




Abstract

Comparison of the Nutrient Content and Cost of Canned and Dried Legumes and Plant-Based Meat Alternatives Available in Supermarkets [†]

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Abstract: Plant-based diets are recommended for personal health and to protect the environment. Plant-based protein foods available in supermarkets include traditional options, such as canned and dried legumes, and an increasing range of meat analogues such as plant-based sausages. This study aims to compare the nutritional content, healthiness, and cost of canned and reconstituted dried legumes with the same factors of plant-based meat alternatives. Information on the nutritional content, ingredients, and nutrient claims of canned legumes (N = 112), dried legumes (N = 21), and meat alternatives (tofu, felafels, and meat analogues) (N = 68) was obtained from Nutritrack (2019), a database of New Zealand (NZ) packaged foods available in supermarkets. The mean (SD) energy, protein, total fat, sodium, and fibre content, and the proportion of products fortified with iron, B₁₂, and zinc was calculated. Healthiness was assessed using estimated Health Star Rating (HSR) and comparison with United Kingdom (UK) sodium targets. Product data were linked with household purchasing data from Nielsen Homescan[®] to compare the mean purchase price/100 g. The number and type of nutrient claims on packaging were identified. All canned and dried legumes and plain tofu scored an HSR ≥ 3.5 ; for other sub-categories of meat alternatives, 29% or fewer products scored ≥ 3.5 . Although all tofu met UK sodium targets, less than half of the products within other categories met the associated target; meat alternatives (46%), canned legumes (21%), and baked beans (17%). Reconstituted dried legumes were the cheapest plant protein source (Mean = NZ\$0.30, SD = 0.16/100 g (lowest of four categories)) compared to meat alternatives ('Other' meat-free products mean = NZ\$2.57, SD = 0.88/100 g (highest of six categories)). The most common nutrient claims on meat alternatives were vegetarian/vegan, protein, and dietary fibre. Fifteen percent of meat alternatives were fortified with iron, and 12% each for Vitamin B₁₂ and zinc. Although meat alternatives offer consumers more choice, these products may be less healthy and are more expensive than the more traditional plant-based protein sources—canned and dried legumes.

Keywords: plant-based protein; meat alternatives; legumes; cost; health star rating; nutrient content



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