



A GUIDE FOR FRESH PRODUCE RETAIL MANAGERS



30 June 2018

Australian Avocados – A Guide for Fresh Produce Retail Managers

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Acknowledgement

This guide was developed as part of the project 'Improving market access for Australian avocados in Asia and the Middle East' which was funded by the Australian Government's Package Assisting Small Exporters program, the Avocado Export Company, Sunfresh Marketing and The Avolution. The guide was compiled by the Queensland Government Department of Agriculture and Fisheries (QDAF), P2P Business Solutions and Avocados Australia Ltd, recognising the background material sourced from the Australian Avocado Industry Best Practice Resource.

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PURPOSE OF THIS GUIDE

Avocado consumers want the perfect avocado - a fruit that has been grown for quality, picked at the optimum maturity, handled with care along the supply chain, ripened to bring out the best flavours and presented at its best, ready for consumption. The challenge is to meet the consumers' expectations every time.

Australian avocados are recognised for their high quality and freshness. Our growers, exporters and importers invest significant resources to ensure the product they supply is of the highest quality and can meet the customers' expectation.

Australian avocados are usually airfreighted to our export markets, meaning they are the freshest available and provide added shelf life for retailers. However, as avocados are living organisms, managing the retailing process and getting it right every time can be challenging.

This guide aims to build the knowledge and skills of those involved in retailing Australian avocados. By handling and presenting Australian avocados more effectively, we hope our retailers can satisfy their customers and increase profits from the category.

This guide is complemented by other resources available from Avocados Australia, including:

- PowerPoint presentation to support training of retail produce managers and staff
- Instructional video on avocado handling and display for avocado retailers (5 minutes)
- Poster (A4 size) for displaying back-of-store to remind staff about the appropriate ways to handle avocados
- Point-of-sale 'ripe and ready' consumer leaflets with information on selecting and using avocados
- Point-of-sale 'ripe and ready' signage

**For more details and access to resources visit:
www.avocado.org.au/global**



ABOUT AVOCADOS

History of avocados

Avocados originate from Central and South America and have been domesticated for more than 7000 years. In the 16th century they were introduced to Europe and eventually to many other countries around the world.

The word 'avocado' itself comes from the Aztec word 'ahuacatl'. In other parts of the world avocados are also called 'butter fruit' or the 'alligator pears'.

The last 50 years has seen significant growth in the demand for avocados. In 2016, global production of avocados reached 5.57 million tonnes.

Avocados were introduced to Australia more than 175 years ago; however, they have only been grown commercially for about 50 years. Although Australia doesn't produce the volumes of some other countries, we pride ourselves on the premium quality fruit that our farmers grow and market.

Nutrition and health

Avocados are a wonderful nutrient-dense fruit, that are naturally low in sugar and sodium and contain a range of vital nutrients needed for a healthy body. They are rich in:

- Fibre
- Healthy fats
- Vitamin C & E
- Folate
- Potassium;

and are a great source of nutrition for toddlers, expecting mothers and older people.



Eating avocados

Apart from the health benefits of eating avocados, their other great feature is their taste and versatility. They can be used in both sweet and savoury dishes; and can be incorporated into meals at breakfast, lunch and dinner. They also make fantastic smoothies and can be used in desserts like ice cream or chocolate-avocado brownies.

To find out more about preparing and using Australian avocados and great recipe ideas visit www.australianavocados.com.au/recipes

AUSTRALIAN AVOCADO PRODUCTION

Australian farmers produce about 70,000 tonnes (2018) of avocados a year.

These are usually supplied to market in 5.5 kilogram single layer trays or 10 kilogram bulk boxes.

Availability of Australian avocados

By growing in different production regions across Australia and planting different varieties, our farmers can supply avocados all year round.

There are 8 main production regions, however most avocados are grown in Far North Queensland; Central Queensland and Western Australia.



Once planted, avocado trees take about three years to begin producing fruit and reach maturity at around 8-9 years old. They continue to bear fruit for more than 20 years.

Avocado fruit can take anywhere from 6 to 15 months (depending on the region they are grown) to develop on the tree.

The table below shows the availability of fruit from the different production regions across the year.

Harvest periods for Hass and Shepard Avocados												
Growing Areas	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
FAR NORTH QLD				Hass	Hass	Hass						
CENTRAL QLD		Shepard	Shepard	Hass	Hass	Hass	Hass	Hass				
QLD - OTHER						Hass	Hass	Hass	Hass	Hass	Hass	Hass
NSW - NORTH & CENTRAL						Hass	Hass	Hass	Hass	Hass	Hass	Hass
TRI-STATE*	Hass							Hass	Hass	Hass	Hass	Hass
WESTERN AUSTRALIA	Hass	Hass							Hass	Hass	Hass	Hass

KEY: QLD = Queensland NSW = New South Wales VIC = Victoria SA = South Australia
WA = Western Australia

* The Tri-State area includes production in the Sunraysia and Riverland regions which together cover parts of Southern NSW, Victoria and South Australia.

Hass variety Shepard variety

Varieties

There are two main avocado varieties grown and marketed by Australian farmers – Hass and Shepard.

Hass

Hass is the main variety exported by Australia and accounts for about 80% of Australian production.

It has a distinctive pebbly skin which usually turns from green to a rich purplish–black colour as it ripens.

Hass is more oval than other varieties and has a pale green flesh with creamy texture.

Hass is available all year round however supply is lighter from February to April.



Shepard

Shepard avocados are a ‘green skin’ variety. They are referred to as ‘green skins’ as their skin stays green as they ripen.

Shepard have a smooth skin, a golden buttery flesh which does not go brown when cut, meaning they stay brighter in salads and wraps for longer.

Shepard avocados represent about 15% of total Australian avocado production and are only grown in the warmer northern production regions of Australia. They are available from February to May, when production of Australian Hass is lower. They provide the opportunity for retailers to offer Australian avocados all year round and their arrival on the market each season presents excitement in the category for consumers.



AVOCADO QUALITY AND RIPENESS

Attributes of good quality avocado

Good quality avocados, no matter which variety, should:

- Look fresh
- Have good symmetrical shape
- Have no skin blemishes or visible damage
- Have no internal defects such as bruising, rots or flesh discolouration
- Be mature*
- Ripen evenly
- Taste great when they are ripe.

* *Maturity is measured by the percentage of dry matter in the fruit. This is measured by the farmer and fruit is only harvested from the tree when it has reached optimum maturity levels. This ensures that the fruit has a great taste once it is ripe. For Hass the optimum level of maturity is no less than 23% dry matter and for Shepard, no less than 21% dry matter.*

UNDERSTANDING AVOCADO RIPENING

Unlike other fruits, avocados don't start to ripen until they are picked from the tree.

Once picked, avocados naturally release low levels of ethylene, a plant hormone which initiates the ripening process. In modern avocado supply chains, ripeners treat commercial quantities of avocados with ethylene under controlled conditions in specially designed facilities. This is called 'pre-conditioning' and ensures the fruit will ripen evenly and the quality will be optimal.

It can take 4-14 days for the fruit to go through the commercial ripening process and reach the condition where it is suitable for retail sale. This variation in time is due to several factors including; the variety, where and how the fruit was grown, the level of maturity at picking, how the fruit temperature has been managed up to ripening and how long it is treated with ethylene.



Different ripeness stages – for retailers

As a retailer you may need to order avocados at different stages of ripeness to provide for your customers' needs e.g. fruit that will be ideal for eating in 1-2 days through to fruit that will hold for 4-5 days. So, understanding the different stages of ripeness is important.

5 stages of ripeness

All avocados soften as they ripen. Ripeness of fruit can be ranked on a scale of 1 (hard) to 5 (ripe), as shown below. Hass avocados generally change colour from green to a purplish-black colour as they ripen. The same stages of ripeness apply for Shepard avocados; however, their skins remain green when ripe. The ideal eating fruit is stage 4 (firm ripe) or 5 (ripe).



Source: *Applied Horticultural Research*

Determining ripeness

Although Hass avocados generally change colour from green to a purplish-black colour as they ripen, this is not always the case. Sometimes the fruit can remain partially green when ripe or already have colour when it is on the tree. Hence, firmness, rather than skin colour is the better indicator of ripeness.



To determine the ripeness stage, **gentle pressure** should be applied to the stem end of the fruit. As the fruit ripens the 'give' in the fruit will increase.

The fruit at retail store will range from stage 2 to stage 5 (Stage 1 fruit is fruit that has just been picked from the tree).

Stage	Indicator of ripeness	Days to 'ready to eat' ^{**}
2: Pre-conditioned	Slight 'give' with strong thumb pressure	About 3 days
3: Breaking	Deforms 2-3mm with moderate thumb pressure	Less than 2 days
4: Firm Ripe	Deforms 2-3mm with slight thumb pressure	Ready to eat
5: Ripe	Deforms easily with gentle pressure	Ready to eat

* This is based on fruit being held at room temperature, ideally between 16-20°C.

Different ripeness stages – for your customers

To simplify the message when communicating with a retail customer we often only refer to three stages of ripeness:

- Hard (stage 2 above)
- Firm ripe (stage 4 above)
- Soft ripe (stage 5 above).

how to choose ripe australian avocados

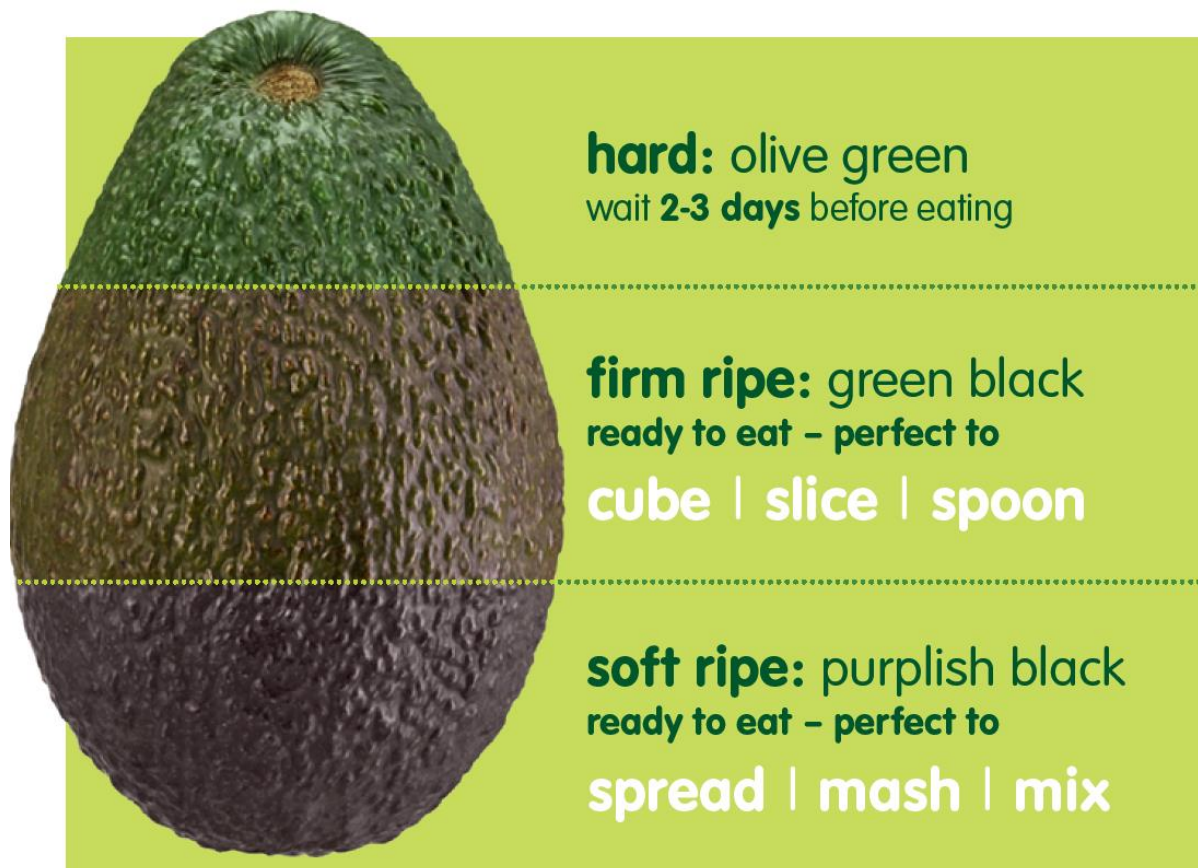
Hass avocados change colour as they ripen

so colour is a good visual indication of ripeness without touching the fruit.

To test by touch, gently press the stem end of your avocado.

If it's quite firm, it will be ready in a couple of days.

If it's softening or soft, it's ready to eat.



UNDERSTANDING FRUIT QUALITY

Internal fruit quality defects

The major causes of poor fruit quality are bruising, rots, vascular browning and grey-brown flesh.

All of these conditions can be avoided if good handling and storage practices are followed by those in the supply chain and at retail level.



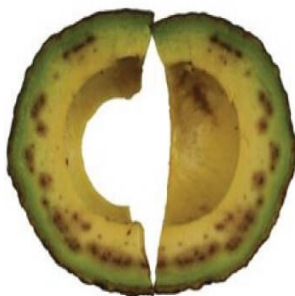
Bruising results when fruit is not handled with care. It can be caused by dropping or squeezing the fruit, excessive handling and poor packaging.

Bruising will become more evident as the fruit ripens. Dropping softening fruit or soft fruit at a short height (3cm or more) can cause bruising.



Rots can start to occur in fruit that is at an advanced stage of ripeness, has been in the supply chain for too long and/or has been ripened at high temperatures (>22°C), accelerating the aging process.

If rots are a persistent problem, check with your supplier about the management of fruit prior to receipt. Aim to reduce the time the fruit is held at store and sell fruit before it reaches the soft-ripe stage.



Vascular browning is the condition where vascular bundles running through the fruit begin to turn brown and appear as brown strands. This can occur where fruit has been held for too long prior or at incorrect temperatures in the supply chain.

If this is a persistent problem, check with your supplier.



Grey-brown flesh (or Diffuse Discolouration) is the condition where the areas of flesh turn a grey to brown colour. It can be caused when fruit is held for too long and at the incorrect temperatures, or where the ripening processes is interrupted by poor temperature management.

If this is a persistent problem, check the handling processes and temperatures at which you are holding fruit. Also check with your supplier.

Source: DAF Queensland

UNDERSTANDING TEMPERATURE MANAGEMENT

Storing avocados at the correct temperature is important to maintain quality.

- When fruit is received at store and it is **not ripe (stage 2)**, it should be held at room temperature (ideally 16-20°C), either on display or at back-of-store. This will allow it to ripen properly, which will likely take 2-3 days.
- Once fruit has reached **firm-ripe (stage 4) or ripe (stage 5)**, it should be sold as a priority.
- If **ripe or firm ripe fruit (stages 4-5)** is moved off the shelves overnight to a back store, Hass should be chilled at 5°C and Shepard at 7°C.
- If fruit that is at **breaking (stage 3)** is moved off the shelves overnight to a back store, it can either be chilled as above or retained at room temperature, depending on the fruit required for sale in the next few days.
- **Ripe fruit (stage 5)** which is not selling quickly, can be held in the refrigerated display at no less than 3°C to slow the ripening process for no more than 1-2 days. If held for longer the fruit will start to shrivel (dehydrate) and rots will start to develop. Also consider options to sell fruit more quickly (discount price; sell to local café etc.) and/or discard fruit (if it is not of acceptable quality).

Fruit that is not managed at the correct temperatures or held for too long can develop a range of quality defects including rots, grey-brown flesh or vascular browning, as shown on the previous page.



If you would like more information on quality disorders and temperature management refer to our other resources:

- *'A Guide for Supply Chain Quality Managers'*
- *'Avocado Fruit Quality Problem Solver'*

Available at: www.avocado.org.au/global

THE RETAILERS' ROLE IN MANAGING AVOCADO QUALITY

Monitoring fruit quality and ripeness

It is most important that the customer has a great eating experience every time they purchase an Australian avocado - by doing so they will continue to buy the product.

To maximise customer satisfaction and category profit, it is essential that avocados are handled and merchandised correctly. If the fruit is of good quality and size and at the correct ripeness stage, then it should be perfect for your customers and easy to sell if it is priced right.

MANAGING STOCK

Below are some tips on managing fruit so that it always meets the customer's expectation as well as reducing waste and increasing the profit of your avocado category:

- **Handling fruit**
 - Always ensure staff handle fruit with care to reduce damage to fruit.
 - Make sure packages are always stacked correctly and with care.
 - If practical, keep fruit in its original packaging to minimise handling of individual fruit.
- **Ordering fruit**
 - Ask your supplier about having fruit delivered at different ripeness stages, so you can optimise stock control.
 - If possible, order smaller volumes more often, rather than storing fruit.
- **Receiving fruit**
 - As a first step, assess the quality and ripeness of fruit that you have available for sale, so you can develop your strategy of how it is to be handled and sold.
 - If fruit is received in a poor condition, contact your supplier immediately and return the fruit if possible.
 - If there are quality issues and the fruit can't be returned, then consider price discounting or discarding the fruit.
- **Holding fruit**
 - Minimise the storage time of avocados before they are displayed.
 - If necessary, fruit that is less ripe may be held for 1- 4 days (depending on its condition) before being displayed.
 - Ensure fruit is held at optimum temperature, where possible.
- **Displaying fruit**
 - The ripest fruit should be prioritised for sale.
 - If you have fruit of similar ripeness, prioritise the older fruit for sale. Check to see if the date the fruit was packed is recorded on the packaging. If not, ask your supplier.

MANAGING DISPLAYS

Below are some hints and tips to help you get the best from the avocados on display:

- **Handling fruit**
 - Always ensure staff handle fruit gently when filling the display.
- **Setting up the display**
 - Consider adopting a 'ripe and ready' approach (see next page).
 - Place fruit on the lower layer on a suitable display liner to separate and cushion the fruit. This will help reduce bruising.
 - Don't tumble fill the display, over-fill displays or stack fruit more than two layers deep.
- **Display time**
 - Try to reduce the amount of time fruit is on display before it is sold. This reduces damage caused by customers.
- **Maintain the display**
 - Regularly check the display and replenish stock as necessary.
 - Display the ripest fruit on top, towards the front of the display and less ripe fruit at the bottom and back of the display – or - design the display so that ripe fruit is separated from fruit that is still ripening (see image on next page).
- **Manage waste**
 - Remove damaged fruit from the display. Avocados that have been dropped, damaged, are over-soft or have rots, should be discarded.
 - Record the amount and reason that fruit is discounted or discarded. This information will help identify stock management solutions to minimise waste.

By squeezing the fruit to check ripeness, customers often do the most damage by causing bruising. Research has shown that customers handle fruit less, reducing bruising, when they are provided with information about how ripe the fruit is and when it will be ready to eat.

- **Merchandising tips**
 - Display avocados with tomatoes, onions and lemons – to provide colour contrast on the display and inspiration for customers.
 - Cross-merchandise avocados with other complementary products like corn chips and chilli sauce to drive incremental sales.
 - Offer a multi-buy option (e.g. buy 2 for \$5.00 or \$2.99 each) to increase sales volumes.
 - Give customers choice -different varieties, different sized fruit and/or fruit in bags or punnets.
 - Provide Point-of Sale material such as header cards and leaflets to educate consumers.
 - Display discounted avocados away from the main display.

'ripe and ready' PROGRAM

A 'ripe and ready' program involves consistently providing ripe avocados for sale which are suitable for consumption within the next day; and helping your customers identify these.

Research has shown that many customers prefer to buy fruit to eat that evening or the next day; and that many customers are not confident in selecting a ripe avocado.

To assist customers, fruit can be presented in two ways:

- Ripe and firm ripe fruit (stages 4 & 5) are identified by stickers and are placed at the top and front of the display.
- The display is segregated into fruit that is ripe/firm ripe (stages 4 & 5) and suitable for immediate or next day consumption; and fruit that is ready for eating in the next 2-3 days (Stage 2 & 3). Ripe/ firm ripe fruit (stages 4 & 5) is then identified either by signage and/or stickers.



Implementing a 'ripe and ready' program requires more effort in terms of managing stock, however providing this support and delivering fruit that is ready for consumption, has shown to increase sales by up to 30%. If you are planning to implement a 'ripe and ready' program, talk to your supplier about their capacity to provide fruit of suitable ripeness and other support which may be available.

australian avocados ripe and ready to eat



choosing your australian avocado use colour as your guide

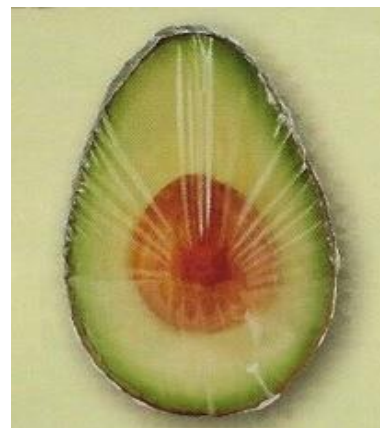


for delicious recipes and fresh serving ideas
visit australianavocados.com.au

HINTS AND TIPS FOR CUSTOMERS

Help your customers understand avocados better!!

- At home, avocados are best stored in the fruit bowl at room temperature.
- If they are not going to be consumed immediately, but have reached the desired ripeness the whole fruit can be stored in the fridge for 2-3 days.
- Don't put unripe avocados in the fridge as they won't ripen properly once you take them out.
- If the avocado is not ripe (hard), the ripening process can be sped up by putting the fruit in a brown paper bag with an apple or a banana. Apples and bananas give off ethylene, a naturally occurring plant hormone that accelerates the ripening process.
- To store a cut avocado, sprinkle it with lemon or lime juice and store it in an air-tight container or cover it in cling wrap and refrigerate. It should be eaten in 1-2 days.
- Encourage your customers to try avocados in new ways. Soft avocados can be used in guacamole, smoothies or as avocado butter.



ADDITIONAL INFORMATION AND SUPPORT

Avocados Australia is the peak industry body representing avocado farmers in Australia.

One of our primary aims is to increase demand and overall category profit for Australian avocados. We do this by working with farmers, exporters, importers and retailers both in Australia and in our export markets.

We support industry research & development and marketing & promotions activities, including supply chain, retailers' and consumer education programs.

To learn more about Australian avocados visit www.australianavocados.com.au

To access training materials and other resources visit www.avocado.org.au/global (access via the QR code on the next page)

**If you would like more information, please contact
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