

Plant-based Eating - Should we believe the hype?

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Why the Renewed Interest?

And in Recent Times...

Common theme = Plant foods



BUT...



DAFT DIETS DISSED Food experts declare war on women leading 'flawed' clean eating movement amid claims it fuels anorexia

Plant-based eating - fad or fact?

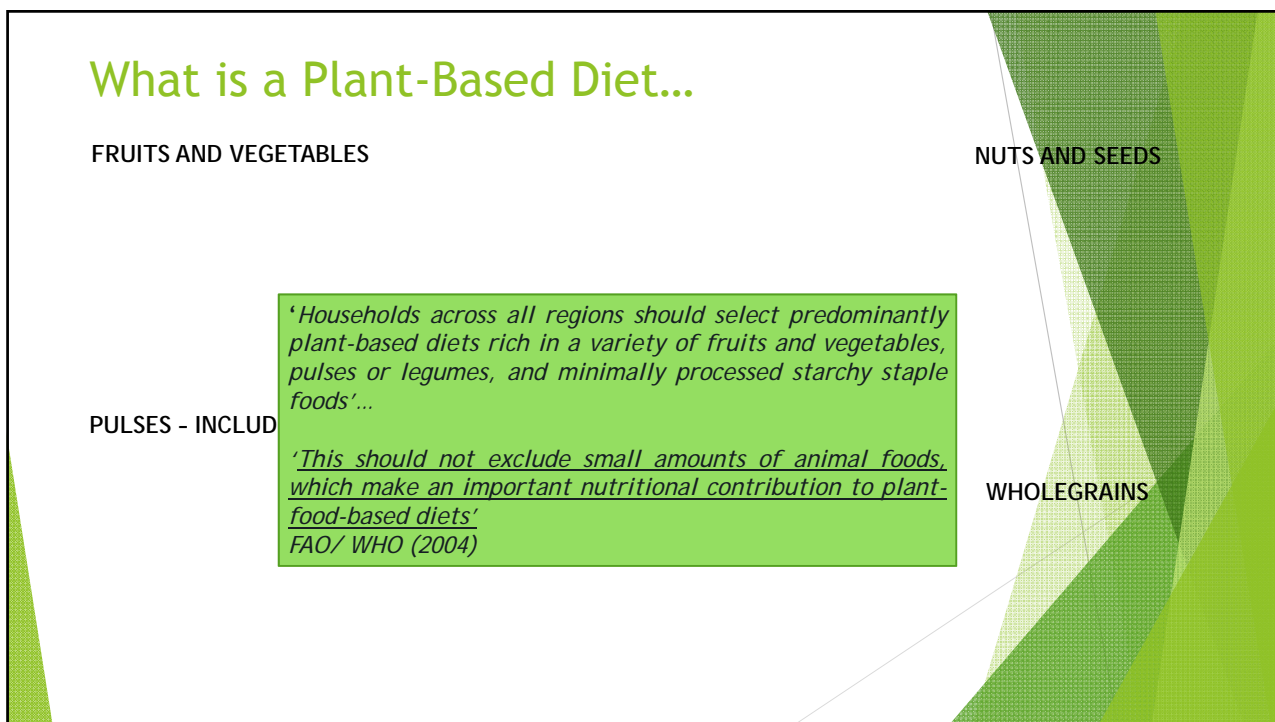
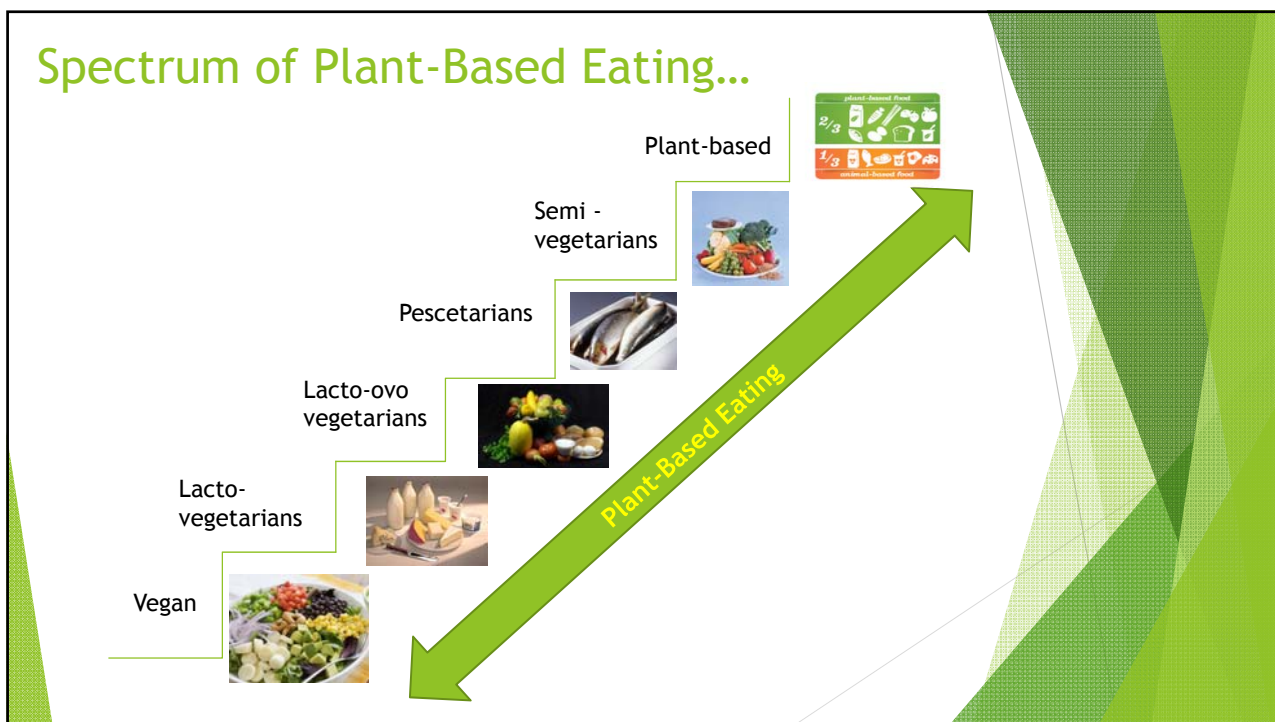
The Telegraph

Lifestyle

Clean Eating: The Dirty Truth: 7 myths busted



Clean Eating - The Dirty Truth





Key European Nutritional and Dietary Recommendations

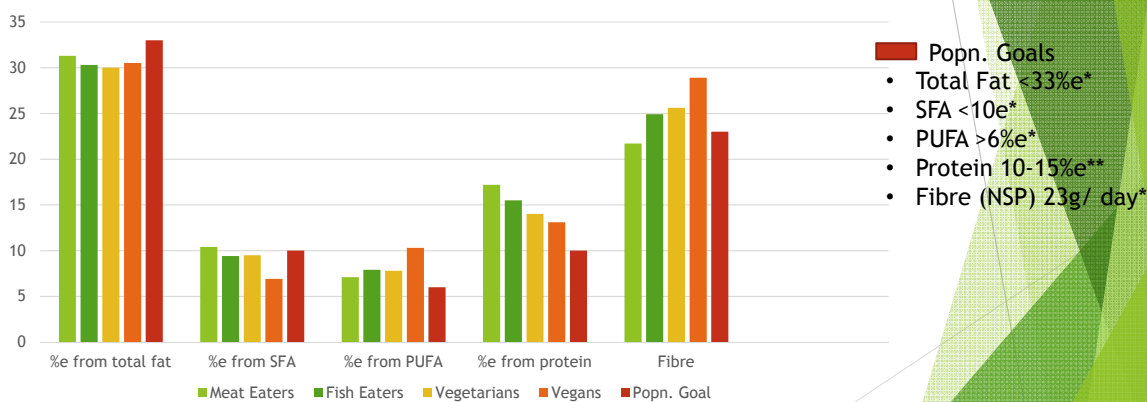
Nutrient	WHO/ FAO*	EFSA
Dietary Fat (%e)	15-30 (15-35*)	20-35
Saturated Fat (%e)	< 10	Not set, but advised to be as low as possible within a nutritionally adequate diet
PUFA's	6-11%e *n-6 PUFAs 2.5-9.0 %e *n-3 PUFAs 0.5-2.0 %e	4%e linoleic acid (AI) + 0.5%e (AI) linolenic acid + 250mg LC n-3 PUFA
Protein (%e)	10-15	0.83g/kg body weight/ d (PRI)
Fibre (g/ day)	> 25	25
Fruit and Vegetables (g/ day)	≥ 400	

Nutritional Rational for Eating More Plant-based Foods

- ✓ Population studies have found plant-based eating is associated with a better nutritional intake in line with recommendations
- ✓ Nutritional benefits not just due to the absence of animal foods but also the inclusion of a wide variety of important plant-foods

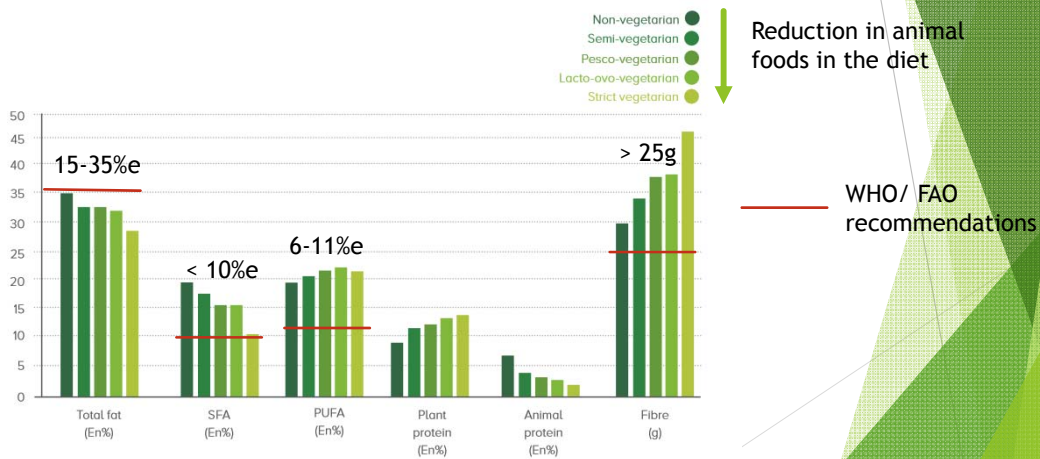
No need to completely exclude animal foods, but plant foods should be at the core

EPIC-Oxford Adjusted Daily Dietary Nutrient Intakes by Diet Group



Sobiecki J.G. et al , Nutrition Research, 2016; 36: 464-477

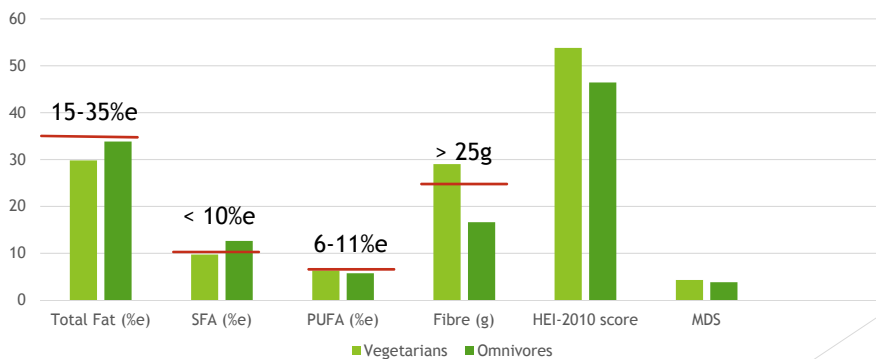
Average daily intake of selected nutrients in the AHS-2 study



Rizzo NS, et al (2013) J Acad Nutr & Diets 113(12); 1610

Comparison of Vegetarian Diets vs Omnivore Diets Using Dietary Pattern Analysis...

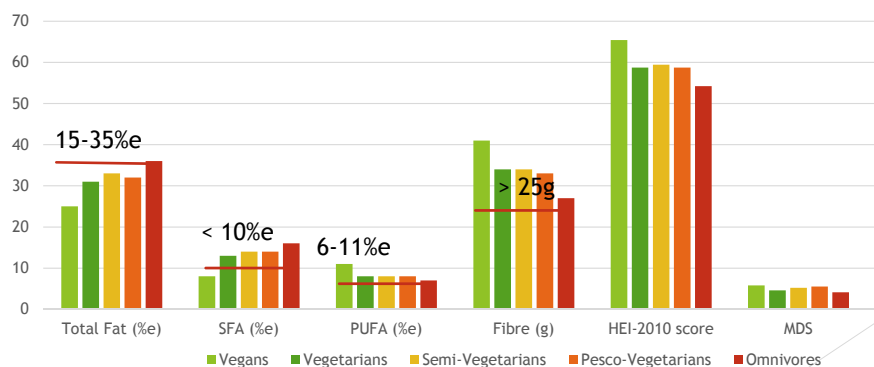
Mean intake of Selected Nutrients and Dietary Quality Scores among Flemish Vegetarians and Omnivores



Clarys P, et al (2013) Nutrition Journal 12:82;

Comparison of Nutritional Quality of Various Plant-based Diets and an Omnivore Diet...

Mean intake of Selected Nutrients and Dietary Quality Scores among Various Plant-based Diets and Omnivores



Clarys P, et al (2014) *Nutrients* 6: 1318-1332

Food & Nutrient Intakes According to Pro-Vegetarian Eating Patterns

Food (g/day)	Pro-vegetarian food pattern category				
	Very Low: <30	Low: 30-40	Moderate: 35-39	High: 40-44	Very High: >44
Vegetables	254.0	294.0	343.0	388.0	442.0
Fruits	267.0	319.0	376.0	432.0	555.0
Legumes	15.0	18.0	21.0	25.0	28.0
Cereals	105.0	129.0	144.0	164.0	205.0
Nuts	4.4	7.2	10.0	14.0	22.0
Meats/meat products (excluding fish)	160.0	141.0	129.0	113.0	105.0
Dairy Products	495.0	419.0	371.0	314.0	259.0
Nutrients					
Total Fat (En%)	40.6	39.6	39.2	38.4	36.9
SFA (En%)	11.7	10.5	9.8	9.1	8.1
PUFA (En%)	5.8	6.1	6.3	6.5	6.8
Dietary Fibre (g/day)	19.0	22.0	26.0	30.0	36.0

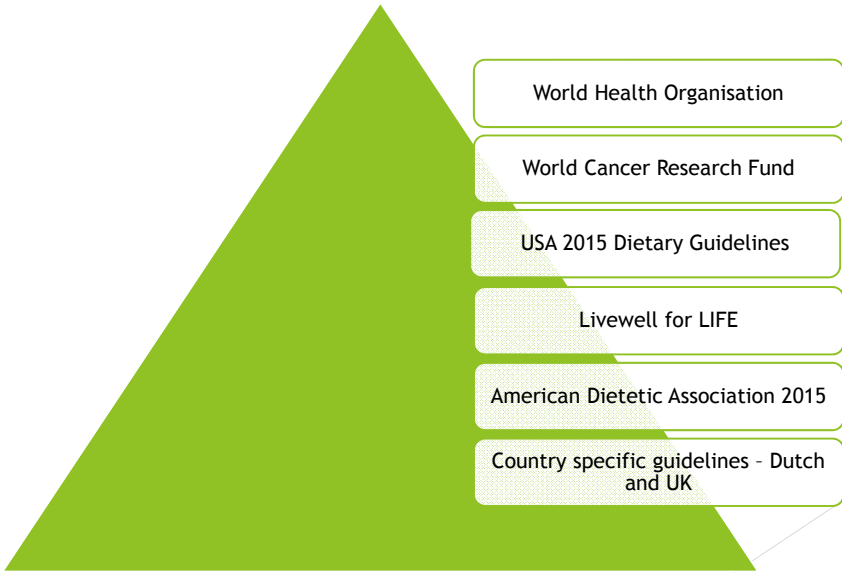
- +ve weighting given to
- Fruit
 - Vegetables
 - Nuts
 - Cereals
 - Legumes
 - Olive oil
 - Potatoes

- ve weighting given to
- Added animal fats
 - Eggs
 - Fish
 - Dairy products
 - Meats or meat products

TOTAL SCORE 12 -60

Martinez-Gonzales, et al (2014) *Am J Clin Nutr*, 100(S1):320S

International Dietary Support



Food-based Dietary Guidelines



Germany (2013)



Ireland (2016)



USA (2016)



Belgium - The active food guide pyramid for the Flemish Community (2005)



Belgium - The food pyramid for the French Community (2005)

Dutch Food-based Guidelines



The Netherlands (2015/16)
European Journal of Clinical Nutrition
 (2016) 869 - 878

Main messages

- Follow a dietary pattern that involves eating more **plant-based** and less animal-based food, as recommended in the guidelines
- Eat at least 200 grams of vegetables and at least 200 grams of fruit daily
- Eat at least 90 grams of brown bread, wholemeal bread or other wholegrain products daily
- Eat legumes weekly
- Eat at least 15 grams of unsalted nuts daily
- Take a few portions of dairy produce daily, including milk or yogurt
- Eat one serving of fish weekly, preferably oily fish
- Drink three cups of tea daily
- **Replace refined cereal products by whole-grain products**
- **Replace butter, hard margarines, and cooking fats by soft margarines, liquid cooking fats, and vegetable oils**
- **Replace unfiltered coffee by filtered coffee**
- **Limit the consumption of red meat, particularly processed meat**
- Minimise consumption of sugar-containing beverages
- Don't drink alcohol or no more than one glass daily
- Limit salt intake to 6 grams daily

UK Food-based Guidelines...

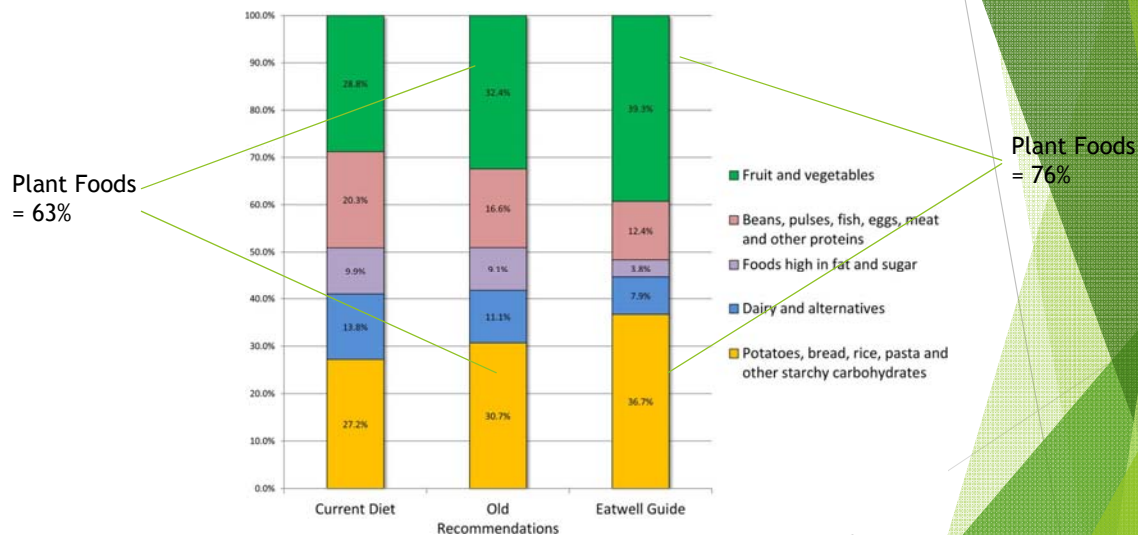


Eatwell Plate
 (2007-2016)



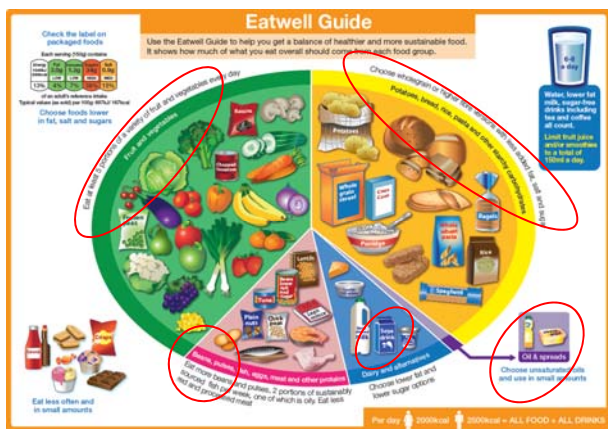
Eatwell Guide
 (March 2016)

Breakdown of the diet by Eatwell Guide categories for current consumption, the 'Eatwell Guide' scenario and the 'old recommendations' scenario



Peter Scarborough et al. BMJ Open 2016;6:e013182

New Eatwell Guide - moving towards plant-based?



Differences

- ▶ Updated segment names
- ▶ Different segment sizes
- ▶ Fruit juice removed from fruit and vegetable group, now included in the hydration message
- ▶ Foods high in fat and/ or sugar removed
- ▶ Purple segment only includes oils
- ▶ Additional messages
 - ▶ Hydration
 - ▶ Calorie requirements
 - ▶ Food labelling
- ▶ Increased emphasis on plant foods

Eatwell versus UK Dietary Recommendations

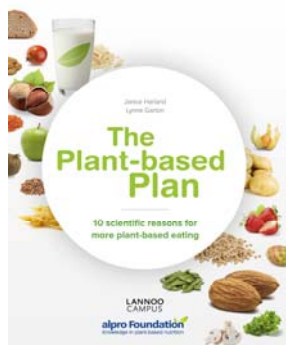
Nutrient	Current UK Recommendations	Old Eatwell Plate	New Eatwell Guide
Dietary Fat (% food energy)	≤ 35%	31%	27%
Saturated Fat (% food energy)	≤ 11%	10%	8%
Carbohydrates (% food energy)	≥50%	54%	58%
Free Sugars (% food energy)	≤5%	11%	5%
Protein (% food energy)	≥14.5 and ≤15.5	16%	16%
Fibre (g/ day)	≥30 g	24g	30 g
Fruit and Vegetables (g/ day)	≥ 5 portions	5 portions	6.9 portions
Red and processed meat (g/ day)	≤70 g	30g	14.6g
Fish	≥2 portions a week (2×20 g a day), one of which should be oily	2 x 20g/ day	38g/ day (oily fish) 23g/ day (white fish)

Peter Scarborough et al. *BMJ Open* 2016;6:e013182

In Conclusion...

- ▶ Based on the evidence to date, well-balanced plant-based diets, that incorporate a wide variety of plant foods, makes a valuable contribution to good nutrition and can help to achieve current dietary recommendations
- ▶ The complete avoidance of meat is not needed to bring about these nutritional benefits
- ▶ Many national and international organisations emphasise plant foods in their dietary recommendations

Plant-based eating should be considered a real solution to the nutritional challenges we currently face and not another 'fad' diet



In memory of my co-author and friend, Dr Janice Harland

Acknowledgements

The endeavour, help and support of my co-author Janice Harland is gratefully acknowledged as is the support of the Alpro Foundation