

About mushrooms

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- Although often regarded and consumed as a vegetable, mushrooms actually belong to the fungi kingdom, and offer a unique nutritional profile.¹
- Biologically distinct to both plants and animals, mushrooms are rich in micronutrients that are normally found in vegetables, meats and grains, which make them uniquely suited for all diet types.¹
- Mushrooms are both a natural and vegan vitamin D source.¹
- More than 95 per cent of Australians have an inadequate dietary intake of vitamin D (<10µg), among the world's lowest national dietary vitamin D consumption, while 31 per cent of the Australian population is vitamin D deficient.²⁻⁴
- Just four (75g) serves per week of store bought button mushrooms exposed to 15 minutes of direct sunlight, can support most Australian adults in meeting vitamin D requirements, according to newly published Australian dietary modelling research.⁵
- Mushrooms that have been exposed to direct sunlight for just 15 minutes can provide the same dose as a vitamin D supplement.^{1,5}
- Importantly, mushrooms are always in season, and unlike plants, do not need sunlight to grow, and can be sustainably farmed.⁶
- 42 per cent of Australians are eating less meat or no meat at all, while 10 per cent identify as vegan or vegetarian, 12 per cent as meat reducers, and 20 per cent as flexitarian (semi-vegetarian).⁷
- Almost two in five Australians (39 per cent) reported they are actively trying to reduce their meat consumption.^{8,9}



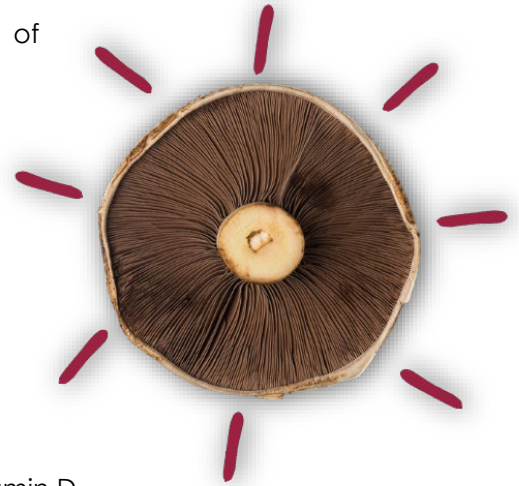
Australian mushroom varieties and consumption

- In 2022-2023, the majority (72 per cent) of Australian households bought mushrooms, averaging 268g per shopping trip.¹⁰
- In addition, 38 per cent of primary food shoppers always have mushrooms on their shopping list.¹¹
- The most common, Australian grown mushrooms varieties available in supermarkets, and at the local greengrocer, include:¹¹
 - White button (most frequently consumed mushrooms in Australia and worldwide);
 - Swiss brown;
 - Cup;
 - Flat; and
 - Portobello.



Mushrooms and vitamin D

- Current guidelines in Australia suggest sunlight is a key source of vitamin D.¹²
- Yet mushrooms are currently overlooked as a source of vitamin D, and are currently not recognised in dietary guidelines worldwide.⁵
- Babies, children, teenagers, and adults aged 19 – 50 years should have 5µg (micrograms) of vitamin D per day.¹²
- Adults aged 51-70 years require 10µg of vitamin D per day.¹²
- Adults aged over 70 years require 15µg of vitamin D per day.¹²
- Despite the opportunity for daily sunlight exposure, the risk of developing skin cancer coupled with reduced sunlight during winter, leads inadequate levels of vitamin D.^{5,13}
- Mushrooms can support most Australian adults with meeting vitamin D recommendations.⁵
- UV-exposed mushrooms represent an important tool in addressing vitamin D deficiency in Australia and worldwide.⁵
- Edible mushrooms, such as *Agaricus bisporus*, [commonly known as Button, Cup, Swiss Brown, BBQ and Portobello mushrooms], exposed to 15 minutes of sunlight, can provide over 100 per cent of Australian's vitamin D daily needs (5-15 µg/day) per 75 g serve (18 µg).^{5,14}
- Vitamin D tanned mushrooms can be stored in the fridge for up to 8 days, without losing their new, super charged vitamin D levels.¹²
- Vitamin D is very important for the absorption and utilisation of calcium from foods.¹²
- Vitamin D is essential for bone development and strength, cell growth and maintaining a healthy immune system.¹²
- Vitamin D is important for healthy teeth and muscles.¹⁵



Mushrooms and disease

- Consuming mushrooms every day can have a raft of health benefits.¹⁶
- Mushrooms contain nutrients and bioactives that have antibacterial, immune and cholesterol lowering properties).¹⁷
- Research supports a strong correlation between increased mushroom consumption and a reduced risk of cancer.¹⁸
- Research supports the potential for mushrooms to minimise the risk of developing metabolic syndromes, such as central obesity, high blood sugars, cholesterol, and blood pressure.¹⁹
- Studies reveal a diet substituting mushrooms for meat has positive effects on body weight, composition, and health indicators over a one-year period. Study participants achieved lower blood pressure, improved their lipid profile, and inflammatory markers.²⁰

Nutrition profile of mushrooms

- Mushrooms are a popular, valuable food source because they are:^{17,18}
 - Low in calories,
 - Fat and Cholesterol free
 - Low in carbohydrates
 - Low in sodium
 - Gluten free
 - Vegan.



- The unique umami (meaty and salty) taste and texture of mushrooms means less salt is needed in recipes.
- Mushrooms can be a meat substitute without compromising on taste or texture which can improve the intake of key nutrients, such as fibre and potassium, and reduce saturated fat and sodium.²¹
- With a different nutrition profile to fruits and vegetables, mushrooms offer unique package of nutrients and bioactives (niacin, vitamin B5, biotin, folate, vitamin D, copper, phosphorus, potassium, selenium, beta glucan, ergothioneine, chitin and phytosterols).²²
- Mushrooms contain essential vitamins, minerals, and a variety of bioactive compounds, all of which provide many health benefits.¹⁷
- A serving of mushrooms (3 to 4 medium button mushrooms) provides about 25 per cent of essential vitamins – riboflavin (vitamin b2), biotin, niacin, pantothenic acid and folate.²³
- The same serving of mushrooms also contains essential minerals – selenium, chromium and copper – as well as 10 per cent of the body's daily needs of potassium and phosphorus.²³



Mushroom categories

Mushrooms can be grouped into three categories:²⁴

1. **Edible**
 - Can be consumed, and have beneficial health effects.
2. **Medicinal**
 - Not for culinary purposes, but contain bioactive components that have medical application.
3. **Poisonous**
 - Contain toxins which are harmful to humans and can result in death.



Wild mushrooms

- Some wild mushrooms contain toxic substances which are poisonous to humans.²⁵
- It is very hard to tell the difference between wild mushrooms which are edible, and those which are poisonous.²⁵
- The majority of mushroom poisonings occur when people mistake poisonous, wild mushrooms for edible types.²⁵
- Consuming poisonous wild mushrooms can cause nausea, vomiting, stomach pain or cramps, diarrhoea, hallucinations, kidney and liver failure, and in some cases, death.²⁵
- To avoid the risk of wild mushroom poisoning, health experts and the AMGA, strongly recommend only eating mushrooms which are purchased from a reputable retailer.²⁵

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For more information about mushrooms, head to australianmushroomgrowers.com.au.

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