



## An audit of plant-based, ultra processed vegan foods in New Zealand

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As concerns grow about the impact of animal farming on the environment, the appeal of plant-based diets has increased<sup>(1)</sup>. The most extreme of these diets is the vegan diet which excludes all animal and insect sourced products. The vegan diet is often lauded as being beneficial for cardiovascular health, with the exclusion of saturated fats from animal meats, and the high intake of fibre from fruit and vegetables. More lately, however, there has been an exponential increase in the availability of vegan ultra-processed (UPFs), ready to eat foods which may not be so heart healthy. This study aimed to audit the vegan-labelled, plant-based meat and dairy analogues (PBMA and PBDA) available in New Zealand supermarkets. The objective was to compare the nutrient content against foods of animal origin that these products emulate. The audit was completed between March and June 2022 using a combination of on-site data collection and online sources. Data were collected from New Zealand's five major supermarkets, Countdown, Fresh Choice, New World, Pak'nSave and Four Square. The audit recorded vegan and plant-based labelled products imitating animal meats (chicken, mince, beef, sausage, burgers, bacon, nuggets), and dairy (milk, cheese, yoghurt). Nutrient composition was taken from the Nutrition Information Panel (NIP) for each product and then a mean (SD) derived from a sample of each category. Nutrient composition for the comparison meat and dairy products was taken from NZ FOODfiles<sup>(2)</sup>. All nutrients were reported per 100g or 100ml. The PBMA generally had higher energy, sodium and fibre, and lower protein than their meat counterparts. For example, plant-based burgers compared with beef burgers had 863kJ vs 761kJ energy, 436g vs 130g sodium, 2.3g vs 1.2g fibre, 15g vs 19g protein per 100g. Total fat and saturated fat were mostly lower in the meat products than in PBMA, except for sausages. The plant-based milk analogues were lower in protein and fat than dairy milk, except soy (protein) and coconut (fat) milks. PBDA were either completely lacking in calcium or were fortified to a similar level as dairy milk. Most plant-based cheeses and yoghurts were not fortified with calcium and were higher in energy, total fat and saturated fat than dairy. Vitamin B12 fortification of all plant-based products varied widely but contained less than meats and dairy. The wide range of plant-based UPFs included in this audit demonstrated little or no health advantage over animal derived meats and dairy products. The high salt and saturated fat content of these products suggest increased cardiometabolic risk if consumed as a regular part of the vegan diet despite higher fibre content.

**Keywords:** vegan; ultra processed foods; plant-based meat analogues; plant-based dairy analogues

### Ethics Declaration

Yes

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### References

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2. New Zealand Food Composition Database. 2022. New Zealand FOODfiles™. NZ PFRL and MoH [www.foodcomposition.co.nz/foodfiles](http://www.foodcomposition.co.nz/foodfiles) ISBN 978-0-473-60858-3