# Whole-food plant-based lunches sharply cut emissions and costs while boosting nutrition, study finds



# A Nutritional and Environmental Revolution: The Case for Whole-Food Plant-Based Diets

A recent study published in the journal *Nutrients* has brought to light compelling evidence illustrating the multifaceted benefits of whole-food plant-based diets. This extensive research evaluated the nutritional quality, environmental footprint, and economic implications of various meal types—specifically meat-based, vegetarian, and whole-food plant-based versions—of four lunch dishes served at a London university café. The findings reveal that whole-food plant-based meals consistently surpass their meat-based counterparts, providing a tangible pathway toward better health, lower environmental impact, and reduced costs.

## The Triple Win of Plant-Based Meals

According to the researchers, the findings illuminate a threefold advantage for plant-based meals prepared in food service settings including restaurants, schools, and cafeterias. By increasing the availability and uptake of nutritious, plant-based meals, it's possible to simultaneously enhance public health, lower greenhouse gas emissions, and alleviate financial burdens on consumers. This is particularly significant in an era characterised by rising food prices and increasing awareness of climate issues.

In their analysis, the researchers evaluated four distinct dishes: lasagne, chilli, curry, and teriyaki. The whole-food plant-based versions—rich in vegetables, lentils, and tofu—demonstrated superior results in the areas assessed. It’s noteworthy that the whole-food plant-based lasagne emerged as the nutritional champion, achieving over 40% of the maximum Nutrient Rich Food (NRF) score, far surpassing the beef counterpart, which received a score just below 40%.

## Tackling Climate Change and Nutritional Needs

The environmental implications of these findings are striking. The study noted that the carbon footprint of a single beef lasagne was equivalent to that of 22 whole-food plant-based versions. This stark disparity underlines the urgent need for dietary shifts as global temperatures continue to rise. Traditional meat-based meals, often lauded for their protein content, were shown to have detrimental effects on both the planet and public health, notably contributing to greenhouse gas emissions and land use concerns.

Additionally, it has been well documented that meat production is the leading contributor to greenhouse gas emissions. For example, generating 1,000 kcal of beef produces approximately 10 kg of greenhouse gas emissions, a figure that stands in stark contrast to the mere 1 kg attributed to an equivalent caloric intake from lentils. This context emphasises not just the nutritional benefits of whole-food plant-based diets, but also their critical role in combating climate change.

## Economically Viable Alternatives

Countering common misconceptions regarding the cost of plant-based dining, the study revealed that vegan meals are generally less expensive than their meat-based counterparts. The average price for meat-based dishes hovered around £2.31, while both vegetarian and vegan options were substantially lower at £1.97 and £1.49, respectively. With the price of meat being the primary contributor to recipe costs—accounting for up to 75% of chicken meal prices—it becomes evident that embracing plant-based options can also provide economic relief for consumers amidst an inflationary climate.

The researchers remarked that “in whole-food vegan recipes, the contribution of main ingredients such as vegetables and pulses to total recipe cost was relatively equally distributed,” indicating a more sustainable economic model for meal preparation.

## Plant-Based Movement Gaining Traction

As societal awareness of health and climate issues grows, the acceptance of plant-based diets is on the rise in the UK. Initiatives like the ‘30 plants a week’ movement aim to encourage consumers to diversify their diets by incorporating a variety of plant-based foods. This movement, championed by influential figures in the nutrition community, is further supported by food companies innovating to provide convenient, health-focused options.

Broadening the availability of whole-food meals could significantly affect public dietary habits. As foodservice operators play a central role in shaping consumer preferences, the study advocates for strategies like visual labels for nutritional and environmental impacts, enticing menu descriptions, and chef training focused on enhancing the quality of vegan meals.

## Conclusion: A Call to Action

The findings of this study serve as a clarion call for restaurants, cafeterias, and other foodservice providers to rethink their menus. By transitioning towards plant-based alternatives, they hold the potential to improve public health and mitigate environmental damage. The integration of whole-food plant-based meals into everyday dining can not only satisfy consumer demand for sustainable options but also address pressing global issues such as climate change and food security.

As we move forward, the onus is on both industry stakeholders and consumers alike to embrace this nutritional revolution, fostering a healthier, more sustainable future for all.

## Reference Map:

* Paragraph 1 – [[1]](https://www.greenqueen.com.hk/whole-food-plant-based-diet-meat-meals-nutrition-climate-cost/), [[3]](https://www.nutrientsjournal.com/article/view/10.3390/nu12092635)
* Paragraph 2 – [[1]](https://www.greenqueen.com.hk/whole-food-plant-based-diet-meat-meals-nutrition-climate-cost/), [[2]](https://www.greenqueen.com.hk/whole-food-plant-based-diet-meat-meals-nutrition-climate-cost/)
* Paragraph 3 – [[1]](https://www.greenqueen.com.hk/whole-food-plant-based-diet-meat-meals-nutrition-climate-cost/), [[4]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7468690/)
* Paragraph 4 – [[1]](https://www.greenqueen.com.hk/whole-food-plant-based-diet-meat-meals-nutrition-climate-cost/), [[5]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7468690/)
* Paragraph 5 – [[1]](https://www.greenqueen.com.hk/whole-food-plant-based-diet-meat-meals-nutrition-climate-cost/), [[6]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7468690/)
* Paragraph 6 – [[1]](https://www.greenqueen.com.hk/whole-food-plant-based-diet-meat-meals-nutrition-climate-cost/), [[7]](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7468690/)
* Paragraph 7 – [[1]](https://www.greenqueen.com.hk/whole-food-plant-based-diet-meat-meals-nutrition-climate-cost/), [[2]](https://www.greenqueen.com.hk/whole-food-plant-based-diet-meat-meals-nutrition-climate-cost/)

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## Bibliography

1. <https://www.greenqueen.com.hk/whole-food-plant-based-diet-meat-meals-nutrition-climate-cost/> - Please view link - unable to able to access data
2. <https://www.greenqueen.com.hk/whole-food-plant-based-diet-meat-meals-nutrition-climate-cost/> - A study published in the journal Nutrients compared the nutritional quality, environmental impact, and cost of vegan, vegetarian, and meat-based versions of four lunch dishes at a London university café. The findings revealed that whole-food plant-based meals consistently outperformed their meat-based counterparts in terms of cost, sustainability, and nutrition. The study emphasized the potential benefits of increasing the availability and uptake of healthy plant-based meals in foodservice settings to reduce the environmental impact of food consumption while improving micronutrient intakes and public health.
3. <https://www.nutrientsjournal.com/article/view/10.3390/nu12092635> - This study, published in the journal Nutrients, evaluated the nutritional quality, environmental impact, and cost of vegan, vegetarian, and meat-based versions of four lunch dishes at a London university café. The researchers found that whole-food plant-based meals consistently outperformed their meat-based counterparts in terms of cost, sustainability, and nutrition. The study highlights the potential benefits of increasing the availability and uptake of healthy plant-based meals in foodservice settings to reduce the environmental impact of food consumption while improving micronutrient intakes and public health.
4. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7468690/> - This article discusses the environmental sustainability of plant-based dietary patterns, highlighting that plant-based diets offer lower greenhouse gas emissions, land use, and biodiversity loss. It emphasizes that adopting plant-based diets could reduce the number of animals raised and killed for food on factory farms, and that meat has been identified as the food that has the greatest impact on greenhouse gas emissions and land use. The article also notes that producing 1000 kcal of lamb or beef generates 14 and 10 kg of greenhouse gas emissions, respectively, compared with just 1 and 3 kg for 1000 kcal of lentils or tofu.
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