The principles of healthy and sustainable eating patterns



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Follow-on work to the Green Food Project, focusing on sustainable consumption.

The lead authors for this work are Tara Garnett (Food Climate Research Network, University of Oxford) and Maureen Strong (Agriculture and Horticulture Development Board). These authors also co-chaired the working groups for this report.

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Introduction

The Foresight Report into the Future of Food and Farming examined the decisions that policy makers would need to take to address challenges of future food security. The report recognised that there is a rising global population, a limited amount of land that can be used to meet that growing demand and increasing environmental pressures on the food system, including those resulting from climate change.

Domestically the UK Government has placed a strong focus on growth and competitiveness in the agriculture and food sector and the Defra business plan pledges to support an increase in food production. This sits alongside the strong environmental commitments made. This working group wanted to consider the role that the UK has in achieving global food and nutrition security and environmental improvement.

Globally, some 30% of the population is overweight or obese, including in low income countries. In the UK around 67% of men and 57% of women are either overweight or obese¹. Only 30% of UK adults eat the recommended five portions of fruit and vegetables a day². The eatwell plate forms the basis of the Government's healthy eating advice to the general population. It makes healthy eating easier to understand by giving a visual representation of the types and proportions of foods that constitute a wellbalanced, healthy diet. This includes snacks as well as meals. The eatwell plate is intended as a guide to the overall balance of the diet over a day or a week rather than a recommended representation of any specific meal.



The Green Food Project

The Green Food Project was a response to a commitment made in the Natural Environment White Paper, to examine the challenges of increasing food production and improving the environment and how any tensions that this raised can be reconciled. Recognising that this was not a job for Government alone, the project was a co-creation with organisations from across the farming, food and environment sectors. The initial project conclusions published in July 2012 were jointly owned and developed by the project Steering Group. They set out the strategic steps that can be taken to deliver win wins and make decisions about the trade-offs. These covered a number of themes, including: research and technology, knowledge exchange, our future workforce, investment, building effective structures, valuing ecosystem services, land management, consumption and waste. In taking forward the Green Food Project conclusions and proposed actions, the project steering group considered that:



- The Green Food Project has stimulated greater levels of awareness and interest from across the farming, food and environment sectors and that work in this area should continue under this banner, where appropriate;
- The innovative, open policy making approach taken in this project has generated a positive collaborative approach, which should continue as the actions are taken forward;
- In areas where the issues are complex and solutions could not be easily found, particularly due to the differing views involved, a more strategic and substantive discussion is needed.

The Green Food Project report in July 2012 concluded that follow-on work was required to enable a broader and more sophisticated debate around the roles that diet and consumption play in the sustainability of the whole food system.

Sustainable consumption follow-up work

It was agreed that this work should continue with the same approach taken in the Green Food Project, to work collaboratively with a range of stakeholders. In the light of this and after further discussion at follow-up meeting in Oxford on 28 September 2012, it was decided to focus on taking forward three themes:

- Principles of a healthy and sustainable eating pattern
- Consumer behaviour
- Sustainable consumption and growth

Workshop, formation and scope of working groups

A broader stakeholder workshop was held on the 1 March 2013 to discuss each of the three themes and was attended by over 70 different individuals. The workshop's aim was to get wider stakeholder involvement in the project and to identify the priority areas to work on.

The three working groups each met three times over the course of two months to discuss their respective topic in detail. Groups consisted of a cross-section of key stakeholders, which included pre-farm gate representatives such as NFU, members of the food and drink manufacturing industry, packaging industry, food service industry and a range of NGOs, retail representatives and academics. Every effort was made to develop diverse and balanced membership but not all of the working groups had a full range of representation. However, all meeting notes and draft reports have been shared for comment across all participants and more widely with those taking part in the stakeholder workshop.

Each working group was invited to define their outcomes and recommendations during this period of time which, considering the very short timescale was particularly challenging. Due to this, all of the work has been based on previously published reports and there has not been the time to undertake primary research. However, the broad range of stakeholders involved have drawn widely on their experience and knowledge of existing evidence. The groups were given a reasonably strong steer not to focus on **food waste** as it was recognised that there was already a large amount of work being undertaken to address this area (e.g. The Review of Waste Policy in England 2011, WRAP Love Food, Hate Waste Campaign, Courtauld Commitment, Hospitality and Food Service Voluntary Agreement). To avoid repetition of existing work it was decided that the expertise in each of the groups should be focussed on other aspects, whilst drawing on existing evidence and ongoing initiatives around food waste.

For further details of those who sat on each of the working groups, please refer to the final *Sustainable Consumption* report published in July 2013.



Principles of healthy and sustainable eating patterns

This group was chaired by Tara Garnett (FCRN) and Maureen Strong (AHDB) and set itself the task of producing a set of clear bullet points setting out the **key principles** of a sustainable, healthy eating pattern.

The group adopted the following approach: 1) it reviewed a broad range of food-related literature focusing on health, sustainability or both³; 2) it distilled a set of key principles and 3) validated each principle in a table which referenced the rationale, highlighted caveats and qualifiers, and identified literature sources.

The review of the literature found clear potential compatibility between proenvironmental eating patterns and good health, as defined by the eatwell plate recommendations⁴. The synergy is much less obvious between health/environmental goals on the one hand, and economic objectives on the other if a narrow definition of economic development is used. However this is an under-researched area. There are also likely to be significant business opportunities along the whole value chain, (agriculture through to retail and catering) arising from a shift towards healthy and sustainable eating patterns, which need to be explored further. The group recommends a broadening of economic thinking to capture the currently externalised value of ecosystems services. Conversely the costs of environmental damage, the costs to society of ill health; and the costs (to individuals, to business and to local authorities) of food waste also need to be captured.

The group agreed the following key principles for healthy and environmentally sustainable eating:

- 1 Eat a varied balanced diet to maintain a healthy body weight.
- 2 Eat more plant based foods, including at least five portions of fruit and vegetables a day.
- 3 Value your food. Ask about where it comes from and how it is produced. Don't waste it.
- 4 Choose fish sourced from sustainable stocks, taking seasonality and capture methods into consideration.

- 5 Moderate your meat consumption, and enjoy more peas, beans and pulses, tofu, nuts, and other plant sources of protein.
- 6 Include milk and dairy products in your diet and/or seek out plant based alternatives, including those that are fortified with additional vitamins and minerals.
- 7 Drink tap water.
- 8 Eat fewer foods high in fat, sugar and salt.



The principles in detail

The eight principles and their underpinning rationale are each structured as follows:

- a. Short headline message
- b. Further brief explanation to state rationale
- c. Qualifiers and caveats
- d. Available consumer facing advice
- e. Peer reviewed literature sources

These principles are not intended to replace but rather to complement the eatwell plate. In the longer run however, it may be necessary and useful to develop a new version of eatwell that incorporates environmental sustainability advice. There is also considerable follow-up work that could be done to examine what healthy and sustainable, eating patterns look like 'on the plate', as it were, and how far they align with eating patterns already present among some population groups; and to develop visual materials and meal planners that are tailored to different audiences (such as different ethnic population groups) to provide concrete illustrations of what achievable healthy eating patterns looks like in practice.





The principles of healthy and sustainable eating patterns

MESSAGES



Eat a varied balanced diet to maintain a healthy body weight.

Explanation

Eating the right amount and types of food will help you to maintain a healthy body weight. Choosing a varied diet can help to get the full range of nutrients you require. Eating more than you need means that energy and natural resources are used to produce food that is ultimately not utilised. Eating the right amount of a variety of foods can help you manage your weight, improve general wellbeing and reduce the risk of conditions including heart disease, stroke, some cancers, diabetes and osteoporosis.

Qualifiers & caveats

Physical activity is also an important part of the energy balance equation and will determine the amount of energy you require to maintain a healthy body weight.

Available consumer facing advice The eatwell plate

Change4Life⁵

- Michaelowa A, Dransfeld B. Greenhouse gas benefits of fighting obesity. Ecological Economics, 2008, 66:298-308; Edwards P and Roberts I (2009) Population adiposity and climate change Int. J. Epidemiol. 38 (4)
- WCRF/AICR's Second Expert Report: Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective

Eat more plant based foods, including at least five portions of fruit and vegetables per day.

Explanation

A healthy, balanced diet based on starchy foods such as potatoes, bread, rice and pasta; with plenty of fruit and vegetables; some protein-rich foods such as meat, fish and lentils and other pulses, some milk and dairy foods or non dairy alternatives; and not too much fat, salt or sugar, will provide all the nutrients needed. Base your meals around starchy foods which also provide dietary fibre such as: potatoes, bread, pasta and rice; and cereals. In the case of bread, pasta and other cereal-based carbohydrates, choose whole grains where possible to ensure adequate fibre intakes. We particularly need to boost our fruit and vegetable intakes and include pulses e.g. beans, lentils, peas. Choose fruit and vegetables in season, where possible, as these are likely to have been produced and distributed in less environmentally impactful ways. Include unsalted nuts and seeds in moderation.

Qualifiers and caveats

Plant based foods generally require less energy and fewer natural resources to produce than animal products. A well planned plant-based diet can be healthy and meet all our nutritional requirements, at all stages in our lives. Eating a diversity of foods will help ensure you get all the nutrients you require. Most people do not eat enough fruit and vegetables to meet healthy eating recommendations. Some plant based foods carry higher environmental costs than others (for example air freighted produce, or vegetables grown in heated greenhouses) but evidence to support claims that local food is better for the environment is not conclusive and the issues are complex. However, where production, processing and distribution systems



are similar, choosing produce that has travelled less far can result in lower transport emissions.

It is important to choose carefully within this food category, bearing in mind that environmental goals may sometimes clash with international development objectives, as in the case of air freighted foods whose production supports economic development in low income countries. Note that there is as yet no formal definition of what constitutes a 'healthy plant based eating pattern' and clearly some foods of plant origin (e.g. chocolate, sugar and vegetable oils) should only be eaten sparingly, and are not in keeping with the spirit of the approach advocated here.

Available consumer facing advice The eatwell plate

- Garton, L. & Harland, J. (2011) The Plant-based Plan -Reference guide for plant based nutrition. Lannoo Campus
- WCRF/AICR's Second Expert Report: Food, Nutrition, Physical Activity, and the Prevention of Cancer: Recommendations: plant foods
- Sim S, Barry M, Clift R et al. The Relative Importance of Transport in Determining an Appropriate Sustainability Strategy for Food Sourcing. Int J LCA, 2007, 12(6):422– 431
- Understanding the environmental impacts of consuming foods that are produced locally in season – Defra project F00412
- Scarborough, P., Appleby, P. N., Mizdrak, A., Briggs, A. D., Travis, R. C., Bradbury, K. E., Key, T. J., 2014, Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK, Climatic Change, DOI: 10.1007/s10584-014

Value your food. Ask about where it comes from and how it is produced. Don't waste it.

Explanation

Seek out foods produced to higher ethical and environmental standards. Throwing food away is a waste of energy and natural resources, as well as money. Plan what you are going to buy, store it appropriately and think about portion size. If you have leftovers, use them up.

Qualifiers and caveats

Environmental and ethical labels vary in their criteria and focus. Different labels may measure different things (e.g. labour standards or animal welfare) and there may also be disagreements within categories (e.g. animal welfare) about the merits of different labelling schemes.

Available consumer facing advice

There is a wide variety of certification schemes offering consumers information about different types of environmental and ethical standards met by food products. Most of these are run by private or charitable organisations. There is research which shows that consumers find the variety of different labels of this



type confusing. There is currently no single definition of, or source of impartial information on sustainable sourcing that provides an overview of such schemes. This seems to be a significant gap and the working group recommends that addressing this gap with a credible, independent source of consumer facing, sustainable sourcing information would be worthwhile. In addition, foods produced to meet environmental or ethical criteria tend to be more expensive than those that have not. This means that they are not necessarily affordable to people on lower incomes. Therefore there is often a tension between environmental/ethical (and often health) objectives, and economic/affordability goals a tension which requires action by policy and business to resolve.

Love Food Hate Waste

www.lovefoodhatewaste.com

- WRAP (2009) Household Food and Drink Waste in the UK.
- WRAP (2011) new estimates for household food and drink waste in the UK.
- WRAP & UNEP (2009). The environmental food crisis: The environment's role in averting future food crises, Nairobi.
- Tallontire, A. (2012) A Review of the Literature and Knowledge of Standards and Certification Systems in Agricultural Production and Farming Systems. Natural Resources Institute, Greenwich.
- Cramer, C., Johnston, D., Oya, C., Sender J., (2014) Fairtrade, Employment and Poverty Reduction in Ethiopia and Uganda (http://ftepr.org/wp-content/uploads/FTEPR-Final-Report-19-May-2014-FINAL.pdf)

Choose fish and aquatic products sourced from sustainable stocks and well managed farms.

Explanation

The health message is that we should be eating two portions of fish per week, one of which should be oily. Oily fish are rich in long chain omega-3 polyunsaturated fatty acids and at present there are no adequate plant based sources of these oils. Dietary advice on fish is already available from the eatwell plate.

Qualifiers and caveats

Although there are clear health benefits in eating more fish, many fish stocks are over exploited. There is clearly a trade-off between health and environmental objectives which requires resolution. With regards to sustainability of fish stock levels, there are also issues to consider such as capture methods and breeding seasonality as well as farming methods and management. Choosing fish certified by the Marine Stewardship Council (MSC) or Aquaculture Stewardship Council (ASC) ensures that they come from the best managed fisheries or farms. As a priority there is need for more research into development of alternative, plant based sources of long chain omega-3 polyunsaturated fatty acids.

Available consumer facing advice

www.iucnredlist.org

Marine Conservation Society www.fishonline.org

Marine Stewardship Council

www.msc.org/cook-eat-enjoy/choose-msccertified-seafood

Sea fish Authority www.seafish.org



- Advice on fish consumption: benefits & risks, SACN
- The State of World Fisheries and Aquaculture, SOFIA
- FAO, (2013). The State of World Fisheries and Aquaculture 2012. FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, FAO Fisheries and Aquaculture Department Rome, 2012
- Hall, S.J., A. Delaporte, M. J. Phillips, M. Beveridge and M. O'Keefe. (2011). Blue Frontiers: Managing the Environmental Costs of Aquaculture. The World Fish Centre, Penang, Malaysia.
- C. L. Delgado, N. Wada, M. W. Rosegrant, S. Meijer, M. Ahmed (2003). Outlook for fish 2020: Meeting Global Demand. World Fish Centre, Penang, Malaysia.

Moderate your meat consumption, and eat more peas, beans, unsalted nuts, and other sources of protein.

Explanation

Meat provides a range of micro nutrients such as niacin, vitamin B6, vitamin B12 and zinc and red meat in particular makes an important contribution to intakes of iron in the UK diet (NDNS). Protein intakes in the UK are more than adequate for most groups, and well-planned balanced diets based around starchy foods, fruit and vegetables and containing some meat or alternative protein sources should not compromises protein intake amongst most consumers.

Meat carries relatively higher environmental costs than other sources of protein. The term 'meat' includes red and white meat, both fresh and processed. Peas, beans or lentils combined with starchy staples and fruit and vegetables provide a balanced and adequate protein and micronutrient intake, and are cost-effective options. Alternatively meat dishes can be extended by combining with pulses. Milk and dairy foods, fish and eggs are also rich in protein although they also generate negative environmental impacts^{*6}.



Qualifiers and caveats

Different kinds of meat and animal products (e.g. beef, lamb, poultry, pork and eggs) impact upon the environment in different ways. It is not helpful to say that one type of meat is 'better' or 'worse' for the environment since there are different issues involved. For example, pork and poultry meat production tends to produce fewer greenhouse gas emissions than beef or lamb production. However, grazing animals eat grass and can be reared on land unsuited to other agricultural purposes and consume by-products (such as crop residues) and also enhance landscape value. The production of grains to feed animals (often pigs and poultry) often requires irrigation water, and water supplies are coming under increasing pressure. The rearing method will also impact upon nutritional quality. Generally speaking animal products carry a higher environmental cost than plant based proteins and so consuming more legumes and other plant based proteins will help reduce your environmental impact.

There is no optimal level of meat consumption. Although the Department of Health advises those with high intakes of red and processed meat to reduce their intake to no more than 70g (cooked weight)/person/day⁷ – approximately 100g raw weight. This is in line with average population consumption levels (NDNS). WCRF recommend avoiding processed meat to reduce risk of colorectal cancer (WCRF 2007).

As well as contributing to iron absorption from other foods, meat and fish⁸ contributes to intake of a wide range of nutrients, including

protein, vitamins and minerals. Individuals in some population sub groups in the UK are known to have low intakes of some micronutrients (including iron), which if continued over time increases an individual's risk of deficiency.

It is possible, with good planning, to obtain all the nutrients needed from a plant based diet provided it is sufficiently diverse and well balanced. The exception is vitamin B12 which is only found in foods of animal origin. Vegans can obtain this nutrient by choosing fortified foods and through consumption of a daily supplement. To provide the complete compliment of amino acids (the building blocks of protein) needed by the body plant based protein sources need to be combined. Examples of 'complete' plant based protein meals include beans on toast, pea soup with bread, dhal and chapatti/or rice, vegetable-bean chilli with rice, vegetable stir fry with tofu.

There is official advice available^{9,10} including the recognition by DH that red meat is an important dietary source of iron and advice published on 'NHS Choices' on meat in the diet generally and on red meat and bowel (colorectal) cancer. Meat consumption could be

References

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- Williams, A.G., Audsley, E. and Sandars, D.L. (2006) Determining the environmental burdens and resource use in the production of agricultural and horticultural commodities.
- NHS Choices: www.nhs.uk/Livewell/Goodfood/Pages/meat. aspx
- WCRF (2007) Guide to portion sizes.
- Westhoek, H. *et al.* (2011) The Protein Puzzle: The consumption and production of meat, dairy and fish in the European Union. The Hague: PBL Netherlands Environmental Assessment Agency.
- Scarborough, P., Appleby, P. N., Mizdrak, A., Briggs, A. D., Travis, R. C., Bradbury, K. E., Key, T. J., 2014, Dietary greenhouse gas emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK, Climatic Change, DOI: 10.1007/s10584-014
- Larsson SC, Orsini N (2014). Red meat and processed

moderated by:

- eating a variety of meat and meat free meals (and/or having meat free days),
- eating meat in smaller portion sizes (e.g. 70g (2-3oz) cooked weight),
- making dishes with less meat but incorporating other sources of protein such as lentils, beans, tofu and other soy products or nuts,
- using smaller quantities of meat as a 'garnish' to add flavour to dishes.

Available consumer facing advice

NHS Choices www.nhs.uk/livewell/goodfood/pages/ healthyeating.aspx

British Dietetic Association www.bda.uk.com

The Dairy Council www.milk.co.uk

BPEX and EBLEX www.meatmatters.com www.meatandhealth. com

The Vegetarian Society www.vegsoc.org

The Vegan Society www.vegansociety.com

meat consumption and all-cause mortality: a metaanalysis. Am J Epidemiol., 179(3):282-9.

• Sabine Rohrmann, Kim Overvad, H Bas Bueno-de-Mesquita, Marianne U Jakobsen, Rikke Egeberg, Anne Tjonneland, Laura Nailler, Marie-Christine Boutron-Ruault, Francoise Clavel-Chapelon, Vittorio Krogh, Domenico Palli, Salvatore Panico, Rosario Tumino, Fulvio Ricceri, Manuela M Bergmann, Heiner Boeing, Kuanrong Li, Rudolf Kaaks, Kay-Tee Khaw, Nicholas J Wareham, Francesca L Crowe, Timothy J Key, Androniki Naska, Antonia Trichopoulou, Dimitirios Trichopoulos, Max Leenders, Petra HM Peeters, Dagrun Engeset, Christine Luise Parr, Guri Skeie, Paula Jakszyn, Maria-Jose Sanchez, Jose M Huerta, M Luisa Redondo, Aurelio Barricarte, Pilar Amiano, Isabel Drake, Emily Sonestedt, Goran Hallmans, Ingegerd Johansson, Veronika Fedirko, Isabelle Romieux, Pietro Ferrari, Teresa Norat, Anne C Vergnau, Elio Riboli, Jakob Linseisen. Meat consumption and mortality results from the European Prospective Investigation into Cancer and Nutrition. BMC Medicine, 2013; 11 (1): 63 DOI: 10.1186/1741-7015-11-63

Include milk and dairy products in your diet and/or seek out plant based alternatives, including those that are fortified with additional vitamins and minerals.

Explanation

For good bone health, eat a range of calciumrich foods. Dairy products are a particularly rich source of calcium which is essential for bone health, as well as of other important nutrients such as zinc, riboflavin and vitamin B12¹¹. Ideally choose low fat sources, where they exist. However, like meat the production of milk and dairy foods is resource and GHG intensive. Plant based alternatives can be consumed instead but do not have the same nutrient profile as milk and milk products. For this reason milk substitutes such as soy and rice milk are fortified with calcium and additional vitamins and minerals.

Qualifiers and caveats

Dairy foods are resource and GHG -intensive. However, while it is possible to meet our calcium needs from plant based sources, it is necessary to take care. Fracture rates among vegans tend to be about 30% higher than that of meat eaters, fish eaters or vegetarians. Although this is not the case for vegans whose calcium intakes are in line with recommendations.

Available consumer facing advice

There is little official advice for people who don't consume dairy:

The Dairy Council

www.milk.co.uk

www.nhs.uk/Livewell/Vegetarianhealth/Pages/ Vegandiets.aspx

The Vegan Society

www.vegansociety.com/resources/nutrition-health



- Millward D and Garnett T (2010). Food and the planet: nutritional dilemmas of greenhouse gas emission reductions through reduced intakes of meat and dairy foods, *Proceedings of the Nutrition Society*, 69, 103–118
- Williams, A.G., Audsley, E. and Sandars, D.L. (2006) Determining the environmental burdens and resource use in the production of agricultural and horticultural commodities. *LCA* (IS0205)
- Appleby P, Roddam A, Allen N et al. (2007) Comparative fracture risk in vegetarians and non-vegetarians in EPIC Oxford. Eur J Clin Nutr 61, 1400–1406
- McEvoy, C.T., Temple, N., Woodside, J.V., Vegetarian diets, low-meat diets and health: a review. *Public Health Nutrition* 15 (12): 2287-94

Drink tap water.

Explanation

Tap water is the cheapest and most environmentally low impact way of delivering hydration. Drink tap water as an alternative to bottled water and avoid sugary drinks. Fruit juices only count as one of your 5-a-day however much you drink and consumption should be limited as these drinks contain sugar

The recent National Diet and Nutrition Survey published in May 2014 reported on food consumption and nutrient intakes for the UK. The findings confirmed that the UK population as a whole is consuming too much saturated fat and salt, and not enough fruit, vegetables, oily fish and fibre. It also found that sugar intakes in all age groups are in excess of current UK recommendations.



The main sources of sugar in the diet are soft drinks; table sugar and preserves; confectionery; fruit juice; alcoholic drinks; biscuits; buns, cakes, pastries and fruit pies; and breakfast cereals.

Soft drinks, including energy drinks, are the largest single source for teenagers. For younger children soft drinks, confectionery and fruit juice are the major sources of sugar. In adults table sugar and preserves and soft drinks are the main sources. The consumption of sugar-sweetened beverages can promote weight gain in children and adults¹².

Available consumer facing advice The eatwell plate

Bottled Water and Energy: Getting to 17 Million Barrels http://pacinst.org//wp-content/uploads/ sites/21/2013/04/bottled water factsheet.pdf

- Jungbluth, L. (2005) Comparison of the Environmental Impact of Tap Water vs. Bottled Mineral Water, Swiss Gas and Water Association (SVGW)
- Bates B, Lennox A, Prentice A, Bates C, Page P, Nicholson S, Swan G. (Eds) (2014). National Diet and Nutrition Survey: Headline results from Years 1 to 4 (combined) of the rolling programme from 2008 and 2009 to 2011 and 2012. Available from: www.gov.uk/government/ publications/national-diet-and-nutrition-survey-resultsfrom-years-1-to-4-combined-of-the-rolling-programmefor-2008-and-2009-to-2011-and-2012

Eat fewer foods high in saturated fat, sugar and salt.

Explanation

Limit energy intake from total fats¹³ and keep pastries, cakes, sweets, chocolate and biscuits to an occasional treat. Try eating unsalted instead of salted nuts.

Qualifiers and caveats

There are many forms of sugar: honey, maple syrup and fruit syrups are not any better for health than ordinary sugar and the difference in nutritional value between brown and white sugar is negligible. Fruit juices and dried fruit are also high in sugar.

Available consumer facing advice The eatwell plate

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ReferencesEatwell plate model

Cutwein plate model
www.nhs.uk/Livewell/Goodfood/Pages/eatwell-plate.aspx
Global Strategy on Diet, Physical Activity and Health

<image>

- 1 Global, regional, and national prevalence of overweight and obesity in children and adults during 1980-2013: a systematic analysis for the Global Burden of Disease Study 2013
- 2 www.gov.uk/government/statistics/national-diet-and-nutrition-survey-results-from-years-1-to-4-combined-of-the-rolling-programme-for-2008-and-2009-to-2011-and-2012
- 3 Both peer reviewed and good quality grey literature
- 4 That is, while a healthy diet is not always necessarily a sustainable one, and while it is possible to have a low-environmental impact but unhealthy diet need not be a healthy one, there is significant scope for alignment of the two objectives.
- 5 www.nhs.uk/Livewell/Goodfood/Pages/eatwell-plate.aspx www.nhs.uk/Change4Life/Pages/healthy-eating.aspx
- 6 The nutritional benefits of all protein rich foods have to be assessed in relation to the environmental impact of producing them.
- 7 www.nhs.uk/Livewell/Goodfood/Pages/meat.aspx
- 8 Beneficial effect is obtained by consuming 50 g of meat or fish together with food(s) containing non haem iron Authorised claim taken from the EU register of nutrition and health claims entry ID 1223
- 9 www.gov.uk/government/publications/sacn-iron-and-health-report www.nhs.uk/Livewell/Goodfood/Pages/meat.aspx www.nhs.uk/Livewell/Goodfood/Pages/red-meat.aspx
- 10 Note the recent launch of 'eating better' www.eating-better.org
- 11 See www.nhs.uk/Livewell/Goodfood/Pages/milk-dairy-foods.aspx for advice on milk and dairy foods, including diets for infants and young children, and dairy allergy/intolerance.
- 12 www.ncbi.nlm.nih.gov/pubmed/23966427
- 13 Global Strategy on Diet, Physical Activity and Health