



AFPA Submission to:

NSW Plastic: Next Steps
Proposed further action on plastic in NSW

NSW Environment Protection Authority

February 2024

About the Australian Fresh Produce Alliance

The Australian Fresh Produce Alliance (AFPA) is made up of Australia's key fresh produce growers and suppliers. The members include:

- Costa Group
- Perfection Fresh
- Montague
- Pinata Farms
- Fresh Select
- Mackay's Marketing
- Driscoll's
- Australian Produce Partners
- Premier Fresh Australia
- Rugby Farming
- Fresh Produce Group.

These businesses represent:

- half the industry turnover of the Australian fresh produce (fruit and vegetables) sector - \$10 billion total
- a quarter of the volume of fresh produce grown in Australia - 1 million of the 3.9 million tonne total
- more than a third of fresh produce exports - \$410 million of the \$1.2 billion export total
- more than 1,000 growers through commercial arrangements, and
- more than 15,000 direct employees through peak harvest, and up to 25,000 employees in the grower network.

The key issues the AFPA is focusing on include:

- packaging and the role it plays in product shelf life and reducing food waste landfill,
- labour and the need for both a permanent and temporary supply of workers,
- market access to key export markets for Australian produce,
- product integrity both within and outside of the supply chain,
- pollination and research into alternative sources, and
- water security, including clear direction as to the allocation and trading of water rights.

The AFPA's aim therefore is to become the first-choice fresh produce group that retailers and government go to for discussion and outcomes on issues involving the growing and supply of fresh produce.

Products grown by AFPA Member companies include:

Apples	Blueberries	Cherries	Nectarines	Raspberries
Apricots	Broccoli	Fioretto	Onions	Salad leaf
Asparagus	Broccolini	Green Beans	Oranges	Spinach
Avocado	Brussel Sprouts	Herbs	Peaches	Strawberries
Baby Broccoli	Butternut	Lemons	Pears	Sweet Corn
Baby Corn	Pumpkin	Lettuce	Pineapples	Table grapes
Bananas	Cabbage	Mandarins	Plums	Tomatoes
Beetroot	Cauliflower	Mango	Potatoes	Water Cress
Blackberries	Celery	Mushrooms	Cucumber	Wombok

Summary

Packaging plays an important role in the integrity and protection of fresh food as it travels through supply chains – reducing food waste, informing consumer decision-making, supporting efficient purchasing, and ensuring that traceability, food safety standards, and other requirements and regulations can be met.

The Australian Fresh Produce Alliance (AFPA) supports initiatives to reduce the environmental impact of plastics and packaging. Australian consumers are concerned about the impact of plastics on the environment, from all sources, and while the fresh produce industry is a relatively low user of plastics and packaging, it is a highly visible user, making it a regular target for discussion. It is therefore imperative to understand that the use of packaging in the fresh produce industry is to reduce food waste and enable consumers, both in Australia and overseas, to access fresh, safe fruit and vegetables at affordable prices.

As outlined in this paper and a formal report prepared by RMIT University, packaging is critical in the reduction of food waste. Functional packaging prolongs shelf life and protects produce in transit enabling better quality produce to reach consumers. This is of particular importance when considering regional and remote communities in NSW, which may have poorer access to fresh fruit and vegetables due to distance from central markets and distribution centres; without functional packaging, many types produce would be unable to reach these consumers.

The environmental impact of food waste, and the social impact of access to fruit and vegetables must be carefully weighed against the impact of the removal of functional packaging. To that end, embracing simplistic solutions needs to be resisted and their consequences carefully thought through. An example is the call to “phase out” “stickers on fruit”. Produce stickers or “stickers on fruit” are the most environmentally friendly device currently available that can meet a great many functions. Produce stickers play a vital role in meeting retail and regulatory requirements, supporting informed consumer decision making, inventory management and more. While alternatives to stickers on fruit exist, such as plastic film wrap or laser labelling, they are not as holistically environmentally friendly, commercially viable at scale, or readily available.

Industry is in the midst of developing a compostable fruit sticker and would urge the NSW Government to align to the South Australia Government’s approach, which is proposing to ban plastic produce stickers by September 2025, not all produce stickers. Of note, the South Australia Government’s 2025 timeframe is not realistic, as while a compostable produce stick may be developed and certified at that time, it will take industry 12 to 24 months to transition – use up existing stock, invest in capital, amend any required processes, etc. 2028 is an appropriate target for industry’s transition to compostable produce stickers. It should also be noted that while a compostable produce sticker label has been developed and is used in some countries, like New Zealand, a produce sticker adhesive (that can function in challenging environments, such as in cold, wet conditions) is still being developed.

Australia’s fresh-produce industry and its associated supply chains operate at a national level to support year-round supply of local fresh produce, i.e. when stone fruit comes into season in Victoria, it is processed and packed for distribution to every and any state and territory – with the produce’s final destination determined by the wholesalers and retailers based on current demand. If a jurisdiction introduced new plastic bans that were so radical it required the establishment of a stand-alone supply chain, inventory management and assurances systems, different equipment and processes on farm, and/or significantly reduced the shelf-life or integrity of the produce, it may become unviable to supply that jurisdiction, come at great cost to the consumer, or be done in a less environmentally friendly manner.

Introducing bans on produce packaging that are not in keeping with a national approach and without adequately considering if there is a viable alternative to meet regulatory, food safety and commercial needs, will have significant consequences for Australian growers and NSW consumers. Industry will continue to strongly advocate for the use of functional packaging for fresh produce, while working with governments, suppliers, recyclers, and retailers, to research and implement sustainable product and packaging combinations that are fit for purpose, support the ongoing supply of fresh produce and help to prevent food waste. This includes research into appropriate packaging alternatives and advocating for improved recycling infrastructure nationally.

Recommendations

The NSW Government:

1. Wholistically consider the role of functional packaging in fresh produce

- Recognise the multifaceted benefits of packaging, including reducing food waste, ensuring product safety, and enabling affordability for consumers.
- Commit to collaborating with industry stakeholders nationally to comprehensively evaluate the impact of any relevant packaging bans on the entire supply chain and address potential disruptions.

2. Not ban “fruit stickers” outright

- Recognise the vital role of fruit/produce/PLU stickers in providing consumer information, enabling traceability, supporting inventory management, and other benefits as well as ensuring the requirements of Government and retailers can be met.
- Acknowledge that ‘phasing out fruit stickers’ would lead to increased packaging and stifle development underway of compostable sticker labels and adhesive.
- Recognise that industry and other states are moving towards compostable produce stickers, and a four-year timeframe (2028) is believed to be an appropriate duration for the development, certification, and industry transition to this new label.

3. Engage in ongoing dialogue nationally and support a unified approach

- Maintain open communication with industry, retailers, and consumers to address concerns, share progress, and collectively work towards sustainable packaging solutions. Ongoing dialogue will help navigate challenges and foster a collaborative approach to achieving environmental goals without compromising the integrity of the fresh produce supply chain
- Support dialogue across State, Territory and Federal agencies to ensure that policies are aligned where there is national impact, including in relation to approaching produce stickers.

4. Support sustainable material selection and research

- Encourage the adoption of sustainable packaging design that balances functionality, product protection, and environmental impact.
- Partner with industry to invest in research and development initiatives for commercially viable, environmentally friendly alternatives to plastic.

5. Identify and invest in infrastructure for a Circular Economy

- Collaborate with industry, other governments, retailers, and stakeholders to develop and implement a circular economy approach to packaging; this includes investing in and enhancing NSW recycling capabilities (infrastructure).

The role of packaging for Australian fresh produce

The AFPA recognises concerns exist about the level and type of packaging that is used for fresh produce and has prioritised packaging as one of its key issues to address for the future of the fresh produce industry. Individual member companies have been working through their packaging options for several years to increase recyclability and reduce non-essential packaging.

In 2019, the AFPA commissioned and released research undertaken by RMIT University on the role that packaging plays in the fresh produce supply chain. *The role of packaging for Australian fresh produce*¹ report's main findings and recommendations are listed below, in summary it outlines that packaging assists in reducing food waste as it protects product through the supply chain, increases the shelf life of fresh produce and creates opportunities to supply produce which would otherwise be considered uneconomical to harvest and sell as individual items and end up as waste to landfill.

Key findings include:

- Packaging of fresh produce does help to avoid and reduce food waste, by protecting the integrity of the product in the supply chain;
- Packaging increases and extends produce shelf life from farm to plate compared to having no packaging at all;
- Packaging material and packaging formats should work synergistically to provide product protection and shelf life as it travels through the supply chain; and
- Packaging reduces the chances of product bruising or damage through reducing direct touching and handling.

Key recommendations of the Report focused on further work, including:

- Gaining a better understanding of food waste that occurs in the home post retail purchase;
- Educating consumers on the role of packaging and why it is used for certain types of fresh produce;
- Focusing on a 'circular economy' approach to packaging, involving producers, retailers and government coming together to identify ways in which to reduce packaging waste and improve recycling and reuse;
- Further work on clarifying the value of packaging in product safety, with an emphasis on 'ready to eat' fresh produce; and
- The extent to which packaging plays a role in maintaining and enhancing sensory aspects of fresh produce, such as look, taste and smell.

Members of the AFPA recognise that they must, where practical and viable, work to reduce packaging and, most importantly, must work with stakeholders, including packaging suppliers, to identify and develop forms of packaging that provide a greater opportunity for recycling or more effective end of life management. To that end, more than 75% of AFPA members' current retail packaging (by volume) is recyclable, compostable or reusable.

Further, the AFPA have also funded the development of a [Materials Selector](#) and [Materials Guide](#) to assist the fresh produce industry in selecting the most appropriate packaging formats for their products, supporting improved outcomes towards 2025 packaging targets.

Important in understanding the selection and use of packaging materials in the fresh produce industry is the level of consideration given to the barrier characteristics of materials, i.e. what is the purpose of the packaging. Eliminating a specific material may lead to adverse outcomes such as increase in food waste. Solutions that address material selection and end of life management in concert with research into alternative materials and broader recycling infrastructure are critical to addressing packaging reduction and broader sustainability targets.

¹ *The role of packaging for Australian fresh produce*, RMIT University, <http://freshproduce.org.au/resources>

The AFPA promotes sustainable packaging design within the fresh produce industry to maximise the benefits of packaging (product protection, transport, extension of shelf life and reduction of food waste), while attempting to minimise the environmental impacts through appropriate materials selection.

The AFPA encourages all supply chain participants and governments to consider wholistic solutions to plastic reduction challenges including investment in material end of life management including increased domestic recycling capability.

Produce stickers remain essential

Included in the consultation document, *NSW Plastics: Next Steps* – pg. 14 “*Other unnecessary and problematic plastic item*”, is the proposal to phase out stickers on fruit. The AFPA is strongly opposed to the NSW Government phasing out stickers on produce for several reasons.

Produce, fruit or PLU stickers serve several essential purposes within the fresh produce supply chain and for consumers. These stickers provide valuable information about origin, variety, and price, enabling consumers to make informed choices and retailers to offer a variety of produce. Additionally, they play a vital role in inventory management, traceability, reducing food waste and quality control for both producers and retailers.

Produce stickers are the best device for delivering information to customers and meeting Government and retail requirements with the least amount of packaging. If stickers are outright banned, more produce will be sold in film wrapped cardboard containers. This kind of packaging requires more resources to produce, is still transported in large boxes, similar to those that carry loose fruit with stickers, and would require improved infrastructure and services to support the recycling of film wrap. Produce stickers are the most environmentally friendly option currently available that is commercially viable. A ban of “fruit stickers” would also stop companies from developing degradable sticker labels and adhesive that is food safe, which will prove even more environmentally friendly when finalised.

Benefits provided by produce stickers

1. *Consumer and Retailer Information:* Produce stickers are a convenient and effective means of conveying essential information to consumers and for retailer use. They include details such as the products variety (e.g. a Pink Lady or Jazz apple) and country of origin, aiding consumers in making educated decisions about the products they purchase. Most produce stickers also include barcodes that enable swift product identification and accurate pricing at checkout, among other functions.

Banning produce stickers would in many instances reduce consumer ability to identify product variety correctly, and limit the consumers ability to recognise a brand or product origin. Banning stickers would also create challenges at the point of sale; for example with several kinds of red apples in store, it would become difficult for consumers and retail staff to accurately identify the variety at checkout without some of kind of label attached to the produce.

2. *Traceability:* Produce stickers are integral to the traceability of certain fresh produce within the supply chain. They help identify the source of the product (i.e. on what farm and in what period the product was produced), facilitating quick and efficient tracking in the event of a recall or quality issue. Maintaining traceability is crucial for food safety and regulatory compliance, and a requirement of major retailers.

The importance of product traceability has been highlighted over the past few years through several food safety events, including the example of the needles in strawberries tampering event. The ability to track and trace this tampering event is due to the packaging, and therefore producer identification associated with the packaging on the strawberries. Without being able to isolate the producer of the strawberries, it would have been impossible to address the product tampering. If the same event, or a food safety related event was to

occur in a product line currently utilising produce stickers, these stickers would enable the same response – without these stickers, isolating an affected crop or producer would be near impossible.

3. *Inventory Management and Supply-chain efficiency*: For producers, retailers, and distributors, produce stickers play a key role in inventory management and facilitate streamlined processes within the supply chain. The stickers assist in accurate identification, sorting, and categorisation of products, streamlining operations and minimising errors in processing, storage, shipping and at retail stores.

Banning produce stickers in NSW will create supply-chain challenges and increase the cost of produce. This is because Australia's major fresh produce supply-chains to key retailers are designed to be uniform across the Australia to support the distribution of produce from one State to another. For example, Victoria produces around 75% of Australia's stone fruit (nectarines, peaches, plums, etc). Victorian stone fruit is labelled by growers and supplied to retailer distribution centres for transport to their stores in any state or territory. If NSW bans produce stickers, it will force producers to choose between not supplying NSW or establishing new, separate processing arrangements, and similarly different arrangements throughout the entire supply-chain by all parties. The separate treatment of produce destined for NSW will reduce supply chain efficiency and create new costs that will be passed on to consumers.

These inventory management challenges continue at the first point of sale; if a product is misidentified at the first point of sale, this creates challenges in determining whether or not that product is re-ordered by the retailer. While overly simplistic, as an example, if a store sells two varieties of red apple, Pink Lady and Jazz, and all sales are listed as Pink Lady when some are in fact Jazz, this would lead the retailer to believe that Pink Lady is a better selling apple. The result of this is that the retailer would only order Pink Lady apples, disadvantaging the supplier of Jazz apples who will have orders decreased due to incorrect sales data. Though overly simplified, this example reflects at scale how consumer sales data enables retail and wholesale purchasing decisions.

Alternatives to Produce Stickers

There are currently no viable, more environmentally friendly, alternatives to produce stickers that can deliver the same functionality and be adopted at scale, without significant disruption to supply and production cost increases.

Several alternatives that are commonly touted as solutions include compostable stickers or laser labelling. These alternatives are addressed below. These alternatives and challenges are not unique to NSW or even Australia, but present a global challenge. The industry globally has invested in developing alternatives to the current produce stickers; globally an appropriate solution is not currently available at a commercially viable scale.

Compostable Fruit stickers

Identifying and sourcing compostable fruit stickers that are effective and economical is a major challenge for industry. Most companies are still in the development stages of producing a fully degradable produce sticker.

Produce sticker labels are currently made from food-grade materials such as polyethylene, paper or a compostable material. Compostable labels made from biodegradable material represent a positive step toward reducing environmental impact, however, challenges persist in relation to the adhesive. Currently food-grade adhesives are applied to a fruit sticker and enable the labels to securely stick to the skin of the fruit without causing damage or leaving residue when removed, ensuring also that the sticker remains attached to the fruit during transit and in often cold and moist environments like cool rooms.

Currently industry does not have access to a compostable adhesive with the same characteristics at the commercial scale that is required to match the volume of produce produced and consumed in Australia (or

NSW). Major sticker producers are developing compostable sticker and adhesive solutions for mass production, however industry is informed that these solutions are still years away from being certified and market ready, and are likely to be 60% more expensive. Industry is open to the transition to compostable stickers once challenges are resolved and these products are available commercially.

The South Australia Government's is also considering produce stickers, however taking a pragmatic approach of only banning plastic produce stickers. This would allow industry to continue its development of compostable produce stickers and maintain the environmental benefits of using such as small device to deliver so many functions. Of note, the South Australia Government's 2026 timeframe is not realistic, as while a compostable produce stick may be developed and certified at that time, it will take industry 12 to 24 months to transition. Industry must be provided time to, for example, use existing stock (instead of dispose of it straight to landfill), invest in capital, such as new labelling machines, and amend any required processes, etc. 2028 is an appropriate target for industry's transition to compostable produce stickers.

Natural branding and Laser Labelling

Natural branding, achieved through laser removal or alteration of skin pigments, has been successfully applied to some produce items, but its widespread adoption hinges on overcoming issues of consumer acceptance, efficiency and scalability. Shifting to natural branding or laser labelling would also require extensive infrastructure upgrades and other changes across the supply chain.

For example, the labelling of fruit is typically done in pack-houses or distribution centres, where efficiency is essential to maintain economic production, supply and maximum shelf life, particularly when processing hundreds of tons of individual pieces of produce per day. Current automated produce labelling machines apply stickers at a rate of up to 720 pieces of produce per minute, per processing lane. Companies that offer laser labelling machines, which is commonly referred to as an alternative to stickers, in the majority advertise as being able to apply a label "within a few seconds", which implies a rate of 10-30 per minute.

Currently, a leading laser labelling machine on the market advertises a rate of approximately 0.3 seconds per label, which is equivalent to a rate of up to 200 pieces per minute. This indicates (at maximum capacity) labelling produce with a laser is 3.6 times slower than a fruit sticker, over an eight-hour period that is 249,600 less pieces of produce processed. Processing delays and the reduction of efficiency in the supply chain reduce shelf life, leading to increased food waste, cost and other negative repercussions.

Based on the above processing rates, to maintain the same level of labelling efficiency, a producer/processor would need to invest in four times the number of laser labelling machines, and likely make drastic changes to their processing facility to accommodate additional processing lines. This processing challenge makes industry's adoption of laser labelling very difficult and costly for high volume fruit categories like apples, oranges and mandarins. Adding to adoption challenges is a lack of consumer education that laser labelling is safe on edible skin, despite widespread evidence.

Plastic film wrap

In many countries it is common to find individual pieces of produce completely wrapped in plastic film with a traditional produce sticker. While Australia has taken a different approach to packaging produce in the majority, if fruit stickers are banned, producers may need to similarly wrap produce to be able to deliver the same amount of information to consumers and achieve the same level of traceability and efficiency in the supply chain.

As the industry explores these alternatives, the delicate balance between sustainability, efficiency, cost and consumer preferences becomes evident. While a long-term goal of reducing or eliminating fruit stickers is understood, it should not be entrenched while there is no viable or more environmentally friendly alternative.

If the Government does intend to ban produce stickers, it is likely that to address the concerns above (consumer information, traceability, stock management and national supply chain) additional packaging will be introduced to deliver these outcomes. This may include more bagged products being sold in NSW. It is vital that in considering the ban of produce stickers, the Government appropriately weights how without stickers, industry is able to meet consumer, commercial and regulatory requirements. While the AFPA support the reduction of non-functional plastic, produce stickers play an essential role and should not be banned.

A way forward

If the outcome being sought by the NSW Government is to reduce the use of single use plastics, reduce the environmental impacts of plastics and increase the overall sustainability of our economy, then the overall impact of decisions rather than individual issues in isolation must be considered.

For example, in fresh produce there are conversations about changing material types to address consumer concern but the replacement material may have a more significant environmental impact. The AFPA encourages all supply chain participants and governments to consider consumer behaviour in the development of new regulation, policy proposals and requirements for consumers.

The AFPA has released two research reports on packaging, food waste and recycling as well as distributed resources to help industry better select materials. Through this work it has become clear that further work is required to understand consumer behaviour, particularly in the home, to better provide consumers with products and services that meet their needs in the most sustainable manner.

In summary of the Recommendations included in this submission, in order to meet the public policy objectives of supporting Australians and increasing our overall sustainability, governments can work with industry on:

- developing environmentally friendly packaging solutions,
- encouraging the reduction of non-essential packaging, and
- supporting the collection, processing, recycling and reuse of packaging materials.

The AFPA acknowledges and supports initiatives to reduce the environmental impact of plastics and packaging, however the proposed removal of functional packaging in fresh produce, specifically fruit stickers as outlined would have an adverse impact on the environment, fruit and vegetable producers, and consumers.

As outlined in this paper and a formal report prepared by RMIT University, packaging is critical in the reduction of food waste. The use of appropriate types and levels of packaging enable Australian consumers to access fresh fruit and vegetables. Packaging prolongs shelf life and protects produce in transit enabling better quality produce to reach consumers. This is of particular importance when considering regional and remote communities in NSW, which may have poorer access to fresh fruit and vegetables due to distance from central markets and distribution centres.

The AFPA does not support the elimination of functional fruit and vegetable packaging, including the phasing out of fruit and vegetable stickers as proposed in the EPA's consultation document.

AFPA asks all parties to ensure that any action to 'improve' current practices fully considers the complexity of current arrangements and ensures that the proposed action is of overall environmental benefit over the long term.