

Fresh produce packaging: What's the problem we are trying to solve?

Australian Fresh Produce Alliance

The Australian Fresh Produce Alliance (AFPA) is made up of Australia's major fresh produce growers and suppliers, representing half of the turnover of the Australian fresh produce (fruit and vegetables) industry, and more than a third of Australian fresh produce exports.

There is increasing pressure on Australia's fruit and vegetable growers to remove packaging from fresh produce. What's often missing from this dialogue is an understanding of the role and purpose of packaging.

Bans on packaging on fruits and vegetables are already being instituted in Europe. Closer to home, many Australian states and territories have been considering bans on single use plastics, which would encompass many fresh produce packaging solutions.

While plastic or packaging reduction is an admirable goal, it's important to consider packaging as part of an entire product design. In many cases in fresh produce, removal of packaging leads to more adverse outcomes including an increase in food waste.

The role of packaging

2019 research that investigated the role of packaging for Australian fresh produce found that fresh produce packaging is key in mitigating the estimated \$20 billion of food lost or wasted in Australia each year¹. This research mapped the lifecycle of 10 fresh produce items both with and without packaging.

The results demonstrated that benefits of packaging include product protection, extension of shelf life and ability to communicate product information that assists consumers.

Raspberries and blueberries were both included in the research. In terms of produce lifecycle, berries were found to be soft and fragile and susceptible to damage from temperature changes, compression and vibration during all stages, from harvest, through the supply chain, and to the consumer. The use of PET punnets was shown to provide significant protection to berries from compression and vibration, reducing damage, and therefore spoilage.

Sensory impacts of packaging were also assessed in this study. Both packaged and unpackaged raspberries and blueberries were assessed on arrival at the wholesale markets (Figures 1 and 2) and again three days later to simulate a retail purchase (Figures 3 and 4). For both berry types, packaged options retained greater levels of plumpness and firmness, better colour and fewer off aromas. On the day of retail purchase, packaged raspberries had a significantly higher firmness and were less likely to collapse than unpackaged raspberries. These sensory tests demonstrate that packaging provides significant benefits to overall product quality and shelf life.

These results demonstrate the challenging position that the fresh produce industry finds itself in: the obvious benefits of packaging weighed against consumer pressure to reduce produce packaging.



Figure 1. Blueberries on receipt at the market - packaged (L) and loose (R). Photo credit: AFPA.



Figure 2. Raspberries on receipt at the market packaged (L) and loose (R). Photo credit: AFPA.



Figure 3. Blueberries after three days of storage at 1-4°C (simulated retail purchase), packaged (L) and loose (R). Photo credit: AFPA.

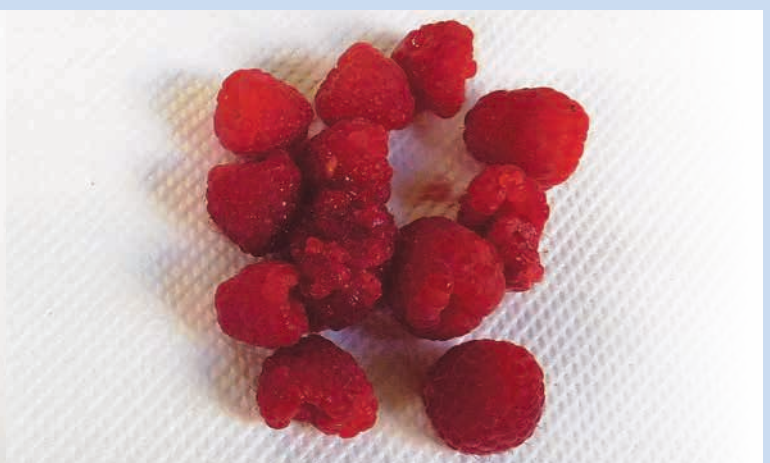


Figure 4. Raspberries after three days of storage at 1-4°C (simulated retail purchase), packaged (L) and loose (R). Photo credit: AFPA.

Consumer behaviour

To understand more about how consumers purchase, use and dispose of packaged produce, the Australian Fresh Produce Alliance (AFPA) commissioned a small qualitative study of 38 households in Sydney and Melbourne².

Key findings of this study were that greater levels of meal planning reduce food waste, consumers do not know the best storage conditions for fresh produce and consumers really hate wasting food.

Participants in the study were interviewed in their homes, and their fridges, fruit bowls and other food storage areas as well as their rubbish bins were inspected to determine how food and packaging is being used.

Interestingly, many consumers interviewed said they did not purchase packaged produce, their fridges however, indicated that they did with each of the 38 households having at least one packaged item of fresh produce.

What this study did demonstrate, is that consumers feel very differently about food waste when compared to packaging waste.

Consumers reported that they 'hate' wasting food as they feel they are throwing away money. This is in stark contrast to when consumers are asked about disposal of fresh produce packaging where they merely feel 'bad' or 'guilty' about throwing out packaging.

This contrast in consumer sentiment is attributed to the financial value consumers assign to food waste, whereas consumers do not believe they are losing anything when they dispose of packaging.

Fresh produce growers are between a rock and a hard place - packaging reduces food waste and consumers by their own admission hate the cost of food waste, yet these same consumers want a reduction in packaging.

Where to now then?

While this issue is complex, and often feels circular, a focus on overall product impact will help narrow these issues. Growers, industry, stakeholders, governments and consumers need to start considering an entire products lifecycle, and the net impact of that lifecycle before making decisions about a single component of that product.

So, what's the problem we're trying to solve? If we are aiming to reduce the use of single use plastics, reduce the environmental impacts of packaging and increase the overall sustainability of our economy, then we need to consider the overall impact of our decisions rather than individual issues in isolation.

A good place to start is investigating alternative packaging materials and consider the ability to reduce non-essential packaging and support industry's efforts to work with government to improve the collection, processing, recycling and reuse of packaging materials.

Please review and keep the Packaging Materials Selector insert in this edition of the Journal. This resource is also available at www.freshproduce.org.au/resources

References

Reports referenced in this article are available on the Australian Fresh Produce Alliance website www.freshproduce.org.au:

- (1) The role of packaging for Australian fresh produce
- (2) The relationship between fresh produce packaging, food waste and recycling in the home

