



Nutritional composition of plant-based meat and dairy alternatives: comparison of supermarket products to the Australian Food Composition Database

L.E. Marchese¹, G.A. Hendrie², S.A. McNaughton¹, P.G. Brooker², K.M. Dickinson³ and K.M. Livingstone¹

¹*Institute for Physical Activity and Nutrition (IPAN), School of Exercise and Nutrition Sciences, Deakin University, Geelong, VIC 3220, Australia*

²*Health and Biosecurity, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Adelaide, SA 5000, Australia*

³*Caring Futures Institute, College of Nursing and Health Sciences, Flinders University, Adelaide, SA 5001, Australia*

Consumer interest in plant-based diets has increased, alongside significant growth in the availability of plant-based meat and dairy alternatives in supermarkets⁽¹⁾. The nutritional profile of these products is likely to vary due to the broad range of ingredients used⁽²⁾. Food composition databases, such as the Australian Food Composition Database (AFCD), are used extensively in research, practice, and policy, including by nutrition and dietetics researchers and health professionals to identify the nutrient content of foods. However, it is unclear if, and to what extent, the AFCD data on plant-based alternatives reflects the current food supply. This study aimed to examine the range and composition of plant-based meat and dairy alternatives available in Australian supermarkets and compare this with the AFCD. Data on core plant-based meat and dairy alternatives were collected from eight Melbourne supermarkets between June and October 2022 using the CSIRO FoodTrack™ database methodology⁽³⁾. Products were included if they were i) meat or dairy substitutes outlined in the AFCD; or ii) plant-based alternatives for core meat and dairy included in the Australian Dietary Guidelines. Product images were taken, and data was transcribed. Products collected in supermarkets were then ‘matched’ to the most appropriate reference item in the AFCD. In total, 455 meat alternatives (n = 219 legumes/pulses; n = 178 meat substitutes; n = 38 tofu/tempeh; n = 20 sausages) and 249 dairy alternatives (n = 157 milk; n = 52 cheese; n = 40 yoghurt) were identified. Over half of the plant-based meat substitutes (n = 102; 57%) were made from a soy/wheat/pea base protein. Of the dairy alternatives, just over half of the cheese substitutes had coconut as their main ingredient (n = 28; 54%), and almost two-thirds of yoghurts were coconut-based (n = 28; 70%). The majority of the 157 milks were oat-based (n = 57; 37%), followed by almond (n = 45; 29%), and soy (n = 27; 17%). Many supermarket products were not reflected in the AFCD, including over two-thirds of dairy alternatives (n = 159; 67%), and one-third of meat alternatives (n = 150; 33%). This was due to more product options within categories, such as the variety of canned beans/legumes (n = 96) and flavoured milk substitutes (n = 34) available in supermarkets, and a greater variety of main ingredients used, most notably for cheese substitutes (n = 52). This study highlights that the range of plant-based meat and dairy alternatives available in Australian supermarkets is diverse, with many different base ingredients used, and a great range of products available in-store than in the AFCD. Findings highlight the challenges of food composition databases in keeping up to date with the fast-growing plant-based sector. Outcomes from this study have implications for the monitoring of the food supply and population level dietary data.

Keywords: plant-based; nutrient reference database; supermarkets; alternative proteins

Ethics Declaration

Yes

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