

# Mighty Mushrooms

## FROM FARM TO YOU!

While often considered a vegetable, mushrooms are in fact neither animal or plant. They are part of a separate biological kingdom called Fungi, from well before plants were on Earth.<sup>1,2</sup>

✓ Unique culinary and nutrition characteristics

### 3 KEY BIOLOGICAL KINGDOMS:



**ANIMAL**  
(meat and dairy)



**PLANT**  
(fruits, vegetables, seeds, oils, grains)



**FUNGI**  
(mushrooms)

### MUSHROOM

Grows into a mature mushroom, opening its veil to release spores for the growing cycle to continue.

### PINHEAD

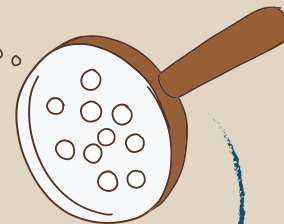
Pushing out of the ground, it grows into a miniature mushroom the size of a pinhead.



### STARTS WITH:

### SPORES RELEASED FROM GILLS ON UNDERSIDE OF CAP

Mature mushrooms drop as many as 16 billion spores.



### Fun FACT:

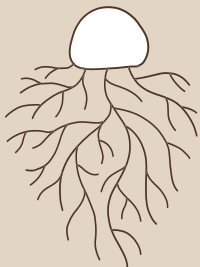
The mushroom above the ground is called the fruiting body, consisting of a **stem** and **cap**.

## How do MUSHROOMS GROW?

Mushrooms grow in a unique & fascinating way.

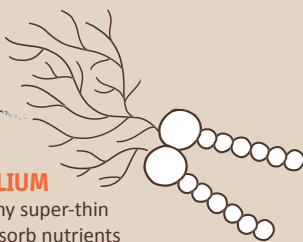
### HYPHAL KNOT

Hyphae strands bundle together and prepare to grow a mushroom.



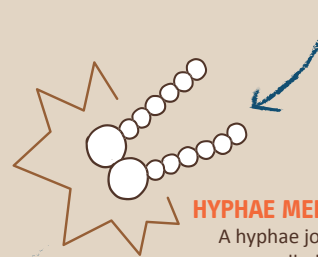
### MYCELIUM

Consist of many super-thin threads that absorb nutrients from the environment.



### HYPHAE MEET AND COMBINE

A hyphae join, forming roots called mycelium.



### GROW INTO HYPHAE

Spores grow into fine white fibres (hyphae).





# Get to know THE DIFFERENT VARIETIES



There are more than 2000 varieties of edible mushrooms worldwide, with the white button mushroom from the *Agaricus bisporus* species the most common.<sup>5</sup>

## White Mushrooms (*AGARICUS BISPORUS*)

Most common but ever so versatile variety making up 95% of Australian fresh consumption.

### DID YOU KNOW?

Australian grown mushroom varieties (white, swiss brown and portobello) are the same species (*Agaricus bisporus*)! The difference is simply their age and stage of harvesting as mushrooms double in size in every day.



Button mushrooms  
= Harvest day 3



Cup mushrooms  
= Harvest day 4



Flat mushrooms  
or Portobello  
= Harvest day 5

**Fun FACT:** the longer a mushroom is allowed to grow, the more its flavour develops. So, a white button mushroom has a very mild flavour, and a 'flat' mushroom has a robust flavour.

## THE *AGARICUS BISPORUS* Family

WHITE BUTTON



### Great size and texture to use whole

- Being the first harvested, their veil is tightly closed and texture very firm.
- Almost pure white, with the mildest umami flavour.
- Perfect for any cooking application with a crisp bite raw.
- Great whole, skewered for the BBQ, or in stews and in slow cooking.
- Fantastic crumbed and as a deep fried snack.

WHITE CUP



### Perfect raw or cooked, Australia's favourite all-rounder

- Being second stage harvest, gills can be slightly open.
- Mild and delicate flavour, perfect for any recipe.
- Firm texture maintained during cooking.
- Creamy white colour great for pasta and risotto.
- Most versatile - great raw in platters or salads, whole roasted, stuffed and baked or diced and blended with meat dishes.

WHITE FLAT



### Perfect for the BBQ

- Dense spongy texture, slightly softer than buttons and cups.
- Rich intense umami flavour and dark colour to sauces.
- Great whole, simply brushed with olive oil and put on BBQ, stuffed and oven baked or crumbed whole and shallow fried.
- Great fine diced and added to blended meat dishes or cooked and blended in soups or sauces.

SWISS BROWN



### Great for casseroles or slow cooking

- Slightly nutty and richer umami flavour than white mushrooms.
- Brown mushrooms have less water content than white mushrooms, resulting in a firmer texture that allows it to hold together better in slow cooking.
- Good for beef, wild game and vegetable dishes.
- Best for high heat and long cooking applications.
- Great for casseroles, stew and skewering on BBQ as they hold their shape in slow cooking.

PORTOBELLO



### Great for stuffing and slow cooking

- Largest cultivated mushroom.
- Hearty, savoury and meaty with lots of umami.
- Great for both meat and meatless dishes.
- Delivers hearty juiciness, rich flavour and firm, steak like texture, that keeps shape when cooked whole.
- Great for burgers and excellent for grilling, sautéing and roasting or diced and used in blended meat dishes.

# Speciality MUSHROOMS

ENOKI



## *Flammulina velutipes* Perfect for stir-fries

- Very mild and sweet slightly fruity taste when cooked.
- Firm crisp texture.
- Trim roots at base, discard and gently separate each strand.
- Must always be cooked and best cooked briefly before eating as becomes chewy if overcooked.
- Great sauteed and added cooked to salads, attracting flavours from the dressing/sauces, or added at the end of cooking for stir-fries, soups or risottos.

KING TRUMPET



## *Pleurotus eryngii* Add to stir-fries or simply sauté. Great seafood substitute

- Delicate, nutty flavour and a firm, meaty texture.
- When cooked, texture mimics seafood, like scallops, particularly when stem sliced crosswise.
- Large size and savoury flavour can feature as centre for any entrée for any cuisine.
- Versatile for slicing and serving from large-to-small dice to slicing lengthwise to shredding.
- Cut lengthwise for slices -ideal for grilling, sautéing, roasting.
- Fork-shred for serving as a meaty option for barbecue sandwiches, tacos, or serving atop grilled meats.

TON'S MANE



## *Hericium erinaceus* Great accompaniment to seafood

- Seafood-like with mildly sweet flavour and tender texture like scallops, crab, or lobster.
- Can be seared and served centre of plate.
- Accompaniment or alternative to seafood.
- Dry sauté in a hot skillet until water releases and edges brown, then add butter and seasonings.

MAITAKE



## *Grifola frondosa* Distinct rippling fan, provides visual appeal to any dish

- Delicate, rippling fan shape that almost resembles feathers.
- Distinct aroma, rich, woody flavour with a succulent texture.
- Cooked as a whole cluster or torn into smaller pieces to suit any recipe.
- Lends itself to any dish - great for mains, side dishes and soups.
- Delicious sauteed in butter or oil, browning its delicate edges to desired degree of crispness.

MOREL



## *Morchella esculenta* Delivers rich flavour in sauces and soups

- Distinctive savoury flavour.
- Rich earthy flavour.
- Best sautéed but can add a rich flavour to soups or sauces.
- Great in slow cooked dishes.

OYSTER



## *Pleurotus osreatus* Velvet but firm, best sauteed

- Velvety and dense in texture.
- 'Briny' or delicate seafood flavour.
- Colourful dish addition - found in grey, yellow, pink and blue.
- Trim stems and discard.
- Can be sliced and stir-fried or gently cooked in large pieces to preserve unique appearance.
- Best lightly sauteed. When pan-fried, edges turn crisp.

SHIITAKE



## *Lentinula edodes* Great for stir-fry, pasta and risotto

- Earthy, woody flavour and a rich meaty-yet-buttery texture when cooked.
- Dense, meaty flesh with slightly chewy texture.
- Tough stems can be removed and saved for soups and stocks.
- Good for pizza, pasta and dishes that call for bold flavours.

SHIMEJI



## *Lypohyllum or Pleurotus species* Perfect hero for stir-fry




















- Firm texture with meaty but mildly sweet, nutty flavour.
- Separate from clumps at base.
- Perfect as hero in stir-fry. Loves sauce and can be added whole to soups, salads or pasta.

### Fun FACT:

Mushrooms boast a delicious savoury flavour, known as **UMAMI** - the Japanese word for 'tasty' or 'meaty', which is considered the fifth basic taste along with sweet, salty, sour and bitter.



# WHICH MUSHROOM IS BEST *when cooking?*

Perfect for...	WHITE BUTTON	WHITE CUP	WHITE FLAT	SWISS BROWN	PORTOBELLO	ENOKI	KING TRUMPET	LION'S MANE	MAITAKE	MOREL	OYSTER	SHIITAKE	SHIMEJI
BBQ 		✓	✓	✓	✓		✓						
BURGER 	✓	✓	✓	✓	✓		✓		✓		✓		
CRUMB & FRY 	✓	✓					✓				✓		
FLASH FRY 						✓		✓			✓		
GRILL 		✓	✓	✓	✓		✓	✓	✓				
PASTA 	✓	✓		✓			✓				✓	✓	✓
PICKLED 	✓	✓		✓			✓		✓		✓	✓	
PIZZA 	✓	✓	✓	✓	✓		✓				✓		
RAW 	✓	✓	✓	✓									
RISOTTO 	✓	✓		✓			✓				✓	✓	✓
ROAST 	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	
SALAD 	✓	✓		✓			✓						
SAUCE 	✓	✓	✓	✓	✓					✓			
SAUTE 	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SEAR 	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	
SLOW COOK 	✓	✓	✓	✓	✓	✓							
SOUP 	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
STIR-FRY 	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓
STUFFED 	✓	✓	✓	✓	✓								

“ White mushrooms are one of the most cost-effective and versatile mushrooms across all cooking methods and meal occasions.

CHEF ADAM MOORE



## UMAMI *Power*

Mushrooms contain distinctive flavour compounds including glutamates, ribonucleotides, and several synergistic volatiles.<sup>6</sup>

Together, they give the characteristic ‘umami’ savoury taste associated with cooked mushrooms and can enhance flavour of meals with less salt.<sup>6</sup>

Umami is found in:



Mushrooms



Tomatoes



Cheese



Soy sauce



Miso paste



Fish sauce

**X-FACTOR INGREDIENT**

- Delicious umami-rich flavour
- Meaty flavour and texture
- Natural flavour enhancer enabling less added salt
- Low-carb
- Fat & cholesterol-free
- Low-sodium
- Low-calorie/kilojoule
- Gluten-free
- B-group vitamins (B3, B5, B7, B9)
- Copper, Potassium, Phosphorus & Selenium
- Non-animal source of vitamin D
- 3 unique bioactives (ergothioneine, ergosterol & chitin)

**Boosts the nutrition and flavour of any meal, truly delivering that X-factor!**

Based on 100g<sup>4,7,9</sup>



“ Adding mushrooms with its natural umami flavour can help bump up the taste and make it easier to use less salt in cooking. ”

DR FLAVIA FAYET-MOORE

**DID YOU KNOW?**

With their fabulous meaty flavour and texture, and less salt and fat, **mushrooms are a great meat replacer.**

However, **lower in protein**, mushrooms are not an equivalent protein replacement for animal protein.

PROTEIN CONTENT PER 100G <sup>4</sup>	2.2g	31.5g

But, they are a **natural and non-animal source of VITAMIN D**, important when 95% of Aussies are not meeting daily needs and 1 in 4 are deficient.<sup>3, 10</sup>

*Applicable for many dietary needs*

- ✓ Flexitarian
- ✓ Gluten-free
- ✓ Halal
- ✓ Limiting/reducing animal foods
- ✓ Keto
- ✓ Kosher
- ✓ Low-carb
- ✓ Low-fat
- ✓ Low-salt
- ✓ Low-sugar
- ✓ Nut-free
- ✓ Plant-based
- ✓ Vegan
- ✓ Vegetarian

**References:** 1. Naranjo-Ortiz et al. Biol Rev Camb Philos Soc. 2019;94(6):2101-37. 2. Loron CC, et al. Nature. 2019;570:232–235. 3. Phillips, J Nutr Food Sci 2013;3:236. 4. Australian Food Composition Database, 2019. 5. Valverde et al. Int J Microbiol. 2015;2015:376387. 6. Miller et al. J Food Sci. 2014 Sep;79(9):S1795-804. 7. Pusztahelyi T. Mycology. 2018;9(3):189-201. 8. Weete et al. PLoS One. 2010;5(5). 9. Halliwell et al. FEBS Lett. 2018;592(20):3357-66. 10. Dunlop et al. J Hum Nutr Diet. 2023; 36: 203– 215.

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