

# KNOWING THE Health Benefits OF MUSHROOMS

If Australian mushroom growers want to know about any of the health benefits of *Agaricus bisporus*, then all they have to do is ask!

The answers can be found in the new research database developed as part of the three-year levy-funded project *Educating Health Professionals about Australian Mushrooms*.

Project Leader, Flavia Fayet-Moore of Nutrition Research Australia said the systematic literature review was now mostly complete, with 500 research papers categorised and available for use by industry on *Agaricus bisporus*.

Dr Fayet-Moore said the information could be used to support claims made through the marketing campaign, or by individual growers wanting information for a promotion or activity.

"We now have a huge amount of information specific to *Agaricus bisporus*, which is all relevant to the mushrooms grown in Australia.

As part of the project, we have implemented one of our new services, which is to keep building the database as new research is published."

"We now receive monthly alerts on new research, and we then screen the papers and add them to the database if they are relevant. Over time the database will keep growing, providing industry with an extensive research resource on health."

Dr Fayet-Moore said the project team was also working to submit the outcome of the systematic literature review to a high-ranking health journal.

"A lot of the papers on mushrooms and health have not previously appeared in high ranking journals. We want to change that, and by doing the review systematically – it will be the first every review on *A. bisporus*, and the first ever review in mushrooms that is systematic. The paper can then serve as a point of reference in further work."

## VITAMIN D WEBINAR

In keeping with the project theme for 2019, a health professional webinar was recently conducted with a focus on vitamin D. The webinar was promoted extensively through electronic mail and with advertising on the Royal Australian College of General Practitioners (RACGP) website.

Dr Fayet-Moore said the webinar attracted huge interest from health professionals with 125 registrations and 67 users for the event.

"The database for our electronic direct mail was built from personal connections, and nearly 75% of the registration came from that list of health professionals. Advertising through the RACGP also helped drive registrations and importantly gained some 37,000 impressions which help to highlight the work we are doing."

## More than just vitamin D



Alpha and  
beta glucans

Bioactive  
phytonutrients

Carbohydrate  
profile (fibrous)

Vitamin D

Ergothioneine

Flavonoids

Dr Fayet-Moore explained the webinar was very visual, with a series of easy to comprehend messages for participants.

“The event was positively received, with a lively question and answer period at the end of webinar. Where questions were posted during the webinar and not answered on the day, we are now working through a process of answering those questions and posting them to keep everyone informed.

She said a thorough approach to the post-webinar communication would ensure the content reaches a much wider audience.

“We are now sending out the website link for the webinar to those who attended and also promoting it to those who were unable to make it on the day.”

“The webinar can continue to act as a valuable resource and is available to anyone through a website link. It has also been added to the brochure that we recently developed for the GPCE conference,” Dr Fayet-Moore said.

[The webinar can be viewed at the following link: <https://www.nraus.com/blog-webinar-vitamind-2019/>]

### GP EXHIBITION AND CONVENTION

From 15-17 November the project delivered two workshops to the General Practitioners Exhibition and

Convention in Melbourne. Dr Fayet-Moore explained that the since the workshop is accredited by RACPG, the structure of the workshop prevented the presentation from being too mushroom centric and had a wider focus on vitamin D.

“The workshops were all about

vitamin D, and luckily for mushrooms the story is amazing, and we included the strong message that there is no other whole or unfortified food source that is as effective as UV exposed mushrooms to deliver vitamin D.”

**WHEN IT COMES TO VITAMIN D, TWO SOURCES ARE BEST:**

**A whole food, lifestyle approach to addressing vitamin D deficiency**

*“Did you know that Australians spend over \$100M a year on vitamin D supplements, yet 1 in 4 are vitamin D deficient? It is my pleasure to share with you the findings from a first-of-its-kind research, highlighting the importance of diet as a second source of vitamin D.”*

Flavia Fayet-Moore, PhD, MNutDiet, RNutr, APD, FASLM  
CEO Nutrition Research Australia

**UNDERSTANDING THE PROBLEM IN AUSTRALIA**

**23%**  
Serum 25(OH)D <50nmol/L

Almost 1 in 4 Australians are vitamin D deficient<sup>1</sup> results in impaired bone health

**43%**  
Serum 50(OH)D <75nmol/L

2 in 5 Australians are vitamin D insufficient<sup>2</sup> may increase the risk of other disease outcomes

Vitamin D deficiency is also a public health problem worldwide

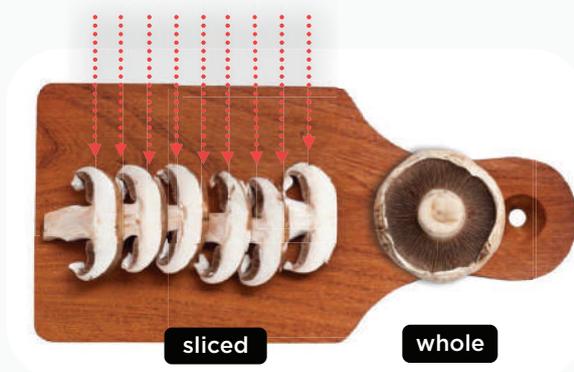
Watch the free Vitamin D webinar: [nraus.com/blog-webinar-vitamind-2019](https://www.nraus.com/blog-webinar-vitamind-2019/)

## MAXIMISING YOUR MUSHROOM’S TAN



↑ 28%-69%

Jasinghe, Food Chem. 2005;92(3)



↑ 25%

Ko, J Agri Food Chem. 2008;56(10)



“While we were able to re-adapt some of the webinar materials, it was in the format of a workshop, so we made it as interactive as possible, and delivered to attendees a four-page brochure that distilled the essence of the webinar.”

She said the workshop was extensively promoted in the leadup to the event, with advertising in the GPCE magazine allowing delegates to scan and register to attend and hear more about vitamin D.

### DIETITIANS UNITE

The next event on the calendar is the Dietitians Unite breakfast, to be held in Melbourne in May 2020.

Dr Fayet-Moore said the event, organised through Dietitians Connection, is another fantastic opportunity to promote mushrooms to a healthcare audience.

“It has a culinary, nutrition focus, and we are expecting around 200 attendees to be on hand to hear about mushrooms.”

She explained that Australian Mushrooms would be sharing the branded breakfast event with Simplot, allowing the breakfast to deliver a wider “mushrooms and vegetables” message.

“From the project perspective our objective is to widely engage with health professionals and deliver a consistent, science-backed message, and these types of events provide the scope to do just that,” she said.

## Fun Facts

1. Nutrition allrounder: Mushrooms not only provide nutrients found in fruit and vegetables, but also those found in meat and grains too
2. Beta-ful on the inside: The cell wall of mushrooms consists of the soluble fibre beta-glucan
3. The special sterol: While animal foods contain cholesterol, mushrooms contain a unique sterol called ergosterol, that converts to Vitamin D when exposed to light.
4. A true whole food: While the ‘cap’ of mushrooms is a richer source of antioxidants, its stem contains more of the soluble fibre beta-glucan.
5. Putting the one in ergothioneine: Mushrooms contain more ergothioneine: a unique sulphur-containing antioxidant - than any other food.
6. Devoted to vitamin D: The vitamin D content of dried mushrooms is still 50% of its original value after 18 months.

### FUN FACTS

With the literature review primarily completed, the project continues to work to maximise the use of available health information. Given the depth of knowledge, the team has worked to distil key snippets for inclusion in the Fun Facts document.

Dr Fayet-Moore said the Fun Facts were a way of passing on a range of simple to remember messages about mushrooms and health.

“To date, we have come up with a wide range of Fun Facts, and we

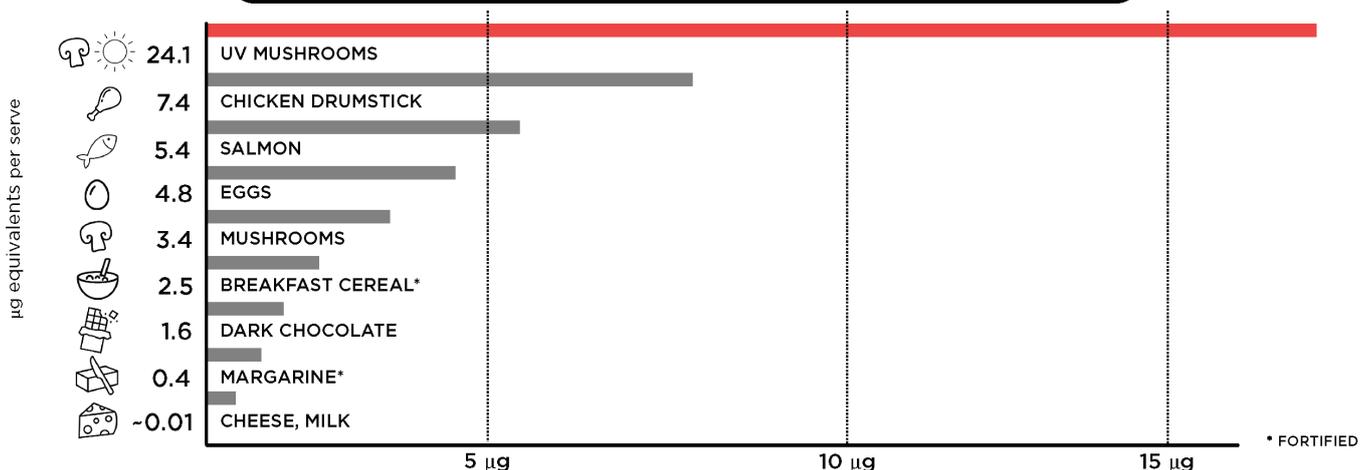
have used six so far in a range of communications, in our electronic direct mail, and our promotions for the health events.”

“We want the information to be memorable, and by turning it into Fun Facts, we have information that is clear and concise, and that can be easily passed along by health professionals,” she said.

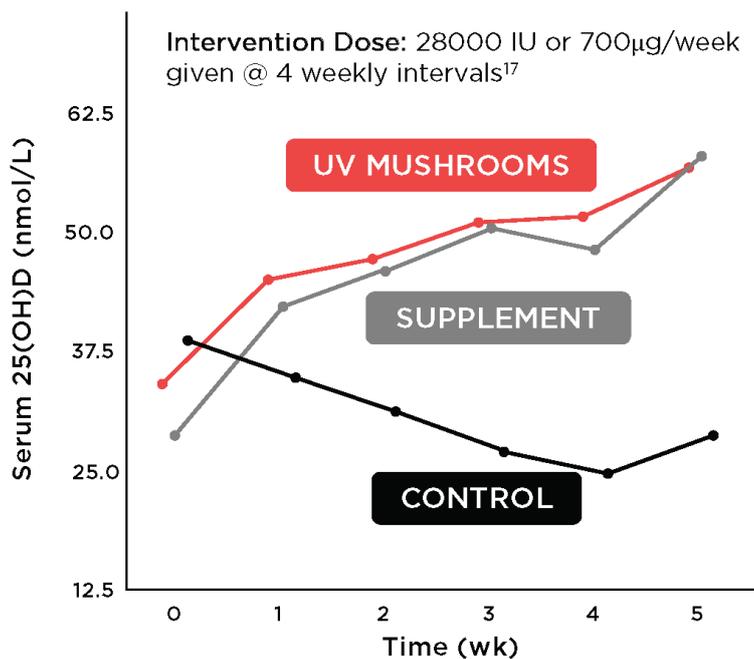
### FURTHER INFORMATION:

Project Leader, *Flavia Fayet-Moore*  
 E [flavia@nraus.com](mailto:flavia@nraus.com)  
 M 0415 990 050

## THERE ARE FEW GOOD SOURCES OF VITAMIN D<sup>10,11</sup>



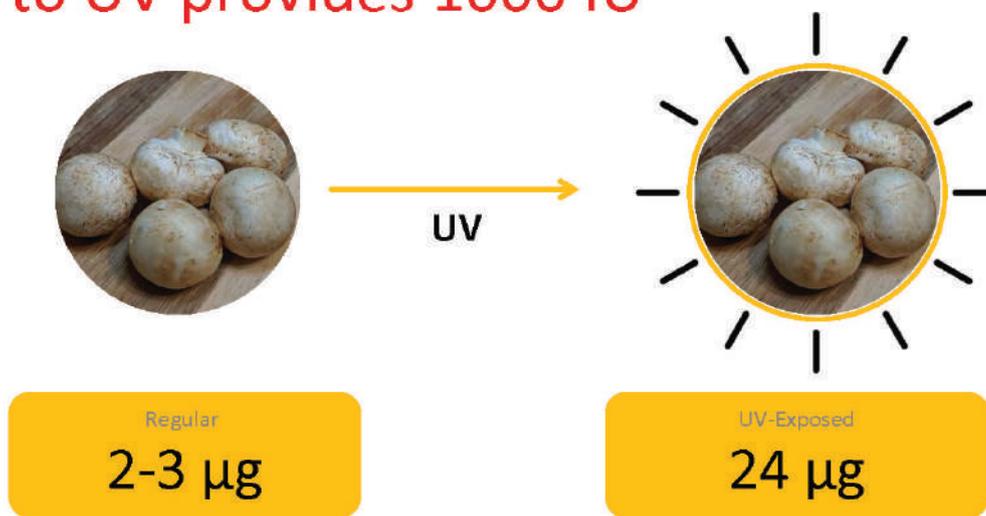
# UV MUSHROOMS = SUPPLEMENTATION



Results from a meta-analysis show that in those who are deficient, UV exposed mushrooms are as effective as supplements at increasing vitamin D levels<sup>18</sup>

- Mushroom soup made with UV exposed mushrooms
- Mushroom soup made with regular mushrooms plus a vitamin D pill
- Mushroom soup made with regular mushrooms

## Five button mushrooms exposed to UV provides 1000 IU



*Agaricus bisporus* mushrooms have the highest ergosterol content of all culinary mushrooms

Australian Food Composition Database, Food Standards Australia and New Zealand, 2019  
 Jasinghe & Perera, Food Chem, 2005;92



This project has been funded by Hort Innovation using the mushroom research and development levy and funds from the Australian Government. For more information on the fund and strategic levy investment visit [horticulture.com.au](http://horticulture.com.au)