

POTATO NUTRITION



Potatoes™

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POTATO NUTRITION

Potatoes are a valuable source of nutrients including a range of vitamins, minerals and dietary fibre (refer full Nutrition Information Panel for details). Nutrients are important in a well balanced diet to aid a variety of bodily functions, see below some of the key nutritional benefits of potatoes.

Potatoes contain 10% or more of the recommended dietary intake (RDI) of the following nutrients: vitamin C, folate, thiamin, niacin, pantothenic acid and potassium. Potatoes are also a source of dietary fibre and contain a diverse range of phytonutrients.

NUTRIENT	FUNCTION
Vitamin C	Necessary for blood vessel structure and function.
	Contributes to normal neurological and psychological function.
	Needed for healthy connective tissue structure and function.
	Helps collagen formation for structure of cartilage and bones plus function of teeth, gums and skin.
	Assists immune system function.
	Contributes to the reduction of tiredness and fatigue.
	Helps the body absorb iron from food.
	An antioxidant which helps protect cells from free radical damage.
B Vitamins	This group plays an essential role in the release of energy from food – some have other specific roles: Folate (B9) - Necessary for normal blood formation and cell division; contributes to: Growth and development in children, maternal tissue growth during pregnancy, amino acid synthesis, immune system function and the reduction of tiredness and fatigue.
	Thiamin (B1) - Necessary for normal carbohydrate metabolism, neurological and cardiac function; contributes to psychological function.
	Niacin (B3) - Necessary for normal neurological function, structure and function of skin and mucous membranes; contributes to normal psychological function and the reduction of tiredness and fatigue.
	Pantothenic acid (B5) - Necessary for normal fat metabolism; contributes to mental performance and the reduction of tiredness and fatigue.
Potassium	Helps regulate fluid and mineral balance in and out of cells, and in doing so, helps and counteracts the negative effects of sodium.
	Potassium also contributes to growth and development in children, nervous system and muscle function.
Dietary fibre	For a healthy digestive system – helps to keep bowels regular and prevent constipation.
Phytonutrients	A diverse group of compounds with a range of potential health benefits – e.g. phenolics, including flavonoids, and carotenoids. Potential health benefits of potato phytonutrients that are being studied include improving digestive health, bone health, anti-inflammatory and anti-arthritis effects, as well as reducing liver toxicity.



NUTRITION INFORMATION PANEL

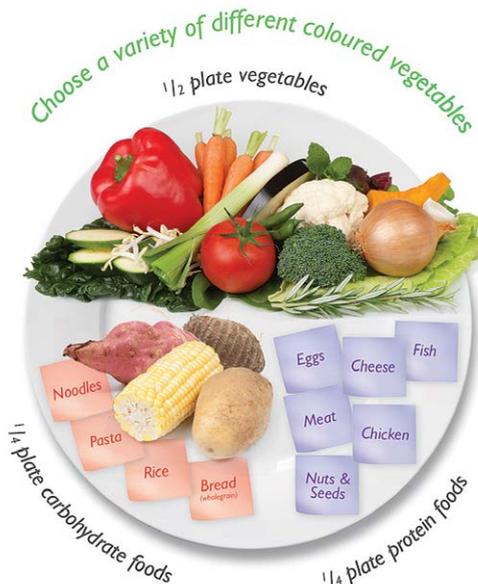
Potato varieties are usually consistent in their nutritional value, but can be variable in how they cook. Remember to retain the nutritional benefits of potatoes by cooking and eating them in healthy ways.

Nutrition information, serving size: 1 potato, 150g, cooked

	Quantity per Serve	% daily intake per serve	Quantity per 100g
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 %	0.2 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 (B9)	24 µg	12% RDI	16 µg
Niacin (B3)	2 mg	20% RDI	1.3 mg
Thiamin (B1)	.24 µg	27% RDI	.16 µg
Pantothenic acid (B5)	0.5 mg	10% RDI	0.3 mg
Potassium	602 mg	_*	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. *Note there is no labelling RDI for potassium.

Your main meal of the day should look like this:



CARBOHYDRATES – the body's preferred fuel

Carbohydrate-rich foods like potatoes are a good source of energy. For a balanced diet, carbohydrates should supply just over half of your daily energy needs, with most of these coming from complex carbohydrates.

A great advantage of getting carbohydrates from potatoes, rather than pasta or rice, is that potatoes supply a wealth of other vital nutrients. Potatoes contain more dietary fibre, potassium and folate than rice or pasta. They also contain vitamin C, which neither rice or pasta contain.

Vitamin C - 150g serving



Sources:

Potatoes – FOODfiles 2012.V.1 [www.foodcomposition.co.nz]

Rice, Pasta and white bread - Foodworks [New Zealand – Diet and Recipe Analysis] 18 December 2013

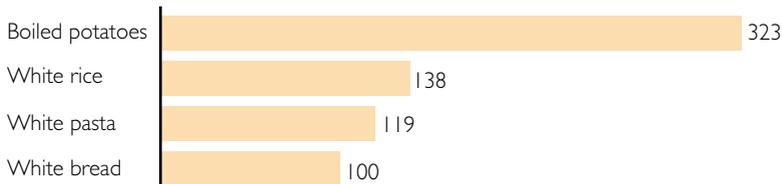
SATIETY INDEX – feel fuller longer

Potatoes rank significantly higher than similar carbohydrate foods - over three times higher than white bread, and approximately 2.5 times higher than rice and pasta. This means that potatoes have a key role in weight control by helping the 'eater' to feel fuller for longer - making them less inclined to eat between meals. Even more encouraging is that research shows smaller amounts of foods are consumed at the meal following the consumption of a high satiety index food.

Satiety refers to the physiological and psychological experiences of fullness that come after eating or drinking. It is influenced by the volume of food consumed in addition to its water, dietary fibre and macronutrient (protein, carbohydrate, fat) content. Potatoes are a high satiety index food. The higher the satiety index the greater the feeling of fullness for longer.

The satiety index was developed by a researcher at the University of Sydney to compare the 'feeling of fullness' of a range of foods. Hunger, appetite and satiety regulate the amount of food we want to eat and how much we consume.

Satiety Index comparison of potato, rice, pasta and bread



Source: <http://www.mendosa.com/satiety.htm>

GLYCAEMIC IMPACT

Glycaemic impact is a way of measuring blood glucose response to food. The advantage of this measure is that glycaemic impact is like a nutrient - it has gram units and can be expressed as g/100g of food or g/serving of food, just like other nutrients on a food label.

Potatoes are in fact an excellent source of low-density energy. This means that the energy from potato comes from carbohydrate (17kJ/g) rather than fat (34kJ/g) and is diluted about eight times with water. The glycaemic impact of potato is easy to manage in a healthy diet.

When potato is cooked the starch gelatinises and becomes digestible. However, when the cooked potato is left to cool, the starch chains partially join up, and they are digested at a slower rate and have a lower glycaemic impact per weight.

If a vinaigrette which contains acid (lemon juice, lime juice, or vinegar) is added to cooked, cooled potatoes this will slow the time the stomach takes to empty. This means the starch does not reach digestion/absorption sites in the small intestine as quickly and the glycaemic impact will be even lower.



MAXIMISING NUTRITIONAL BENEFITS

There are a number of decisions that you can make in order to maximise the nutritional benefits of potatoes. The list below shows how to ensure potatoes remain a healthy choice.

Cook with the skin on	Some nutrients, particularly phytonutrients, are present in much higher concentrations in or just below the skin. In addition, keeping the skin on can help prevent the loss of some nutrients during cooking.
Avoid chopping potatoes	Leave potatoes whole or cut into as large a piece as possible. Cutting potatoes into small pieces increases the number of cut surfaces that can be oxidised, and there are greater losses of nutrients due to leaching.
Cooking methods	Choose baking, steaming or microwaving as these methods don't use water. This reduces the loss of nutrients by leaching into the cooking water.
Reduce fat	Bake as an alternative to frying. Use vegetable oils in place of fats which are solid at room temperature. When roasting potatoes leave the skin on, cook separately from meat and drizzle with oil, or use an oil spray.
Alternatives to salt	Use herbs, garlic, pepper in place of salt. To minimise the amount of sodium in the diet only use a small amount of salt when cooking potatoes.
Choose small potatoes	Small potatoes have more skin relative to flesh. They can be more easily cooked whole which helps retain nutritional components.
Select coloured varieties	These have high levels of phenolics and contain anthocyanins. They may also have higher concentrations of some other nutrients such as folate.
Avoid green potatoes	The green is an indicator that glycoalkaloids may be present. Glycoalkaloids are considered toxic and it is best to avoid consuming green potatoes.



References

Serving sizes: <http://www.health.govt.nz/system/files/documents/publications/foodandnutritionguidelines-adults.pdf>
Satiety index: <http://www.mendosa.com/satiety.htm>

Nutrient values: The Concise New Zealand Food Composition Tables, 10th Edition, plant & Food Research 2014
John Monro, Nutritional Value of Potatoes: Digestibility, Glycaemic Index, and Glycaemic Impact. In: Jaspreet Singh and Lovedeep Kaur, editors, Advances in Potato Chemistry and Technology. Burlington: Academic Press, 2009

The Truth about potatoes: what can be claimed for health? Dr Carolyn Lister. The New Zealand Institute for Plant and Food Research Limited. 2014



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