



Winter Conference 2023, 5-6 December 2023, Diet and lifestyle strategies for prevention and management of multimorbidity

## Beans, peas and pulses for improved public and planetary health: Changing UK consumption patterns

L. Lane<sup>1</sup>, R. Wells<sup>1</sup> and C. Reynolds<sup>1</sup>

<sup>1</sup>Centre for Food Policy, City, University of London, London, UK

Beans, peas and pulses offer significant nutritional, health and environmental benefits<sup>(1,2,3,4)</sup> and the FAO states that including pulses in agrifood systems is key to achieving the Sustainable Development Goals<sup>(5)</sup>. Recommended intakes vary across national food-based dietary guidelines<sup>(6)</sup>, but higher intakes are associated with benefits including increased satiety, reduced blood pressure, lower risk of cardiovascular disease and improved gut microbiota composition and activity<sup>(7)</sup>. Worldwide, the average consumption of pulses is 21g per person per day<sup>(8)</sup> but published analysis of UK intakes is scarce. The aim of this review was to analyse consumption trends using two UK government datasets.

The Family Food module of the Living Costs and Food Survey details food and drink purchases from approximately 5000 households per year<sup>(9)</sup>. The 'UK – household purchases' data include the average (mean) quantities purchased per person per week. Categories relating to beans, peas and pulses were identified, and data were presented as graphs of purchasing trends (1974–2021).

The National Diet and Nutrition Survey (NDNS)<sup>(10)</sup> assesses the nutritional status of 1000 participants (1.5 years and over) annually. Personal-level dietary data (2008–2019) were evaluated for subgroups 'baked beans' and 'beans and pulses including ready meal and homemade dishes', including fresh, frozen and canned beans and pulses, and recipes containing them. Peas/ green beans were excluded because of the nature of the data aggregation. Food-level dietary data (2018–19) were assessed for the frequency of consumption of different types of peas, beans and pulses.

Our analysis of the Family Food datasets shows that, at 28g per person per day, the current average (mean) consumption of beans, peas and pulses in the UK is suboptimal. Our parallel analysis of NDNS data showed that more than 40% of participants were not eating any beans and pulses (excluding peas).

Dietary trends are shifting. The overall consumption of beans, peas and pulses has been falling steadily since the late 1980s. This is mostly due to the drop in consumption of peas and baked beans, though these are still the most frequently consumed legume categories in the UK diet. Canned pea purchases fell from 88g per person per week in 1974 to 14g per person per week in 2020–21. Baked bean purchases peaked at 133g per person per week in 1986, dropping to 78g in 2020–21.

Purchases of other canned beans and pulses (excluding baked beans) have increased noticeably in the last decade, from 17g per person per week 2015–16 to 32g in 2020–21. Purchases of dried pulses have remained consistent, averaging 11g per person per week in 2020–21.

This analysis indicates significant scope to deliver affordable, accessible health and environmental benefits through increased consumption of beans, peas and pulses in the UK.

### Acknowledgments

This research was conducted by Laura Lane at the Centre for Food Policy at City, University of London, under the supervision of Dr Christian Reynolds and Dr Rebecca Wells. It was funded by the UK Food Systems Centre for Doctoral Training, which is supported by the UKRI's Strategic Priorities Fund (SPF) 'Transforming the UK Food System for Healthy People and a Healthy Environment Programme.

### References

1. Didinger C & Thompson H J (2022) *Legume Science* 4(4)
2. Fadnes LT, Økland JM, Haaland ØA, et al. (2022) *PLoS Medicine* 19(2)
3. *Beans is How: A campaign to double global bean consumption by* (2028). [Available at: <https://sdg2advocacyhub.org/beans-is-how/>]
4. Lovegrove JA, O'Sullivan DM, Tosi P et al. (2023) *Nutrition Bulletin* 48(1), 134–143.
5. FAO (2023). *Pulses for a sustainable future: A Sustainable future with pulses*. [Available at: <https://www.fao.org/documents/card/en/c/CC4170EN>]
6. Marinangeli CPF, Curran J, Barr SI et al. (2017) *Nutrition Reviews* 75(12), 990–1006.
7. Ferreira H, Vasconcelos M, Gil AM et al. (2021) *Crit Rev Food Sci Nutr* 61(1), 85–96.
8. Semba RD, Ramsing R, Rahman N, et al. (2021) *Global Food Security* 28, 100520.
9. Defra (2022) *Family Food Datasets: UK – Household purchases, updated with 2020/2021 data* [Available at: <https://www.gov.uk/government/statistical-data-sets/family-food-datasets>]
10. University of Cambridge, MRC Epidemiology Unit, NatCen Social Research (2021) *National Diet and Nutrition Survey Years 1–11, 2008–2019* [Available at: 19th Edition. UK Data Service. SN: 6533, DOI: 10.5255/UKDA-SN-6533-19]