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# The truth about potatoes: what can be claimed for health?

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## Summary

Potatoes are vegetables whose nutritional value is often underestimated. They are portrayed as high-energy foods that provide little in the way of nutrients. However, if appropriately prepared, potatoes are considerably richer sources of nutrients than of energy. With the implementation of FSANZ Standard 1.2.7 in January 2013, there are new opportunities for promoting the nutritional and health benefits of foods. As a result, Potatoes NZ Inc. commissioned Plant & Food Research to carry out a review to gather as much information as possible on the composition and health benefits of potatoes. This will enable the New Zealand potato industry to develop nutrient content and health claims for use in marketing potatoes.

## What nutrient content claims can be made for potatoes?

Although a nutritional information panel (NIP) is not mandatory on fresh produce, it can be useful to provide this information on the pack and/or website. Nutritional information can also provide the data to enable health claims to be made and, if health claims are to be made, then a NIP must be included on the pack. Table 1 shows a mocked-up NIP for potatoes with nutrients that reach claimable thresholds. The entries above the dotted lines are the essential requirements for the NIP. Entries below the dotted line are optional and any combination of these can be included. However, it is important to note that if reference is made anywhere on the pack to a vitamin or mineral (e.g. 'a good source of vitamin C'), then that vitamin or mineral must be included in the NIP.

**Table 1:** Example of a standard nutritional information panel (NIP) for cooked potatoes with no added fat or salt (average of boiled, baked and microwaved); data from FOODfiles 2012 Version 01 ([www.foodcomposition.co.nz](http://www.foodcomposition.co.nz)).

NUTRITION INFORMATION			
Servings per package: [to be inserted based on pack size]			
Serving size: 1 potato 150 g			
	Quantity per Serve	% Daily intake per serve	Quantity per 100 g
Energy	513 kJ	6%	342 kJ
Protein	3.2 g	6%	2.2 g
Fat, total	0.3 g	0%	0.2 g
- saturated	0.1 g	0%	0.1 g
Carbohydrate	25.4 g	8%	16.9 g
- sugars	1.2 g	1%	0.8 g
Dietary fibre, total	2.8 g	9%	1.9 g
Sodium	3 mg	0%	2 mg
Folate	24 µg	12% RDI	16 µg
Niacin	2.0 mg	20% RDI	1.3 mg
Pantothenic acid	0.5 mg	10% RDI	0.3 mg
Potassium	602 mg	- <sup>a</sup>	401 mg
Vitamin C	16 mg	40% RDI	11 mg

% Daily Intakes are based on an average adult diet of 8700 kJ. Your daily intakes may be higher or lower depending on your energy needs; RDI = Recommended Dietary Intake.

<sup>a</sup> Note there is no labelling RDI for potassium but a claim can be made if a serve contains ≥ 200 mg.

## What health claims are available for potatoes?

FSANZ Standard 1.2.7 allows a small number of 'high level' health claims. Although there are no specific nutrients in potatoes that have high level health claims associated with them, there are dietary context claims that could be used. These claims are relevant for all fruits and vegetables in a fresh or minimally processed form (i.e. without added salt and/or fat):

- Eating plenty of vegetables and fruit reduces the risk of coronary heart disease.
- Potatoes are low in saturated fatty acids. A diet low in saturated fatty acids may reduce blood cholesterol or blood LDL cholesterol.
- Potatoes are also low in sodium. A diet low in salt or sodium reduces blood pressure.

In addition, there is a long list of potential pre-approved 'general level' health claims associated with the claimable nutrients that could be used for potatoes. These claims must always make reference to the nutrient and although the wording is not specifically set the intent of the claim cannot be changed. Some examples of claims that could be used include:

- Potatoes are a source of vitamin C and folate which help keep your immune system healthy.
- Vitamin C in potatoes helps reduce tiredness and fatigue.
- Potatoes are a source of dietary fibre to help keep you regular.
- Potatoes - the powerful package for kids. They contain folate, niacin, vitamin C and potassium to help kids develop and grow.

Packaging probably needs to focus on a few strong claims, but wider promotional material (e.g. website) could make reference to a wider spectrum of claims.



## What about the phytochemicals in potatoes?

In addition to nutrients, potatoes contain an array of phytochemicals, such as the phenolics, and these may have health benefits. Because these compounds do not have a recommended dietary intake or pre-approved claims, any new claim for them would require self-substantiation. A number of studies continue to show potatoes have antioxidant activity, especially coloured cultivars. However, there is debate about the relevance of *in vitro* antioxidant activity measures and what they may mean *in vivo* and to disease outcomes. There are a number of health areas where human and/or animal trials have been conducted and where potatoes may have benefits:

- A human study concluded that two small helpings of purple potatoes ('Purple Majesty') a day decreased blood pressure without causing weight gain (Vinson et al. 2012).
- Consumption of pigmented potatoes reduced oxidative stress and inflammation biomarkers in adult males (Kaspar et al. 2011).
- Purple potato flakes improved serum cholesterol metabolism without causing a difference in food intake in rats fed a high-cholesterol diet (Han et al. 2013).

However, at present there are insufficient data to be able to make health claims in these areas and further human clinical trials would be required to gather the evidence to make a self-substantiated health claim for potatoes.



## References

- Han et al. 2013 Journal of Functional Foods 5(2): 974-980.  
Kaspar et al. 2011 Journal of Nutrition 141(1): 108-111.  
Vinson et al. 2012 Journal of Agricultural and Food Chemistry 60(27): 6749-6754

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