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Supporting document 2

Consumers and plant-based meat analogue products in
Australia and New Zealand

Application A1186 – Soy Leghemoglobin in Meat Analogue
Products

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1 Introduction

FSANZ has reviewed evidence about consumer trends in meat consumption and consumer understanding of meat analogue products.

The evidence reviewed below suggests that some consumers in Australia and New Zealand are trying to reduce their meat intake. Replacing some of the meat products in their diet with analogues of meat is one way they can achieve this. Some consumers believe that meat analogue products have inferior taste and texture characteristics compared to traditional meat products. Ingredients or technologies that improve these characteristics in meat analogue products may increase their palatability to consumers.

Some stakeholders have raised concerns that consumers may be misled by the labelling of analogues of meat. In particular, they have raised concerns that consumers may mistakenly buy analogues of meat when they intend to buy traditional meat products.

2 Consumer motivation to reduce meat intake

The proportion of Australians and New Zealanders who report having a diet that is all (or almost all) vegetarian has been increasing over time (Roy Morgan Research, 2016a, Roy Morgan Research, 2016b). In addition, some Australian and New Zealand meat consumers report they are reducing their meat intake (Food Frontier, 2019a, Food Frontier, 2019b; Malek, Umberger, & Goddard, 2019).

So far, these self-reported reductions in meat consumption have not been reflected in consumption statistics. Overall, the per capita meat consumption remained fairly stable in Australia and New Zealand in the last 10 years, but the proportion of each type of meat contributing to total meat consumption has changed (ABARES, 2019; FAO, 2018). FSANZ notes per capita consumption is estimated based on food availability rather than data collected from individuals through national nutrition surveys. Per capita beef/veal and mutton/lamb consumption has decreased in Australia over the last 10 years, while pig meat and chicken meat consumption has increased (ABARES, 2019). These changes are consistent with longer term trends seen from national nutrition surveys conducted in Australia and New Zealand.

In analyses of the most recent national nutrition surveys for Australia and New Zealand, the proportion of people who reported consuming red meat decreased when compared to the previous national nutrition survey, while the proportion consuming poultry increased (Smith, Gray, Mainvil, Fleming, & Parnell, 2015; Sui, Raubenheimer, Cunningham, & Rangan, 2016). The proportion of people in the most recent Australian national nutrition survey (2011-12) who reported consuming any meat (including poultry and fish) remained stable (Sui, Raubenheimer, Cunningham, & Rangan, 2016). In this same study, the median amount of all meat types consumed, *accounting only for those who consumed it*, was shown to have increased since the previous Australian survey in 1995. As noted in the analysis, the results should be interpreted with caution as there are challenges and limitations to making comparisons between the two surveys due to differences in the survey designs (e.g. differences in meat portion sizes captured). A comparison of the results from the Australian national nutrition surveys from 1983, 1985 and 1995 was conducted following a bridging study that aimed to identify and quantify differences between each survey to better allow for comparison of the results across the time period (Cook, Rutishauser & Allsopp, 2001; Cook, Rutishauser & Seelig, 2001). The comparison showed the mean consumption amount of meat and meat products remained fairly constant over this time. No national nutrition surveys have been conducted in Australia or New Zealand in the last 8 years, therefore analysis of more recent trends based on national nutrition survey data is not possible.

Consumers report a range of reasons for reducing their meat consumption. The most common reasons include: health, price, animal welfare, environmental protection, and the taste/smell/appearance of meat (Food Frontier, 2019b, Food Frontier, 2019a; Malek et al., 2019). For beef, specifically, consumers give price as the most common reason for reducing consumption, followed by health and weight control (Malek et al., 2019).

Meat analogue products provide an option for consumers wishing to reduce (or eliminate) the meat in their diets. Surveys commissioned by Food Frontier in Australia and New Zealand suggest around six in 10 people have tried or are willing to try analogues of meat (2019b, 2019a). Research suggests that a lack of awareness of how to cook plant-based meals and the perception that these are less convenient to prepare than meat-based meals is one important barrier to consumers reducing their meat consumption (Tucker, 2014). Meat analogue products may be a convenient way for consumers to reduce their meat intake without having to learn new ways of cooking (Weinrich, 2018).

One significant barrier to the uptake of meat analogue products is the perception among many consumers that their taste and/or texture is inferior to meat (Hoek et al., 2011). However, research suggests that when consumers become more familiar with these products (e.g. by trialling them) their liking for them may increase (Hoek et al., 2013).

3 Consumer understanding of meat analogue products

One concern raised by stakeholders about meat analogue products is that consumers may mistakenly buy and/or consume these products, believing they contain meat. In the surveys commissioned by Food Frontier (2019b, 2019a), meat eaters were asked whether they had ever “intended to buy a meat product but came home with a plant-based meat alternative product by mistake”; while vegans/vegetarians were asked whether they had ever “intended to buy a vegan/vegetarian product but came home with a meat product by mistake”. In the reporting, the responses from the meat eaters and vegans/vegetarians were combined. Nine percent of Australians and six percent of New Zealanders reported that they had either mistakenly purchased a ‘plant-based meat alternative product’ believing it was meat-based or mistakenly purchased a meat-based product believing it was plant-based. The authors noted that respondents who indicated they followed a vegan or vegetarian diet were more likely to indicate they had mistakenly purchased a product than other groups.

FSANZ has found only one experiment which examines whether consumers may mistakenly believe meat analogue products contain meat (DeMuth, 2019). In the experiment, American consumers answered questions about two real-life meat-based burger patties (Ballpark Beef Patty and Homestyle Beef Patty), one meat analogue burger patty (Beyond Burger) and one (not yet available) lab-grown meat burger patty (JUST Meat)¹. The study found 31 percent of participants mistakenly believed the analogue of meat burger patty contained beef mince. In contrast, 85-89 percent of participants accurately believed the two meat-based burger patties contained beef mince. When responding to the question, participants had to either select that beef mince was or was not in each of the products; they did not have a ‘don’t know’ option. Participants only saw an image of the front of the products; they did not have access to the ingredient list. It is likely that the percentage of participants incorrectly believing the meat analogue burger patty contained beef mince would be lower if they did have access to an ingredient list.

¹ The results for the lab-grown meat burger (JUST Meat) are not discussed further as they are not relevant to A1186.

The study also examined whether consumer confusion about the contents of the products was reduced where the words 'Meat' (from the 'Beyond Meat' brand name) and 'Burger' (from the product name) were removed. The proportion of participants believing the product contained beef mince (30 percent) was very similar in this condition compared to the original labelling.

The context of the DeMuth (2019) study was different to that which consumers experience in store. DeMuth (2019) used an online experiment to examine consumer perceptions of the different burger products. The different burger products were displayed side by side on the screen. In contrast, FSANZ understands that meat analogue products are generally displayed together in a plant-based section that is distinct from traditional meat products in supermarkets in Australia and New Zealand. The placement of these products is likely to impact consumers' assumptions about whether these products are meat analogues or meat-based.

4 References

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