



24 February 2015

Dear FSANZ

We read with interest your document titled:
Technological and Nutrition Risk Assessment – Application A1090. Voluntary Addition of Vitamin D to Breakfast Cereal.

Although the request for submissions was directed to breakfast cereal manufacturers, the Australian Mushroom Growers would like to make some pertinent comments on the background information provided, vitamin D and the relevance to the health of Australians.

Vitamin D2 in mushrooms

Vitamin D2 is naturally present in mushrooms, providing a substantial proportion of the Adequate Intake (AI) for vitamin D in a single serve. We have initial reports from the National Measurement Institute in Melbourne that regular retail mushrooms provide a significant amount of vitamin D, while mushrooms specifically labelled as Vitamin D Mushrooms provide at least 10 mcg D2/100g fresh weight. That makes Vitamin D Mushrooms likely to be the only food source that provides 100% of the AI in a single serve (based on the Food Standards Code).

This is significant as your document states that: “Vitamin D2 and D3 are considered to be equally effective in raising serum 25OHD concentration up to intake levels of 25 mcg/day when present in fortified foods and therefore the two forms were considered to have equivalent potency in this assessment”. (pii)

Mushrooms: a convenient, popular and affordable source of D2

Your document also says that: “... overall these data suggest that total intakes of vitamin D from non-fortified foods is probably underestimated.” (p17) We suspect that, with mushrooms being enjoyed by 78% of adult consumers and mushrooms being used in 2.5 meals each week, that the mushroom may already be an unrecognised contributor to the dietary vitamin D levels in Australia. Currently adult Australians consume 3.2 kg per capita and increasing, up from 600 g per capita in 1978.

On the other hand, ready-to-eat breakfast cereals are consumed by only 35%

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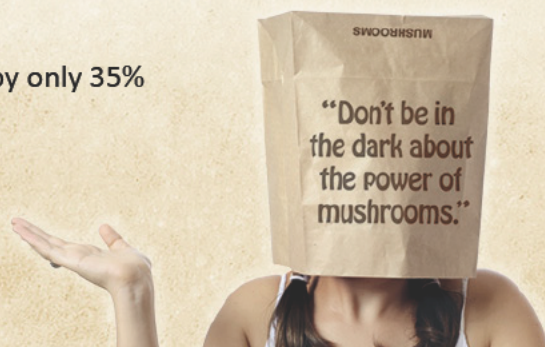
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of the adult population (p21), making mushrooms a potentially more favourable way to encourage greater consumption of vitamin D. The peer-reviewed published evidence is that the D2 in mushrooms is heat-stable and shelf-stable while "Vitamin D (in breakfast cereal) is relatively unstable to heat and moisture and is also degraded during the commercial shelf life of the product" (p34), with "An approximate post-manufacture loss of 70% at the end of shelf life." (p34)

Improved analysis of vitamin D

Vitamin D is difficult to measure accurately. Your document mentions that: "Recent food composition work using sophisticated analytical methods indicates that the vitamin D content of the diet may be greater than previous estimates and so the relative contribution of dietary sources is unclear (p2)."

We are currently formulating a process with FSANZ to have the vitamin D2 content analysed in regular and vitamin D-enhanced mushrooms purchased at the retail level. In discussion with the National Measurement Institute we have determined the best method to get an accurate measurement of vitamin D2 in mushrooms with a Level of Reporting of 1 mcg/100 g. We plan to have that data available to FSANZ by June 2015.

As mentioned in your document, those at risk of vitamin D deficiency should increase their vitamin D intakes, including through an "increased consumption of foods which naturally contain vitamin D (p2)". We believe that mushrooms will offer a major part of that solution.

In summary

We are pleased that FSANZ has taken a keen interest in increasing the dietary sources of vitamin D. The Australian Mushroom Growers too have worked hard with local universities and the NMI to provide an excellent source of vitamin D to the Australian populace.



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