Plant & Food Research
Rangahau Ahumāra Kai

Growing an Almond Opportunity!

Theme 3: The premium market & the conscious consumer

Stakeholder & Consumer Intelligence
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Background

» Currently 80% of the world’s almond supply is grown in California, US, where there is increasing focus on the unsustainability of almond production. There are growing pressures to reduce water use and address the impact on bee populations and the wider eco-systems. Australia is the world’s second largest almond exporter and is also increasingly experiencing extreme drought conditions.

» New Zealand imports $41M worth of almonds annually, mostly from these two countries.

» MPI is currently funding a small project (via SFF Futures) to examine introducing alternative crops into various regions of New Zealand. One potential crop is almonds, which are known to grow well in the same geographical areas as wine grapes. As part of this exploration, the Plant & Food Research, Stakeholder & Consumer Intelligence team has been asked to do a preliminary study to explore New Zealand consumer attitudes towards purchasing almonds grown in New Zealand.

Research Objectives

We will undertake consumer focus groups with almond purchasers who also identify as conscientious consumers, to understand the following;

» Given a choice, would consumers prefer to buy a sustainably produced New Zealand almond in favour of an imported alternative?

» Would they be prepared to pay a premium for a local product?

» If they are prepared to pay a premium, what is the approximate size of that premium?

Research Approach

Method

- We used a qualitative research approach, utilising focus groups amongst a semi-targeted sample, to enable in-depth exploratory discussion in alignment with the research aims.
  - Focus groups are ideal for getting to understand what drives the target market. They can reveal what values drive consumers from consuming or rejecting products and, importantly, why.
  - They allow the targeting of different groups within a purposive sample (premium, conscious consumers in this case). For example: younger people who may be values driven, older people who may be health driven, people who prioritise the environment, people who prioritise seasonal, people who prioritise natural, and/or people who are time poor and want healthy, premium, processed foods etc.
- This investigation was intended as a high-level scoping exercise among a small number of consumers, to support the objectives of the overarching feasibility study. The budget for this exercise was limited, thus an economical approach was designed to achieve as many directional insights as possible.

Online focus Groups

To accommodate the limited budget and continuing COVID-19 limitations, the focus groups were conducted on-line, using Zoom.

Two online focus groups

- » Wed 27 and Thu 28 April 2022
- » 90mins Zoom meetings
- » Total N=11
  - » females n=8; males n=3
  - » 18-35yo/young=6; 35yo+/mature n=5

Participants

- » Regularly purchase and eat whole almonds and/or almond products
- » Conscientious consumers: consider things other than price when making grocery purchases (ie. health, environment, ethical production, etc..)

Images are for illustrative purposes only, the identity of all participants remains anonymous

Recruitment

- Recruitment was carried out among personal contacts of the research team, and was extended via snowball sampling.*

- A short recruitment advertisement was developed and shared via email to identify relevant participants. Refer to Appendix.

- All participants were current and regular consumers of whole almonds and almond products.

- All were self-declared conscious-consumers
  - *conscious consumers* are people who may be values driven or health driven; people who prioritise the environment, seasonal, natural; people who are time poor and want healthy, premium, foods etc.).
  - We believe that these are the future consumers for sustainable, locally grown, almonds.

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* *snowball sampling: where existing contacts or study subjects, recruit from among their acquaintances*

Conscious Consumerism

The premium market and the conscientious consumer

Consumer values are shifting and many premium consumers are now focused on products which are:

- Local and seasonal (from concern for carbon footprint to food safety)
- Ethically grown (from environmental concern to fair wages)
- Animal wellbeing is considered (bee health)
- Healthy, delicious and high quality

"Being ethical in our activities and telling the stories about this, attracts consumers with the same values to our food and fibre products"

Agriculture, Food & Fibres Sector Vision and Strategic Direction Towards 2030

What our conscious consumers had to say

The 11 participants in this study each indicated that when making grocery decisions they were not entirely driven by price. To get the focus groups underway, we began with a warm-up discussion about the specific things that these people purposefully avoided, and sought, when shopping for food (not specific to almonds at this stage).

AVOID

- excessive and unnecessary packaging
- overly processed foods
- imported products
  - unsustainable practices/brands
  - unethical practices/brands
  - GMO

SEEK

- locally produced
- transparency of country of origin (COO)
  - trusted brands/COO
- freshness
  - good eating experience
  - health-supporting products

Why are they avoiding…

Excessive and unnecessary packaging?

» Excessive and unnecessary, especially plastic, packaging was mainly viewed as being bad for the environment, unsustainable, and was seen as a chore to dispose of.

» Additionally packaging on fresh produce was perceived as unnecessary by some as it did not allow for selecting your own items of produce, avoiding damaged items, choosing the size you want etc.

"I try and buy things in bigger quantities, in bulk so I'm not buying lots of small you know, plastic things each week I'd rather buy one big thing so that I don't have tons of plastic on my hands" (Natalie, young female)

"I personally try and stay away from pre-packaged foods….because of the environmental factor you know, saving on plastic but also because you can actually pick, and kind of feel the produce" (Cathy, young female)

"sometimes some things need plastic to keep them fresh. And I know that there's maybe not alternatives for that yet. So I'm not always avoiding it, but just if I think that it's there and it doesn't seem to have a purpose, and they could've done something else" (Ruby young female)

Overly processed foods?

» Overly processed foods were perceived as 'not real' food, not 'natural' and containing chemicals/additives.

» The terms 'chemicals' and 'additives' were highly charged negative terms and were linked strongly with negative health connotations.

"I don't like to buy anything with preservatives. Anything with chemicals. I always go with the natural things. natural food. Yeah, it's one of the health concerns". (Evelyn, mature female)

"Often, you know, E numbers. So chemicals that I know aren't just some sort of preservative or whatever. If there's a long list of chemicals, that's a real no no! So whats in the actual product is so important to me." (Nicola, mature female)

Why are they avoiding…

Imported products?

» While damage to the environment associated with the high transit-miles required to import foreign products was a frequently cited reason for avoidance, the key reason was that most participants were strong advocates of buying New Zealand-made products.

» This was predominantly motivated by quite practical reasons, such as freshness, supporting local businesses, availability and cost, rather than the higher level conscious consumerism drivers.

» There was some mistrust around foods from other countries, in particular China and the US, that reflected a suspicion of production processes and doubts about ethics. It was interesting that recall of the precise nature of the information upon which these perceptions were based was in most cases very vague, but still influenced attitudes strongly.

"…if they're New Zealand grown, it's going to be better quality, that they haven't had to travel as far to get to me, or to get into the supermarket." (Kelly, young female)

"Well, it's not particularly things I avoid like countries of origin particularly, but I like buying things from New Zealand or Australia coz I don't want my food shipped to me, you know, halfway across the world. Mindful of my carbon footprint I guess. So. It's not like I'm saying there's certain countries that I don't want, but I want things that I know they're coming more locally than halfway across the world." (Natalie, young female)

"It was so long ago it was in quite frankly, it was just a horror story that just stuck and now I just stay away from peanut butter from China Yeah, and I don't know whether it was the labour, or how it was grown? Stupid isn't how things stick." (Wendy, mature female)

Reasons for seeking…

Locally produced foods?

There was strong advocacy for New Zealand grown produce amongst all participants. This was grounded in trust for the quality and processes used here, it was supportive of New Zealand people and their businesses, and there was a sense that local produce was going to be fresher as it had not travelled to be here.

There was a widespread perception it was better for the environment to source locally, as it avoided the associated transit-miles of imported goods. If not New Zealand, then Australian produce/products were seen as the next best thing.

"So definitely New Zealand or Australian products…. It's about food miles. It's the freshness that you know, supporting New Zealand growers. Yeah. all, really important reasons for me to buy local, if possible." (Nicola, mature female)

"I know that generally our growers are very good with the way that they use minimum amount of chemicals, so I think it's, it's, it's all down to that pretty much is that trust in the growing system?" (Hugh, mature male)

Transparency of country of origin?

Given that most of the participants in this study were keen supporters of locally sourced products, it was no surprise that there was a sense of frustration at a perceived lack of transparency of the COO of ingredients/products in retail. Many commented, if they knew that a product had New Zealand provenance, they would be willing to pay more for it.

As mentioned previously, some participants actively avoided products imported from particular countries, thus they wanted to be able to identify products of these origins.

Additionally, others were keen to know COO so that they could make informed choices, which could also be added by the use of credentials/certifications.

"…like avoiding food products that you know are in terms of like are they really sustainable? Or what type of ethical practices, for instance, more transparency now with especially agricultural companies, so we require, we also evaluate, what type, what are their farming practices and are the employees treated fairly? So that sort of certification." (Tom, young male)

"Quite often you'll find packaged in New Zealand, but usually you'd have no idea where they were sourced, unless you do a lot of Googling" (Wendy, mature female)

Reasons for seeking…

Freshness?

» Alongside the previous reasons given for preferring local products was the perception that they would be fresher.

» We did not explore the perceived benefits of freshness specifically, but these quotes suggest fresher tastes better, potentially has more nutrients, and is likely to present fewer unfavourable sensory attributes, such as rancidity.

» On-pack dates and various visual cues are used as indicators of freshness.

“I grew up on a farm so I kind of have always had that mentality that fresher is better and you know, homegrown is always better as well.” (Cathy, young female)

“…and they probably keep some of the nutrients (if fresher), some of them might degrade a bit.” (Hugh, mature male)

“I always check the date, I always get the latest date. I cannot stand rancid almonds , which I had, you know, when I was growing up, everything seemed to be rancid in the old days and so they are as fresh as can be.” (Nicola, mature female)

Almonds

Reasons for consuming

Almonds for health

Health was the most mentioned reason for consuming almonds in this small study.

- Participants associated almonds with providing; healthy fats, fibre, high protein, keeps you fuller for longer, good for blood sugar levels, vitamin B12.
  - Retaining the skin was perceived to offer greater levels of “antioxidants”.
- Nuts and seeds featured strongly in vegetarian diets as an alternative source of protein, as well as providing nutrients and minerals.
- Those with lactose/gluten intolerances and allergies looked to almonds as an alternative milk and baking ingredient.
- Overall, there was a general perception that almonds were a healthier option compared with other processed snacks.

“So basically I'm pre diabetic. So it's a good sort of reasonably high protein snack. It's got a lot of fibre in it, so it doesn't affect blood sugars as much and not a lot the taste and a lot the crunch”. (Hugh, mature male)

“‘I use almond flour in baking because it's better for your blood sugar….and then it's got better healthy fats in it and stuff and keeps you fuller for longer. So that's probably the health benefit. Higher in fibre as well.” (Ruby, young female)

“I'm a vegetarian, so I eat lots of nuts and seeds and grains…..I'm definitely looking at the health benefits of nuts.” (Nicola, mature female)

The almond eating experience

Most participants consumed almonds as a raw or roasted whole nuts. While they generally enjoyed the flavour and crunchy texture of almonds, an optimal eating experience seemed to be defined more by the absence of the negative sensory attributes; rancid flavour and/or soft texture.

- A good flavour and texture experience was associated with freshness, while nuts that were older or had not been stored well were linked with softness and rancidity.

"I think for me probably a good almond and there's you got flavour and then you got crunch. I think good almonds are quite crunchy. You can get some really bad ones that are quite soft." (Hugh, mature male)

"I have noticed the quality of the almonds I buy from the bin differs. Some days….they are really crunchy, and the flavour is really nice. And some days they are a little bit soft. So I had to put these almonds to the oven for few minutes to get the right crunch. So I don't know whether it's because they come in different batches." –(Evelyn, mature female)

Avoiding a bad almond eating experience

- There was some frustration that the eating quality of almonds can vary, and is not easily predicted before trying.
- A few people had strategies to minimise the potential to select a bad batch of almonds; dates on pack, visual cues (shrivelling, shrinking, shape), only buying from large stores with high stock turnover, and brand (learned from experience).
- Some participants froze almonds to extend their shelf-life and freshness, or dried them in the oven if they were too soft.

"Sometimes when they stay longer on the shelf, they have that funny taste, which from the from the oil, nuts oil usually have that funny taste. And I really hate that. So then I'm buying the roasted if I cannot find the fresh." (Adam, mature male)

"I always check the date, I always get the latest date. They must hate me because I root through all the packets but anyway. And I put them in the freezer. Oh, that's where that's the place to keep your nuts because it keeps them fresh." (Nicola, mature female)

Almonds are versatile and convenient

The versatility of almonds was a valued characteristic.

While most participants ate whole raw or roasted almonds, many also used processed almonds as ingredients in baking (almond meal, sliced almonds, etc.), and others consumed almonds as almond milks and almond butter. One participant even made her own almond butter.

Being dry, sturdy, small, lightweight, non-messy made them a convenient and easily transportable snack.

While eaten on their own by many, others mixed their almonds with other nuts to provide greater sensory interest as well as a broader nutritional profile.

"I use them in lots of different things like baking and making almond butter. yeah, they're just quite versatile. And they're good for snacking on." (Ruby, young female)

"I really like almonds because they're really convenient and also a healthy snack. So I'm a PhD student so I spend a lot of time at my desk at work, doing quite long hours. So I like having food available to me that's convenient, really easy to have at my desk, but also, it's slightly more healthy than having things like muesli bars packed with sugar." (Natalie, young female)

"I also supplement them with other more expensive nuts, but they're more of a treat. You know, in a few days, I might have a few pistachios or I might have a few Brazil nuts for the selenium. So I'm definitely looking at the health benefits of nuts." (Nicola, mature female)

Almonds were childhood snacks for some – looking to exports?

While one of the (mature) New Zealand participants recalled almond trees growing when they were a child, they did not mention eating the nuts. While two people who grew up overseas (Sri Lanka and China), both talked about eating almonds as a snack in their childhood.

It will be important to understand consumer usage of and attitudes to almonds in different countries if export of a New Zealand product is ever contemplated.

"Even as a child I used to eat almonds. Yeah, but I was born in Sri Lanka, it was really expensive in Sri Lanka. And most of the time, you don't actually get the right kind. But after moving to New Zealand, I started eating almonds a lot. And I still like it. For my baking, and also normal." (Evelyn, mature female: Sri Lanka)

"Well, for me is different to others because like when I was little I don't have the chips, I don't have the lollies. My parents just gave me the almonds. Like, when I got a memory, I have the almonds as a snack." (Annie, young female: China)

Almonds

Purchase behaviour

Almond products purchased by participants

Brands purchased

- Countdown
- Graze
- Macro (Australian almonds)
- Mother Earth
- Pak & Save - Pams
- Tasti
- Bulk Food Store - loose almonds
- Good For Refillery - loose almonds
- Pak & Save - loose almonds
- Fix & Fogg - almond butter
- Sanitarium So Good - almond milk

Formats purchased

- Roasted
- Raw/natural
- Flavoured - tamari, spicy (chilli & lime)
- Mixed with other nuts/dried fruit/scroggin
- Ingredients - slivered, ground
- Chocolate dipped
- Milk
- Butter

What was clear was that participants did not necessarily shop around for their almonds; they tended to purchase what was readily available in the place they typically shopped. The Graze brand was unknown to Countdown shoppers, while the Macro brand was unfamiliar to Pak & Save and New World shoppers.

Reasons for purchase choice

- Format
- Familiarity, previous experience has proved acceptable taste and texture, volume, price
- Flexibility of volume
  - Via loose almonds in bulk bins
  - Pack size
- Price
- Country of origin
  - Preference for local
  - Reducing transit miles
  - Avoiding specific countries (US, China)
- Flavour options

There were a number of reasons given for almond purchase choice.

- First and foremost being the format, depending on the anticipated use of the almonds.
- In most cases each person had a preferred brand (inc. loose) based on their previous experience with this product. They had established that the taste and texture were aligned with their expectations, the volume suited their needs and the price was acceptable.
- If purchasing outside of their regular format/brand, the volume required and price became the dominant drivers of choice.
- Only two people mentioned purposefully seeking almonds from a specific country of origin, though most wished that local almonds were available.
- One person was loyal to a particular brand because of the range of flavour variants that it offered.

Transparency of country of origin of almonds

Most participants displayed a strong preference for locally produced products. Though very few were aware of the origin of the almonds that they regularly purchased, they did know that they were imported. Several commented that the specific country of origin was often not provided on the pack or at point of purchase.

Two people specifically sought the Macro brand (Countdown), as these almonds are clearly labelled as Australian on the pack. The rationale for this preference was different for each person;

“I buy the Australian almonds. It's the Macro brand. Yes from it is Countdown. The reason why I buy the Australian almonds is it's either that or I think the Californian almonds, I think about food miles. But I also think I have read about some of the processing in terms of export of almonds from the United States. And I think there was something that put me off, what they actually do to the almonds for export. So I thought, I liked the ones that the packet that says Australian almonds, so I always buy those.” (Nicola, mature female)

“I'm concerned about US products, because US is working a lot on genetic modification….US will be the last I will choose. When I'm buying pre packed. I'm reading and looking for Australian.” (Adam, mature male)

In each focus group the moderator provided some information about the environmental impact of large-scale almond cultivation in California (refer to slide 26), after which several people recalled hearing about some of these issues, though not to the point where it was affecting their purchase decisions. ‘Nicola’ was the only person who spontaneously mentioned avoiding specifically Californian almonds based on information that she had heard.

While not specific to almonds, a few recollections of information about potentially unethical food practices in China had initiated some bias against foods from here – though the facts were vague.

“I'm very choosy about which countries I will purchase products from. I'm afraid that I am often sceptical, even with organic material, from China. I have some issues with the validity of some claims made.” (Nicola, mature female)

Almonds

Existing knowledge

Unprompted knowledge/awareness of almond production

Participants were asked if they knew where almonds were grown, and if they knew anything specific about how almonds grow and/or almond cultivation.

» There was very low awareness of how and where almonds were grown generally.

> *"it's like a fruit, isn't it? its a stone of a fruit?" (Hugh, mature male)*

> *"I didn't even know how they were grown, this is probably going to sound really bad but I didn't even know that New Zealand didn't really make almonds." (Cathy, young female)*

» Only one person was familiar with almonds growing on trees, and the specifics of what they looked like, though this was not experienced in New Zealand.

» A few people had vague recollections about aspects of almond cultivation that they had heard about (high water usage, bee population decline), but these did not appear to be impacting their purchase decisions.

» Almond production has been the topic of two recent documentaries that were mentioned, one about association of Californian almond production and the decline of bees, the other about almond farming in Japan.

> *"I watched this documentary on Netflix. Yeah, it was called Rotten…it was about bees. And there was a part in that, and they showed you like the almond production in California and just like the huge scale that it's on, they had to ship in all these bees to pollinate the trees and there was all this, like, the kind of bee politics and people stealing each other's bees and stuff. And so I don't know, it was a different spin on it and made me feel kind of a little bit guilty for indulging in my tasty almonds. And also the I know that they take a lot of water to grow. Yeah. That's kind of all my knowledge." (Kelly, young female)*

» Interestingly, one person had heard that Hawkes Bay was potentially a good place to grow almonds (she had worked/lived in Hawkes Bay previously).

> *"What did they say 90% or something? I can't remember. I read something about 90 something a huge percent of almonds are grown in California. Although the Hawkes Bay is evidently a potentially good place to grow them. How exciting would that be?" (Wendy, mature female)*

Information provided about Californian almond production

As it was evident that there was very little knowledge about almond production, specifically the environmental impact of intensive almond cultivation in California, the key facts (below) were presented to each group to stimulate discussion.

Key CA almond facts presented to the groups:

CA produces 80% of the worlds almonds

- Vast swathes of land used for almond cultivation
- Next biggest producers: AU 8% & Spain 6%

High water demand

- Local supply can not support irrigation requirements
- Taking from other crops & municipal supply
- Depleting aquifers, land subsiding

Monoculture

- Impacts the overall ecosystem of the area
- No diversity of diets for insects, animals

Bee mortality

- 90% of all US bees moved to CA to pollinate the almonds. 30% of them die.
- Disease, pesticides, limited diet (monoculture)

CA = California

First responses…

"I guess it's, well, I'm a vegetarian. So I'm sort of weighing up, you know, my footprint and the impact I'm having on the environment and on mankind, and on the animal kingdom. I was not aware of the bee problem. I was certainly aware of the water there shows. I don't think it's I don't think that it will decrease my almond eating. But I, I feel a little uncomfortable about the bees." (Nicola, mature female)

"That will definitely decrease my almond consumption. Definitely because I'm an entomologist. And I know how much pollinator colony pollination and bees would do for the rest of the crops, and for the environment. And also, the water capacity. I was in California for some time, and I've been eating almonds without knowing all these impacts. Thank you." (Evelyn, mature female)

"Actually if I'd check and saw California almonds maybe I'd go, oh, no, I wouldn't buy that. But perhaps I would look for Australia and New Zealand options if they were there. I wouldn't mind paying more to make a more ethical choice, I guess. Yeah." (Natalie, young female)

Responses to facts about Californian almond production

Very few people claimed to be aware of the situation, and were surprised. Some voiced discomfort with learning these facts, and said that they would be more mindful of looking to see where their almonds came from before they bought them in future. While many had not heard these facts, there were some who had heard something, but they had forgotten the details and did not appear to be acting on what they had heard.

The following quote, made by a person who had seen the Netflix documentary about the decline of bees associated with the Californian almond industry, highlights that even those consumers with some awareness of the issues are not changing their purchase behaviours – though in reality are they able to?

> *"I think a lot of people are kind of uneducated about almonds, like you know, we all buy almonds but we didn't know some of the stuff you were talking about. So I think if they were using it in their marketing and I think a lot more people would probably be onboard with spending the extra money." (Ruby, young female)*

It is suggested that while consumers may be concerned about the impacts of Californian almond production, it is not easy for them to avoid these almonds.

It was noted that the country of origin (COO) is not overtly displayed on most almond products for sale in New Zealand, and even if it were, there are limited alternatives to US almonds, the Macro brand being the only product differentiated by its COO – Australia, and this brand is limited to only Countdown stores

While the environmental benefit of reduced transit miles is a key motivator for avoiding imported almonds, the impact on bee populations was particularly confronting to some, suggesting that an overtly bee-friendly New Zealand strategy for almond production could be an additionally compelling benefit for consumers.

Almonds

Response to New Zealand production

Previous experience of New Zealand grown (or fresh) almonds

There was very low awareness of how and where almonds grew generally. The incidence of experiencing fresh and/or New Zealand grown almonds was almost zero. Of the 11 participants in this study, one had eaten almonds grown in New Zealand, so she was able to share her experience with the focus group.

"I have bought them from the Parnell Farmers Market. Yeah, there's (New Zealand) almonds there. They are exceedingly expensive. But you know, they're next level for sure. But they are a real treat!" (Nicola, mature female)

This participant relayed a wholly enjoyable experience that was quite removed from the typical sensory experience associated with imported almonds.

"They was so crisp, I think that that would be the word for it, just crisp and the milkiness. And the sweetness. It's the milkiness, and the lusciousness. You know, they just don't seem at all dry in terms of the texture." (Nicola, mature female)

It is most likely that the textural experience described is a result of these locally produced nuts being consumed considerably closer to when they were harvested (ie. fresher) than imported nuts.

"It's something that you don't experience everyday with an almond. So really nice." (Nicola, mature female)

While this person was extremely positive about this different eating experience, it must be noted that this is the opinion of a single person, and so more research would be required to establish precisely how different varieties/cultivars of locally grown almonds differ from what is currently available to New Zealand consumers, and if in fact other consumers find these differences as desirable as this person did.

Response to establishing a New Zealand almond industry

New Zealand almonds expected to be more expensive but fresher and with fewer transit miles.

» Responses to the idea of locally grown almonds were positive. While expectations were that a local product would be more expensive than imported alternatives, many participants were immediately attracted by the idea that locally grown almonds would be fresher, and the improved environmental credentials were viewed as a big benefit too.

» There was expectation that as a new industry for New Zealand, there would be a focus on sustainable production, and ensuring a high-quality product – particularly as a means to differentiate from imported Californian almonds.

"For me, I quite positive on the New Zealand almond. Firstly is more freshness for the consumer. Like the quality will be better than the overseas one." (Annie, young female)

"Yeah. even if it's just to reduce the transport miles and I'd be interested in. I mean, if it was more sustainable, that would be like a huge bonus as well." (Ruby, young, female)

"..if we could find a way to grow them sustainably…you know is some kind of way that we can scientifically do it in New Zealand I would be fine with that as long as it still held the new same nutritional value." (Cathy, young female)

What do fresh almonds taste like??

» While very few people had experienced a fresh almond, participants were curious about what the eating experience would be. Overall there was a strong sense that fresher would be better.

"I'd much prefer knowing that I'm eating an almond that, I don't know, two weeks, three weeks old compared to like two or three months." (Cathy, young female)

» There was a perception that New Zealand is a country rich in natural resources, with plenty of water and rich soil, which would translate into good-tasting almonds. And there was even a suggestion that a locally grown product may have a uniquely New Zealand flavour, similar to New Zealand Sauvignon blanc.

» Understanding how the sensory experience of fresh New Zealand almonds compares with current offerings will eventually be a critical aspect to pursue. Currently there is no evidence to suggest that a different eating experience will be preferred, so this will need to be established and detailed if it is to contribute to a premium positioning.

» It will also be key to understand comparative nutritional profiles and shelf-life characteristics.

Response to establishing a New Zealand almond industry

Diversification of New Zealand agriculture away from dairy/beef

» Several people thought about the need for land-use diversification in New Zealand, away from dairy and beef. Almond cultivation was viewed as a potential means to not only make greater returns from pasture, but also to reduce the negative impacts on the land associated with dairy/beef farming.

“I think the other, the other big thing would be if they could get decent returns, you know, can you convert some of the pasture land into growing almonds? And that's a huge benefit, then environmentally. So it's one of the things we should be looking at is more horticulture and less dairy . So I think there's, there's potential there. If you can get the money.” (Hugh, mature male)

Protect New Zealand bees and the New Zealand mānuka honey industry

» Having heard about the plight of bees in Californian almond production, one participant was particularly concerned that cultivating this crop in New Zealand could be equally as damaging to the local bee population.

» They were also mindful that this could raise risks to the mānuka honey market.

» Again reiterating the need to have a New Zealand bee-friendly strategy to almond production.

I think it is something that we have to think twice, because bees are very important to New Zealand because honey is one of our main products. And if we are growing something to destroy or harm other bee population, that probably will impact our honey production. So it's kind of..... Yeah.... I still don't know how far we can go with almond industry.” (Evelyn, mature female)

Pricing of New Zealand almonds

Anticipated pricing

Participants were unanimous that they would expect New Zealand almonds to cost more than the currently imported offerings. Their rationale for this belief;

- Cannot grow at the scale of the US, therefore smaller more premium crop.
- Big start-up costs, pricey to start with until the technology develops, build up infrastructure.
- Expensive converting beef or dairy farms to almonds.
- Land costs are higher here than in Australia.

“I mean, because we're never going to match the Californian scale, for example. So I think there's probably an expectation, it's gonna be more of a premium product, it's going to be a smaller scale, and we'd hope it'd be sustainable. And so I guess, you can expect there's going to be a price tag associated with those things as well.” (Natalie, young female)

Though their comments suggested a degree of price sensitivity…

- Most indicated a willingness to pay more for locally produced almonds though ‘not too much more’.
- Definitely not double current prices.
- Paying a higher price may need an improved experience for some.
- Some would limit their purchase to special occasions or eat (New Zealand) almonds less frequently.

“I think I would buy them first off, like just out of curiosity you know, it stands out on the shelf. But then in terms of repurchase, they’d have to be really, really good for me to buy them all the time, if it was double the price. Yeah, for something I'd usually pay a few dollars for.” (Kelly, young female)

Size of acceptable price premium for New Zealand almonds

Participants were shown prices for a selection of currently available retail brands and formats, and were asked to provide some guidance on how much more they might be willing to pay for New Zealand grown almonds. While it is key to note that these guidelines are indicative only, as they are based on qualitative feedback from only nine people, it is clear that paying double current prices would be unacceptable. A 20–40% uplift on current prices may be acceptable to some, particularly if there are multiple benefits, not least of all a noticeably better eating experience.

	Acceptable	Not acceptable
20-30% price premium	• *"So if there was no difference, I'd maybe pay $6 or maybe $6.50 just because it's New Zealand."* ***Hugh*** *(A)*	
40% price premium	• *"Yes. I think I'd pay $7."* ***Kelly*** *(A)*	• *"So if it went up to like $7..maybe. But like we've kind of mentioned, it would be a one off, to see what it would be like, I wouldn't actively switch immediately."* ***Cathy*** *(A)* • *"Probably up to $7. If it was really good almonds. But then it's not something you probably buy every week."* ***Hugh*** *(A)*
50% price premium	• *"I was thinking for 50% more as well. I'd be happy to pay."* ***Ruby*** • *"I'll be happy to pay 50% more on mine."* ***Nicola***	
100% price premium (double)		• *"You wouldn't want to be paying double for them, I mean we're already paying a fortune for them....I wouldn't mind paying a little bit more but you wouldn't want to be paying double."* ***Wendy*** • *"Maybe not double."* ***Hugh*** • *"But if the New Zealand almonds will be $5 or more, then I think about well, that is a double up, then I take the cheaper rather than the New Zealand almond to be honest, but few a few cents or a dollar different I definitely go for New Zealand almond. But as double up, then I will need to think about it...or have less."* ***Annie*** • *"If it goes double the price, I might reduce the amount I buy, and keep it as a treat. Not like a usual snack. If it is three or four times more, I probably would have to think twice before I buy it."* ***Evelyn***
Other	• *"I think probably that $72 a kg is probably a bit too expensive. So maybe I can on the on the higher end of the other side. It's $36 and $48. I'd maybe consider something in that range, I think, possibly $72 would be too high."* ***Natalie*** *(B)*	

Where indicated, comments are made specifically relative to the following products shown in the pricing stimulus
(refer Appendices)

(A)

(B)

NB: where not indicated by (A) or (B) comments are more general and not relative to a specific product

Summary

Summary

- The key reasons almonds were chosen by these consumers were the perceived health benefits and their versatility and convenience.

- A positive almond eating experience was distinguished by the absence of the adverse sensory attributes of softness and rancid flavours. There was almost no experience from the groups with respect to fresh almonds, or New Zealand grown almonds, but a curiosity and willingness to try/explore.

- This small group of ‘conscientious’ New Zealand consumers indicated a keen interest in New Zealand grown/produced products generally, as they were perceived to be fresher, supporting New Zealand businesses and less damaging to the environment (fewer transit miles).

- However, while this sentiment was reiterated specific to the idea of New Zealand grown almonds, in reality purchase tended to be driven by the more practical aspects of format, availability and cost, rather than conscientious considerations around sustainability.
  - Despite recruiting ‘conscious consumers’, there was no strong evidence to suggest that their ‘conscientious’ beliefs were the main driver for their almond purchase decisions. This may have been driven by the lack of any real choice in almonds in the New Zealand retail market, or simply a social desirability bias among participants. More research is required to understand this paradox more fully.

Summary

- There was little knowledge regarding almond production, and low involvement in almond purchase decisions. Most purchased the almonds that were readily available at their usual supermarket, and as such were not aware of brands/origins/credentials of almonds from other retailers.

- There was some frustration that the country of origin was often not provided on almonds sold in New Zealand, so consumers were less able to make a conscious choice.

- While some had heard negative stories about almond production in California, it had not affected their purchase choices, though it was clear that the country of origin of almonds currently sold in New Zealand was often difficult to establish, and difficult to avoid.

- While most of this small group of consumers said that they would be willing to pay a premium for New Zealand almonds, the degree of price uplift was quite limited.
  - ***NB: indicative only, based on feedback from nine people***
  - Double the price was unacceptable – would lead to avoidance/reduction in consumption
  - 40% price premium – probably not a sustainable uplift, especially if the quality/credentials are not perceivably better than current offerings.
  - 20 – 30% price premium – least resistance to this possibility, though it is questioned whether New Zealand origin alone will be enough to sustain this price uplift, or whether other claims will be required to justify the premium in this market (e.g. improved sensory, nutrition, sustainability credentials, etc).

Future research

Future Research

This is a very small sensitisation study and requires further research to draw more detailed conclusions and establish any potential for premiumisation;

» Additional focus groups need to be conducted to explore what the conscious consumer means – particularly in the snack market. These focus groups could also explore the purchases consumers do apply their ‘conscious consumer’ attitude to and why

» Competition in the healthy snack area could also be explored

» This work needs to be followed by a survey which uses the language, attitudes and emotions found in the focus groups to examine the broader New Zealand market. This would allow the further unpacking of the credence attributes – among with a ranking of them.

» Understanding the more physical aspects of New Zealand almonds will also be critical in establishing positioning and communications; sensory (flavour, texture, appearance), nutritionals, shelf-life, residues, etc.

» For the longer term, should export become a possibility, greater knowledge of the markets of interest will be required; understanding of usage and attitudes to almonds, potential for premium, gift market, etc.

Together this work would not only help identify the potential market and its needs in New Zealand, but also allow for positioning/education of the product.

Appendices

Recruitment Advertisement

We are looking for people to participate in an on-line focus group, where we will be discussing perceptions and eating habits of ALMONDS.

The focus groups will take place between **6-7.30pm** on **Wed 27th April** and **Thurs 28th April**. They will be conducted on-line (using Zoom), so you do not need to travel to join us, but you do need the capacity to stream a video-call for 90mins.

Do you regularly purchase & eat whole almonds or almond products?

Do you consider things other than just price when making your grocery choices?

If you answered yes to both of these questions and you are available for at least one of the above session times please email: tracey.phelps@plantandfood.co.nz to sign up.

If you have any questions before committing, drop us an email at the address above.

We look forward to hearing from you.

Plant & Food Research
Rangahau Ahumāra Kai

PARTICIPANT INFORMATION SHEET | ALMOND STUDY

Introduction

We would like to invite you to participate in this study being conducted by The New Zealand Institute of Plant & Food Research Limited (PFR).

This study is being conducted to explore consumer attitudes to, and purchase behaviour of almonds. You do not need to be an expert or have any specialist knowledge – you are being invited to attend because you eat and purchase almonds.

The topics discussed in this study are not directly connected to the views of The New Zealand Institute of Plant & Food Research Limited.

Who can take part?

We invite you to participate in one of our group discussions if you:

- eat and purchase whole almonds
- you consider values other than price when making your grocery purchase decisions
- you consent to being video & audio recorded while you participate in an on-line group discussion.
    - *We record the group discussion so that we can accurately capture what you tell us, our data management policies are outlined below.*

What will my participation involve?

If you agree to participate, you will be invited to attend an online focus group discussion with another 4-5 participants who also agree to participate in this study. All discussions will take place in English. The focus group will be conducted via the online meeting platform Zoom, last no longer than 90 minutes, and two researchers from PFR's Stakeholder & Consumer Intelligence Team will be moderating the group discussion. You will be given instructions regarding how to join the Zoom meeting.

In the group discussion, you are encouraged to share your views and thoughts openly with other participants. There are no right or wrong answers. We would like to video record the focus groups so that we can accurately capture what you tell us. The recording of the focus group discussion will be transcribed into a written record using an automated transcription tool. Your contribution is extremely valuable to us and we greatly appreciate your time and views.

Token of appreciation

Upon the completion of the interview, you will receive $50 in the form of a Prezzee e-voucher as a token of our appreciation for your time and efforts in participating in the study.

What will happen to my data?

You own the information that you provide to us in this study, and you have the right to access this information at any time.

Plant & Food Research
Rangahau Ahumāra Kai

CONSENT FORM

Research Team: Stakeholder & Consumer Intelligence, Plant & Food Research

You have been offered a place to participate in an on-line focus group as outlined in the separate Participant Information Sheet that you have been provided. Before the group you are asked to read through this form, and decide whether you consent to participate or not. If you have any questions please contact one of the research team listed below.

- If you decide that you do not wish to participate, please email us immediately and let us know
- In order to accept the offer to participate you must agree to each of the following statements.

As the focus group will take place using Zoom the on-line video conferencing tool, we will capture your consent verbally at the beginning of the focus group. You will be asked to say the following statement, which will be video recorded as proof of your consent to participate.

"I (*say your full name*) have read and understand the consent form and have had the opportunity to ask questions. I agree to take part in this study".

I have read the Participant Information Sheet and have understood the nature of the research and why I have been selected.	Yes / No
I have had time to consider whether to take part.	Yes / No
I know who to contact if I have any questions about the study, and have been given the opportunity to ask questions before I decide to take part.	Yes / No
I am aware that I will be video-recorded as part of this focus group, and that this recording will be transcribed into a written record using an automated transcription tool.	Yes / No
I understand that I will receive $50 Prezzee e-voucher as a thank you token and that I can retain this money even if I decide to withdraw from this research.	Yes / No
I am aware that the recording and its transcript collected from me during my participation in this study, and personal information will be kept in a secure area at Plant & Food Research.	Yes / No
I understand that as part of the reporting process, quotes from me may be used in reports, presentations, and/or publications, but no information that personally identifies me will be used.	Yes / No
I am aware that the topics that are discussed in this study are not directly connected to the views of The New Zealand Institute of Plant & Food Research Limited.	Yes / No
I understand that the content of this study is confidential and agree to not discuss it outside of this focus group.	Yes / No
I understand that I can withdraw at any time, without having to give a reason for doing so.	Yes/No

Researcher contact details: Tracey Phelps on 027 527 8929, or by email tracey.phelps@plantandfood.co.nz
Non Research contact: Dr Marian McKenzie, Email: Marian.Mckenzie@plantandfood.co.nz

Declaration of consent

“I (*say your full name*) **have read and understand the consent form, and I have had the opportunity to ask questions.**

I agree to take part in this study”.

Semi-structured interview guide

A semi-structured discussion guide was prepared to ensure key points were covered in each focus group. This guide provides an approximation of the order of each discussion point, particularly the points at which prompting of issues and current pricing occurred.

- Conscious consumerism – what things do you consider other than price when shopping?
- Why do you choose almonds?
- How do you use almonds?
- How do you choose your almonds?
- Direct discussion towards country of origin…
  - Do you know where your almonds come from? Is this important?
  - Do you know anything about almond production in other countries?
- Direct discussion towards (negative) environmental issues of almond production...
  - water, bees, US example.
  - (prompt) if no knowledge provide an overview of the Californian issues
- What if New Zealand grown almonds were available?
  - expectations of costs, quality, environmental impact, etc.
  - Willingness to pay more, how much more? (unprompted)
  - (prompt) Provide current New Zealand retail prices for a selection of brands/formats- willingness to pay more, how much more?

Current almond pricing stimulus (April 2022)

$19/kg

$7.49 / 400g pack

$20/kg

$12.00 / 600g pack

$22/kg

$10.99 / 500g pack

$23/kg

$4.50 / 200g pack

$24/kg

$12.00 / 500g pack

$26/kg

$9.80 / 375g pack

$27/kg

$1.89 / 70g pack

$33/kg

$4.99 / 150g pack

Bulk foods (loose)

$36/kg

$36/kg

$2.50 / 70g pack

Certified organic (loose)

$48/kg

(organic)

$72/kg

(organic)

$17.55 / 250g pack

$72/kg

(organic & sprouted)

$17.99 / 250g pack

$72/kg

(organic & activated)

$8.99 / 125g pack

Disclaimer

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