on tea and coffee could help to improve iron levels in the body. This is because tea and coffee contains compounds, called polyphenols, which can bind with iron making it harder for our bodies to absorb it¹⁰.

5. Omega-3 fatty acids

A special type of omega-3 fatty acid called DHA is needed for brain and visual development⁹. EPA and DHA (long-chain omega-3 fatty acids) are not found in vegan diets but can be formed in the body if alpha-linolenic acid supplies are sufficient⁷.

Plant sources of omega-3 (per 100g) include:

- linseed (flaxseed) oil: 53.3g
- walnut oil: 11.5g
- rapeseed oil: 9.6g
- soya bean oil: 7.3g

Sources of omega-3 fatty acids suitable for vegans also include soya-based foods such as tofu and walnuts³.

6. Selenium

Brazil nuts are a particularly good source of selenium, so try to eat a couple every day. Eating a small bag of mixed unsalted nuts can be a convenient way to get your daily selenium intake, but make sure it contains Brazils¹⁰.

7. Iodine

Iodine plays a central role in the body's metabolism. Seaweeds of any kind can be used⁷. The iodine content varies and can sometimes be harmful to children at high levels⁹. Adequate iodine in pregnancy is essential for your baby's growth and brain development. Iodine is needed in higher amounts during pregnancy. It is now recommended that all pregnant women should take a supplement containing 150 micrograms of iodine¹¹.

8. Zinc

Legumes, nuts and seeds, whole grains (notably wholemeal bread) and wheat germ are important sources of zinc for vegan diets⁷ *while* pumpkin seeds provide one of the most concentrated vegan food sources of zinc¹¹.

9. Protein

Pulses and food made from pulses are a good source of protein. Nut and seed butters also contain protein¹².

10. Riboflavin

Riboflavin is needed for energy and as part of antioxidant protection processes. For plant-based diets the best sources of riboflavin are fortified vegetable beverages, legumes, green leafy vegetables and whole grains⁹.

MORE GENERAL CONSIDERATIONS

11. Sustainable food consumption

Environmental and public health scientists agree that a plant-based diet is preferable. We will be able to maintain a nutrient balance when we alter the diet to a more sustainable one. The change must be made to the entire diet to reflect increases in some components in response to decreases in others. With a general vegan diet it is possible to halve the climate impact of what we eat¹³.

12. Institutional catering

Schools cannot fully satisfy all requirements. Nevertheless they should still offer vegan options because pupils who are vegans for ethical reasons and on principle do not usually accept other types of vegetarian foods.

Schools should also provide adequate information about vitamin B12 and supplements suitable for vegans⁷.

13. Future strategy

Because plant-based diets relate to deeply held beliefs, recommending animal products can unnecessarily alienate vegans and deprive them of potentially life-saving information such as guidance on vitamin B12 requirements.

Authorities may therefore wish to legislate for fortification of meat and dairy substitutes with a small number of key nutrients such as vitamin B12 and calcium to ensure a safe transition to a more sustainable, plant-based diet¹⁴.

SPECIFIC GUIDELINES FOR PREGNANCY, LACTATION AND EARLY CHILDHOOD

14. Pregnancy and Lactation

A well planned vegan diet is able to meet nutrition requirements for pregnancy and breastfeeding. There is only a small increase in the amount of food you need to eat while you are pregnant. However, you do need more of certain nutrients, so it is very important that you make good choices for a nutritious diet. This is important so you and your baby get all you need for healthy growth and a healthy pregnancy¹¹.

Vitamin B12

Vegans are advised to take vitamin B12 tablets⁴. See also [What every vegan should know about Vitamin B12](#)⁶.

Calcium

If you're a vegan, you also need to make sure you get enough calcium. This is because non-vegans get most of their calcium from dairy foods. Good sources of calcium for vegans include:

- fortified soya, rice and oat drinks
- calcium-set tofu
- sesame seeds and tahini
- dark green leafy vegetables¹⁵.

Vitamin D

Your body can make vitamin D when your skin is exposed to summer sunlight. All pregnant women, regardless of their diet, are advised to take a vitamin D supplement throughout pregnancy to ensure they have enough vitamin D for their baby. Vegans will need to read the label to ensure that the vitamin D used in a product is not of animal origin¹⁵.

Iron

During pregnancy you need a lot more iron than when you are not pregnant so for women who follow a vegan diet an iron supplement is highly recommended¹¹.

Good sources of iron for vegetarians and vegans are:

- pulses
- dried fruit such as apricots
- dark-green vegetables
- wholemeal bread
- fortified breakfast cereals (with added iron)¹⁵.

Iodine

Iodine is needed in higher amounts during pregnancy. It is now recommended that all pregnant women should take a supplement containing 150 micrograms of iodine. You still need to consume good food sources of iodine in addition to this supplement¹¹.

Folates

All women planning a pregnancy and in the early stages of pregnancy should eat a variety of folate-containing foods e.g. green leafy vegetables such as spinach, broccoli, bok choy, and foods fortified with folic acid (fruit juice, bread, breakfast cereal). You should also take a folic acid supplement of 400 micrograms per day at least one month before and three months after you become pregnant¹¹.

Breastfeeding

If you're breastfeeding and following a vegan diet, it's especially important to take a vitamin D supplement. If you have been taking a vitamin B12 supplement, continue taking it while you are breastfeeding too¹⁵. Vegans are advised to take vitamin B12 tablets⁴. See also [What every vegan should know about Vitamin B12](#)⁶.

You should be able to get all the other vitamins and minerals you need by eating a varied and balanced diet. It's recommended that you exclusively breastfeed your baby until they are around six months old, then gradually introduce solids while continuing to breastfeed.

Soya infant formula is the only alternative to cow's milk formula for vegan mothers who cannot or choose not to breastfeed. Get advice from your midwife, health visitor or GP [*general medical practitioner*] before using soya infant formula¹⁵.

15. Children

A diet with plenty of vegetables, root vegetables, legumes and whole grains is good for your health and the environment. It is therefore a good thing if children learn to like that kind of food at a young age. The chances that they will continue later in life are thus increased. If the diet contains fortified products, provides enough energy and is well balanced, children can eat a vegan diet⁹.

Vitamin B12

Vegan children, who exclude all animal foods, must be supplemented with vitamin B12⁹. Vegans are advised to take vitamin B12 tablets⁴. See also [What every vegan should know about Vitamin B12](#)⁶.

Introducing solids

The advice on introducing solids at about six months of age is the same for vegetarian babies as for non-vegetarian babies¹².

Energy

A vegan diet can be bulky and high in fibre¹². Children may eat portions that are insufficient to meet energy requirements because fibre is very filling. If your child doesn't get enough calories, protein will be used as energy and not where needed, i.e. for growth.

- Spreading meals and snacks throughout the day enables children to eat more, making it easier for babies to get enough energy.
- Make sure that your baby grows normally⁹.
- Give vegan children high calorie foods, such as hummus, bananas and smooth nut and seed butters (such as tahini and cashew or peanut butter). They still need starchy foods. However, don't give only wholegrain and wholemeal versions to children under five years old because they're high in fibre. For extra energy, you could add vegetable oils or vegan fat spreads to foods¹².

Calcium and vitamin D

Vegan children need to eat both legumes and green leafy vegetables as well as drink fortified beverages in order to get enough calcium. Vitamin D deficiency can cause rickets, which can clearly be identified since children develop soft and deformed bones. Children under the age of two will not get enough vitamin D from foods. They need extra vitamin D⁹.

Iron

You can make sure your child gets enough iron by giving them:

- fortified breakfast cereal
- dark green vegetables
- bread
- beans and lentils
- dried fruit, such as apricots, figs and prunes¹²

Omega-3 fatty acids

A special type of omega-3 fatty acid called DHA is needed for brain and visual development⁹. EPA and DHA (long-chain omega-3 fatty acids) are not found in vegan diets but can be formed in the body if alpha-linolenic acid supplies are sufficient⁷. Plant sources of omega-3 (per 100g) include:

- linseed (flaxseed) oil: 53.3g
- walnut oil: 11.5g
- rapeseed oil: 9.6g
- soya bean oil: 7.3g

Sources of omega-3 fatty acids suitable for vegans also include soya-based foods such as tofu and walnuts³.

Iodine

Iodine plays a central role in the body's metabolism⁹. Seaweeds of any kind can be used⁷. One should not give children algae preparations nor other supplements containing iodine doses that exceed recommended daily intakes of iodine⁹.

Protein

Pulses and food made from pulses are a good source of protein. Nut and seed butters also contain protein. Don't give whole nuts to children under five years old as they could choke. Grind nuts finely or use a smooth nut butter¹². Leafy greens are also suitable for combining with various cereals⁷.

NOTES

1. Northern Ireland NIDirect government services, *Vegetarian and vegan diet*: <http://www.nidirect.gov.uk/vegetarian-and-vegan-diet>
2. United Kingdom National Health Service, *Healthy Eating for vegetarians and vegans*: <http://www.nhs.uk/Livewell/Vegetarianhealth/Pages/Goingvegetarian.aspx>
3. United Kingdom National Health Service, *The Vegan Diet*: <http://www.nhs.uk/Livewell/Vegetarianhealth/Pages/Vegandiets.aspx>
4. Netherlands Nutrition Center Foundation encyclopedia, *Vitamin B12*: <http://www.voedingscentrum.nl/encyclopedie/vitamine-b12.aspx>
(English: <http://www.dietethics.eu/en/nutrition/national-guidelines/netherlands.php>)
5. United Kingdom National Health Service, *Vegetarian food on a budget*: <http://www.nhs.uk/Livewell/Vegetarianhealth/Pages/Budgetvegetarian.aspx>
6. An Open Letter from Health Professionals and Vegan Organizations, *What Every Vegan Should Know about Vitamin B12* (https://dl.dropboxusercontent.com/u/40648100/dietethics/Vitamin_B12_EN.pdf):

Very low B12 intakes can cause anemia and nervous system damage.

The only reliable vegan sources of B12 are foods fortified with B12 (including some plant milks, some soy products and some breakfast cereals) and B12 supplements. Vitamin B12, whether in supplements, fortified foods, or animal products, comes from microorganisms.

Most vegans consume enough B12 to avoid anemia and nervous system damage, but many do not get enough to minimize potential risk of heart disease or pregnancy complications.

To get the full benefit of a vegan diet, vegans should do one of the following:

1. Eat fortified foods two or three times a day to get at least three micrograms (mcg or μg) of B12 a day or
2. Take one B12 supplement daily providing at least 10 micrograms or
3. Take a weekly B12 supplement providing at least 2000 micrograms.

If relying on fortified foods, check the labels carefully to make sure you are getting enough B12. For example, if a fortified plant milk contains 1 microgram of B12 per serving then consuming three servings a day will provide adequate vitamin B12. Others may find the use of B12 supplements more convenient and economical.

The less frequently you obtain B12 the more B12 you need to take, as B12 is best absorbed in small amounts. The recommendations above take full account of this. There is no harm in exceeding the recommended amounts or combining more than one option.

This information sheet was prepared by Stephen Walsh, a UK Vegan Society trustee, and other members of the International Vegetarian Union science group (IVU-SCI), in October 2001. The information may be freely reproduced but only in its entirety (list of endorsers may be omitted).

Good information supports vegan health, pass it around.

If you don't read another word about B12, you already know all you need to know. If you want to know more, read on.

7. National Food Agency of Sweden, *Vegan Diet in schools*: <http://www.slv.se/sv/grupp1/Mat-och-naring/Maltider-i-vard-skola-omsorg/Skolmaltider/Vegetariska-skol-maltider/Vegankost-i-skolan/>
(English: <http://www.dietethics.eu/en/nutrition/national-guidlines/sweden/vegan-diet-in-schools.php>)
8. United Kingdom National Health Service, *Vegetarian and vegan diets Q&A*: <http://www.nhs.uk/Livewell/Vegetarianhealth/Pages/Vegetarianhealthqanda.aspx>
9. National Food Agency of Sweden, *Vegetarian diet for children*: <http://www.slv.se/sv/grupp1/Mat-och-naring/kostrad/Barn/Vegetarisk-mat-till-barn/>
(English: <http://www.dietethics.eu/en/nutrition/national-guidlines/sweden/vegetarian-diet-for-children.php>)
10. Scotland, *Vegetarian and Vegan*: <http://www.eatwellscotland.org/healthydiet/vegaveg/index.html>
11. Queensland Government (Australia), *Healthy eating for vegan pregnant and breastfeeding mothers*: http://www.health.qld.gov.au/nutrition/resources/antenatal_vegan.pdf
12. United Kingdom National Health Service, *Vegetarian and Vegan children*: <http://www.nhs.uk/conditions/pregnancy-and-baby/pages/vegetarian-vegan-children.aspx>
13. Nordic Nutrition Recommendations, *Sustainable food consumption, draft version 2012*: <http://www.slv.se/upload/NNR5/Sustainable%20food%20consumption%20NNR%202012.pdf>
14. See Canadian Food & Drugs Regulations: <http://laws-lois.justice.gc.ca/eng/regulations/>
15. United Kingdom National Health Service, *Vegetarians and vegan moms-to-be*: <http://www.nhs.uk/Livewell/Vegetarianhealth/Pages/Pregnancyandchildren.aspx>