



*ripe and ready to eat*

An initiative of:



June 2018

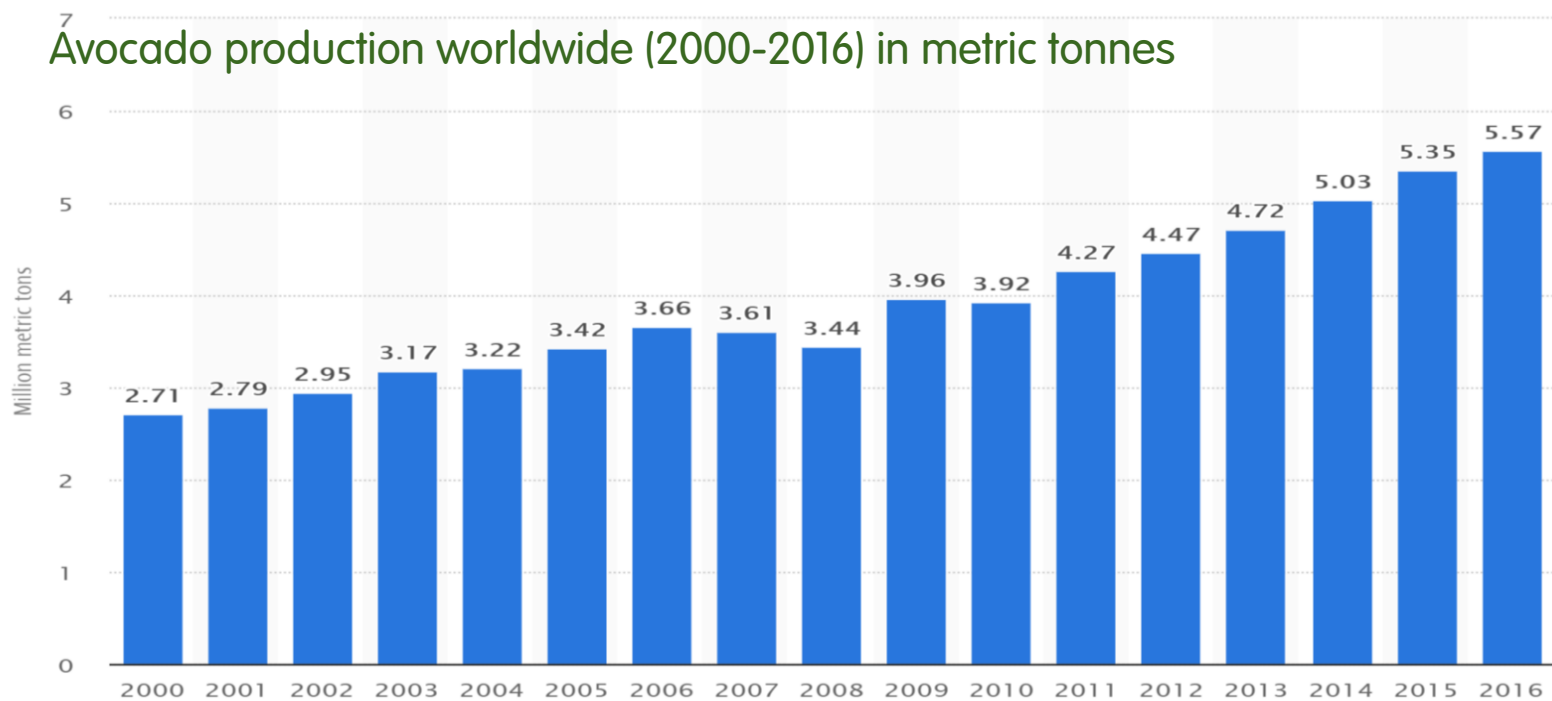
# *In this presentation ...*

- Supply and demand
- Why eat avocados?
- Ripeness and the characteristics of avocados
- Quality
- Ripe to eat fruit
- Managing fruit at retail
- Questions consumers might ask





# Avocado demand is growing world wide

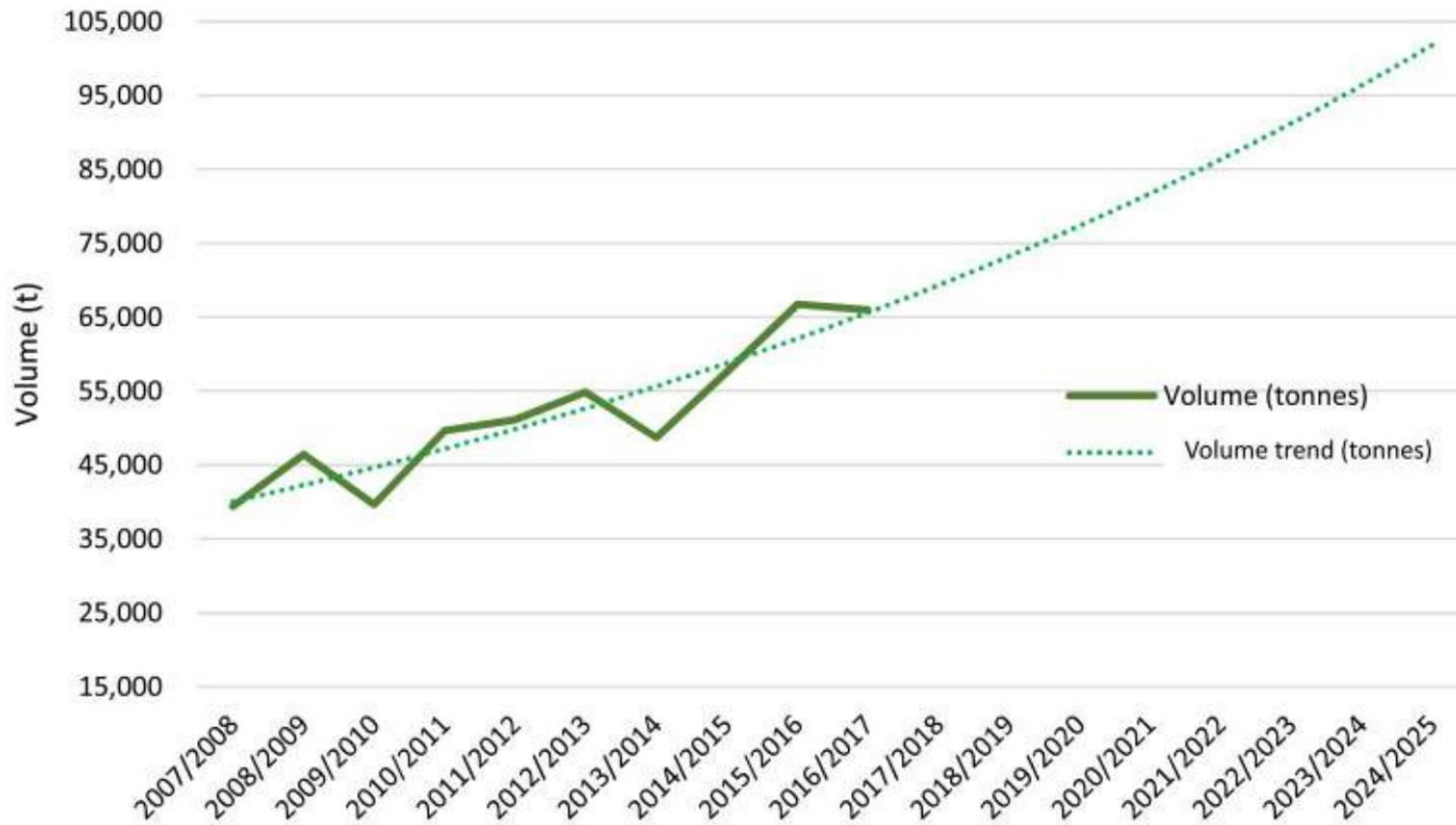




# *Australia's production is increasing to meet growing demand for our customers*



Australian avocado past ten years production with forecast trend to 2025



# *Our main varieties*

## *Hass*



- The most common variety grown in Australia
- Oval shape and pebbly, textured skin
- Skin changes colour from green to purple-black as it ripens
- Available nearly all year-round
- Creamy texture and taste

## *Shepard*



- Shepard avocados are available February to April every year
- Elongated fruit with smooth, glossy green skin
- The skin always stays green, even when ripe
- Nutty flavour and buttery texture
- Flesh stays green when cut, so good to use in salad and wraps

# Australia offers 12 months supply

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	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

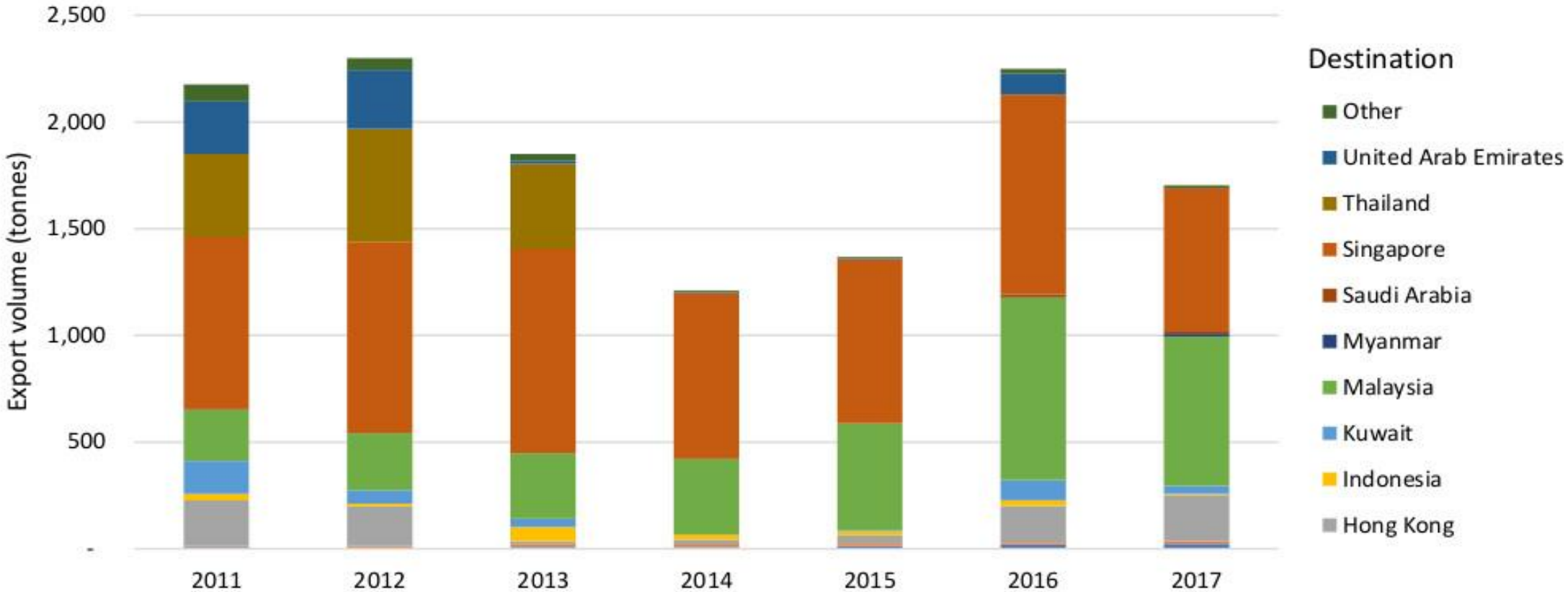
\* The Tri-State area includes production in the Sunraysia and Riverland regions which together cover parts of Southern NSW, Victoria and South Australia.

Hass variety     Shepard variety



# *Export market for premium Australian avocados are important and growing*

Volume of exports from Australia by destination 2011-2017



Source: IHS Global Trade Atlas (2018)





# ***Demand for avocados is increasing because avocados are....***

- Healthy
- Versatile in the ways they can be used
- Can not be easily substituted
- Marketing & promotion
- Year round supply
- Improved retail quality



# **Avocados are a great source of nutrition**

*for toddlers, expecting mothers, and older people*

**HEALTHY REASONS  
TO EAT AVOCADOS**

- Nutrient dense – contain a range of vital nutrients needed for a healthy body
- Rich in Vitamin C & E
- Help maintain a healthy appetite
- Contain good fats
- An excellent source of folate
- Good source of fibre

# ***Avocados are versatile***

- Smoothies
- Salads
- Wraps
- With seafood – fish and prawns/shrimps
- Stir fry
- Pizzas / burgers
- Breakfast – on toast
- Dessert





# When to use avocados



**FIRM RIPE**  
Ready to eat and perfect to:

**CUBE**  
**SLICE**  
**SPOON**



**SOFT RIPE**  
Ready to eat and perfect to:

**SPREAD**  
**MASH**  
**MIX**





# Avocado consumers are changing retail

## The facts

1. Influence on where people choose to shop

Avocados influence where **39%** of heavy users shop and 20% of light users  
*(Hass Avocado Board)*



2. In the produce department...

Avocados #2 in leading retailers and targeting #1 (bananas)



3. What Australian consumers say...

**77%** want avocados for immediate use



Source: Applied Horticultural Research, Hort Innovation Project.



## ***Interesting fact!***

An avocado will not start ripening until it is picked from the tree

# ***Maturity and ripeness***



## **Maturity**

- Is measured at harvest by the % of dry matter in the fruit
- Standard: Hass fruit >23% dry matter – fruit will have the best taste

## **Ripeness**

- Is measured by the firmness of the fruit
- As the fruit ripens it becomes softer
- Ethylene is the naturally occurring compound that triggers the ripening process
- In commercial supply chains, fruit is usually treated with ethylene to promote uniformity of ripeness in a batch of avocados



# When is an avocado ripe?



- Colour is an indicator of ripeness for Hass, but it can be deceptive
- Firmness is the best indicator of ripeness
- Fruit is best consumed when it has some slight give when pressed at the stem end at firm-ripe or soft-ripe stage
- Over-ripe fruit becomes too soft and is not suitable for consuming

# Why is fruit of the same ripeness a different colour?



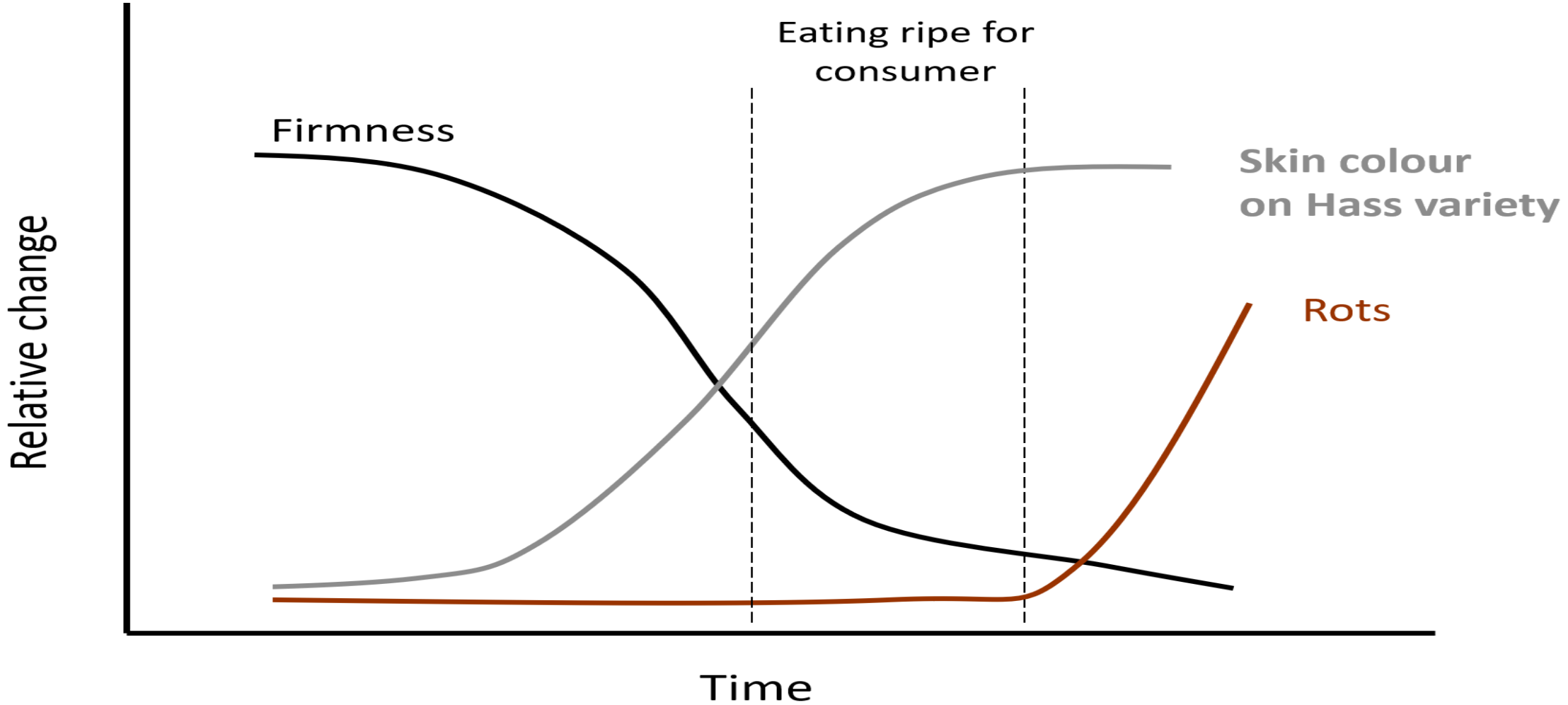
Less mature, early season fruit or fruit ripening during storage at low temperature



More mature fruit develops dark skin at correct ripening temperature (16° - 20°C)

Fruit at the same stage of ripeness (firmness) from different batches can have different skin colour

# Changes occurring during ripening

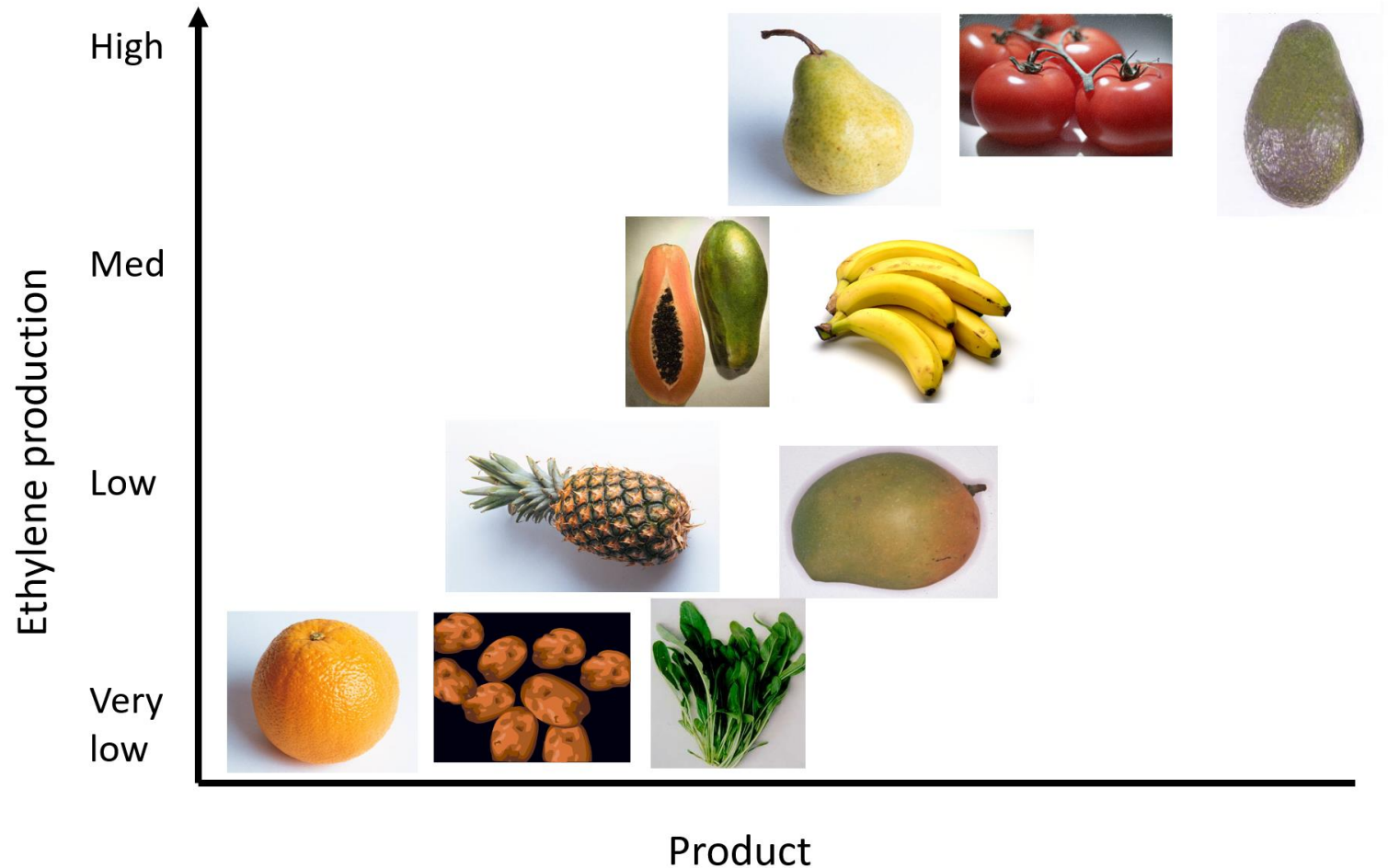


Source: DAF Queensland



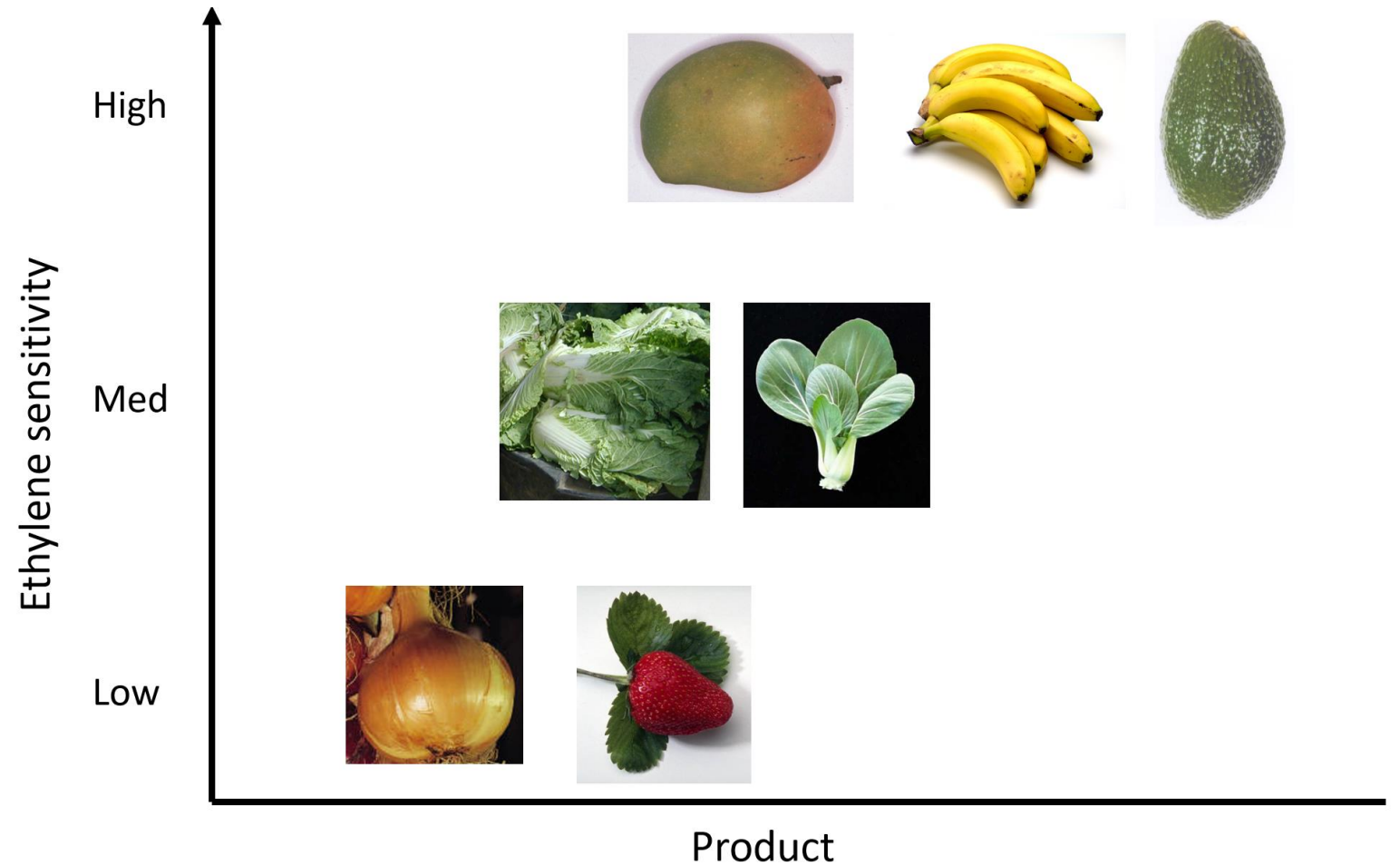
# Ethylene production in fruit

- Compared with other fruits, avocados produce high levels of ethylene as they ripen



# Ethylene sensitivity

- Avocados are also highly sensitive to ethylene
- Small amounts of ethylene can trigger ripening



# ***What reduces consumers satisfaction?***

## ***#1 - Poor quality***

- Bruising
- Rots
- Immature fruit
- Vascular browning
- Flesh discolouration
- 'Stones' in fruit
- Unripe fruit





# Defects: External and internal



Skin spotting



Dark patches



Field blemish



Fruit rots



Poor skin colour of Hass



Body rot



Bruising



Grey/brown flesh



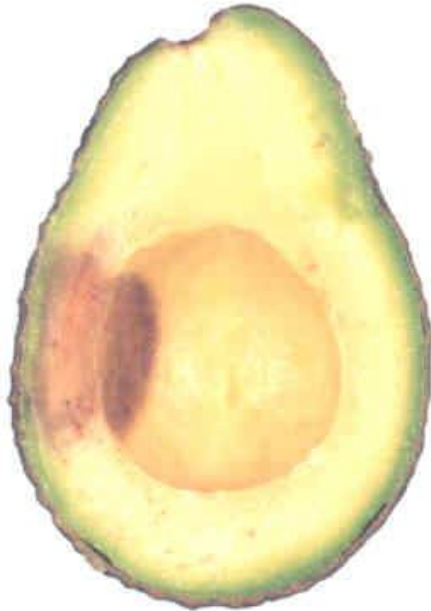
Vascular browning



'Stones' in flesh

# Bruising

Impact



Rough handling

Pressure

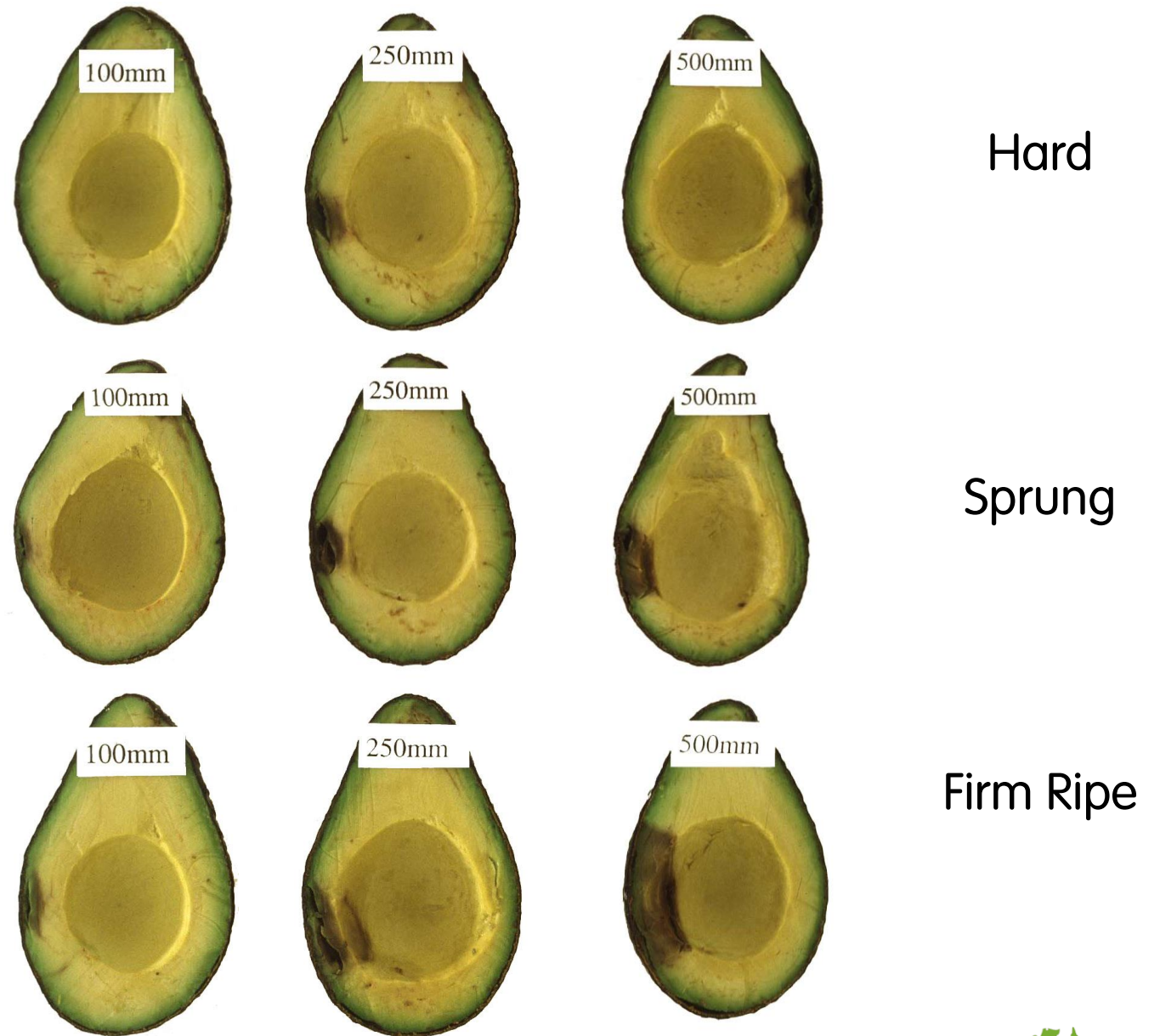


Overpacking, package collapse, base sag

# ***Bruising damage depends on....***

- drop height
- stage of ripeness

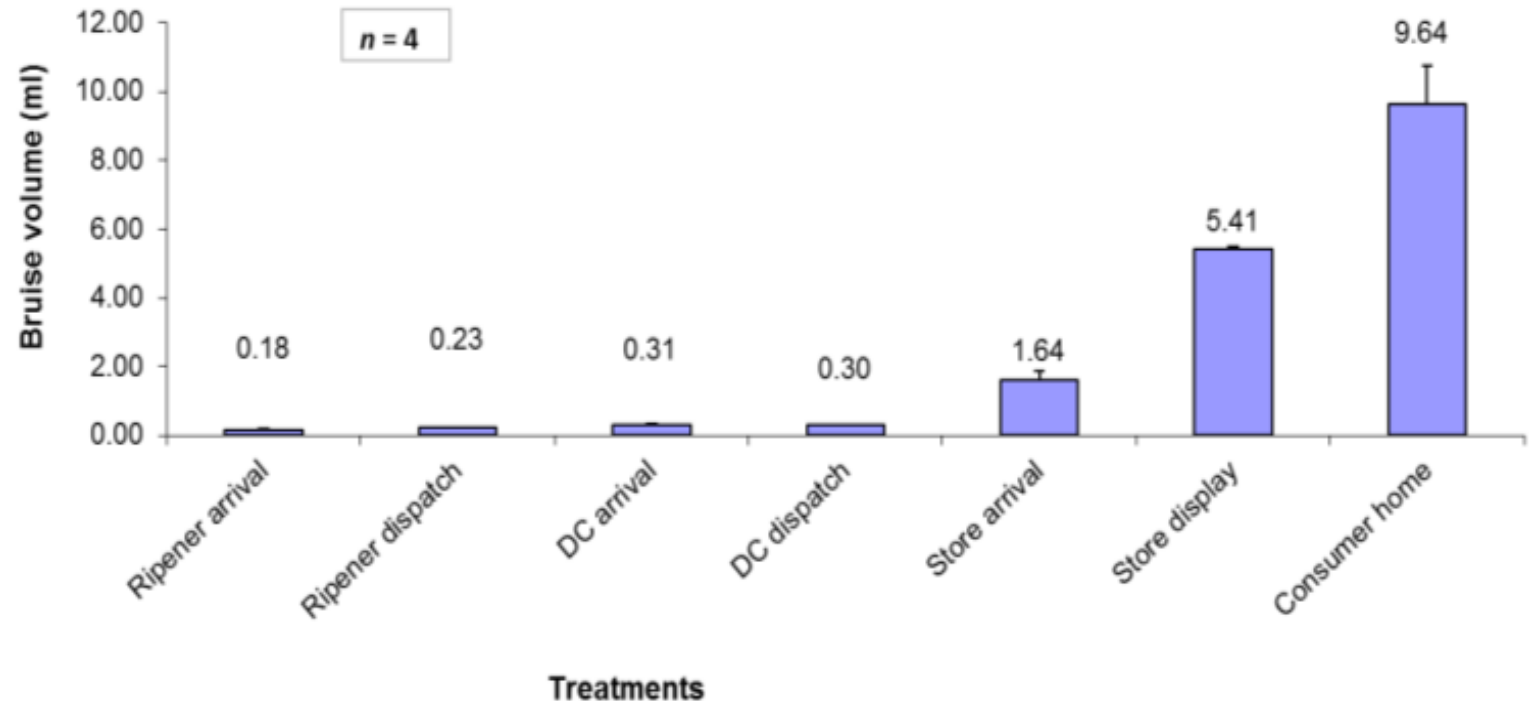
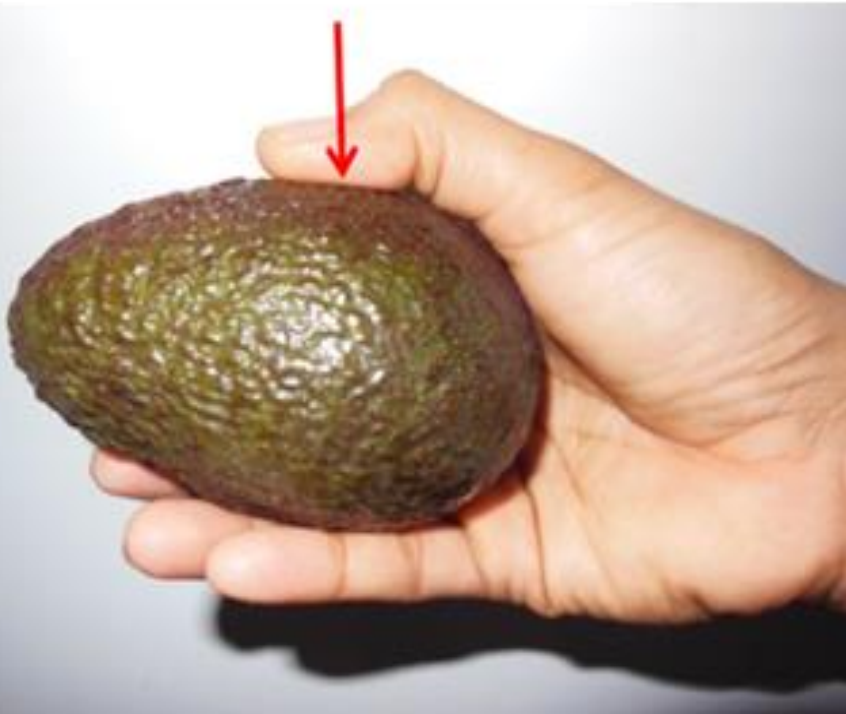
Softening fruit is very susceptible to bruising





# Most bruising occurs on the store display and at home

Thumb compression



# *Temperature and time related quality issues*

## Grey-brown flesh

*Cause:* Ripening fruit stored too cold

Don't hold ripening fruit below 16°C



# *Temperature and time related quality issues*

## Vascular browning

*Cause:* Fruit stored for too long before ripening

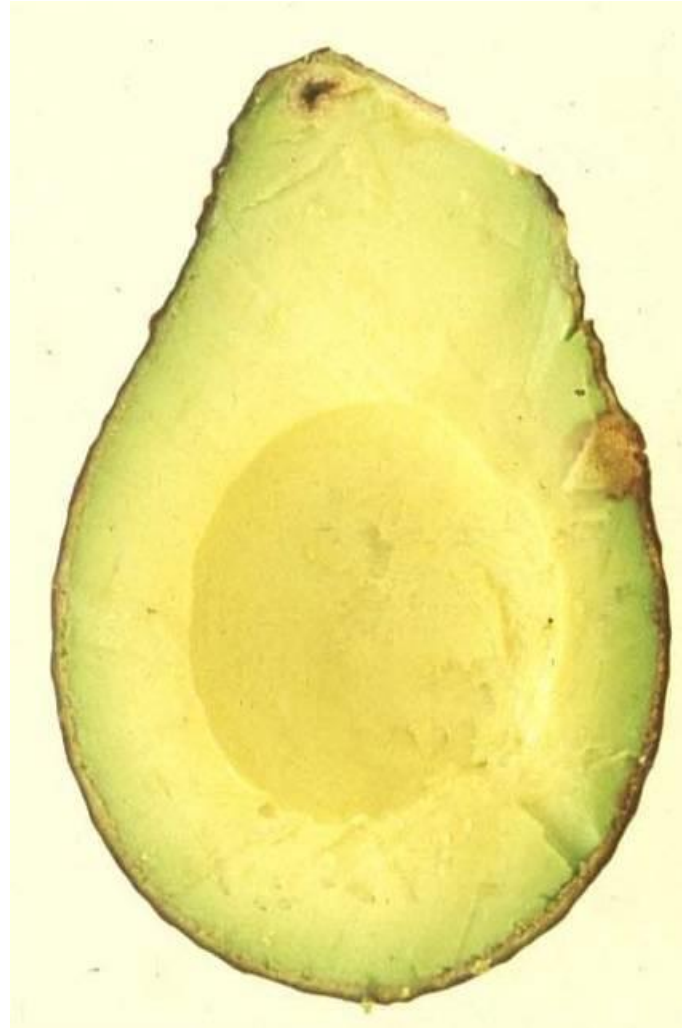




# *Other occasional quality issues*

## *'Stones' in the flesh*

*Cause: Spotting bug damage during fruit growth*



# *Other occasional quality issues*

## **Skin injury**

*Cause:* Damage during packing



# *Managing and handling avocado at store*

Treat avocados  
gently

Check the quality  
and ripeness of fruit  
you are receiving



Ideally store ripening  
avocados  
@ 16-20°C

Ensure there is good  
airflow between  
stored cartons

Only store avocados  
for a short time (2-4  
days)

Test ripeness by  
gently pressing the  
stem end

If you have  
questions, ASK



# *Increasingly consumers want....*

Choice:

- Hard green avocados
- 'Ripe to eat' avocados – and help identifying these

Good quality avocados  
that taste great



***Consumers  
want  
ripe and ready  
to eat  
avocados ....***

**australian avocados  
ripe and ready to eat**



[www.australianavocados.com.au](http://www.australianavocados.com.au)



# Avocado ripe and ready to eat R&D findings in Australia

- **What Australian consumers say: If industry could improve one thing:**

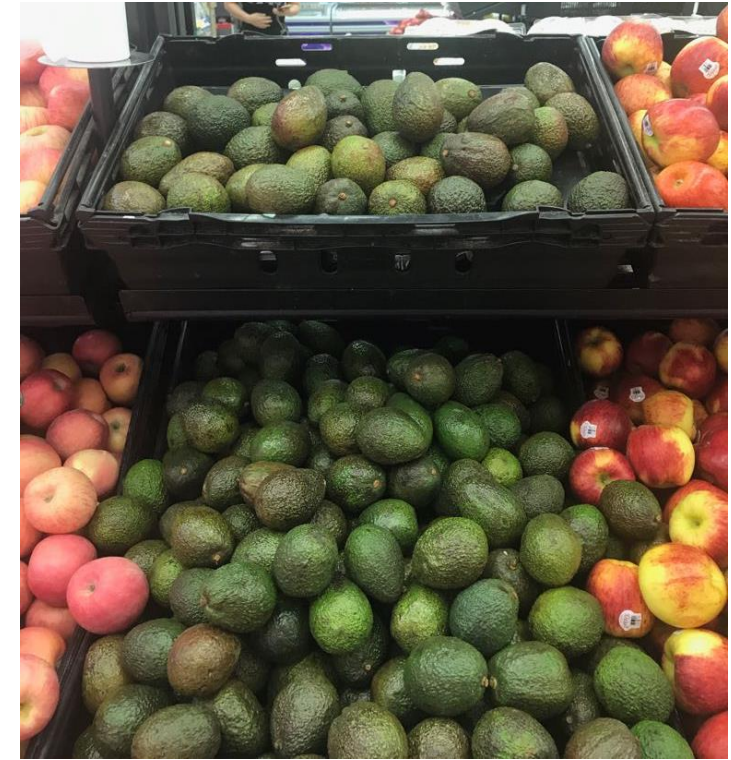


Source: Applied Horticultural Research, Hort Innovation Project.

# *Managing 'ripe' avocados at retail – what we want to see*







***What we don't want to see***



# Point-of-sale material

如何挑選澳洲牛油果？  
以牛油果的外皮顏色作分辨

choosing your  
use colour



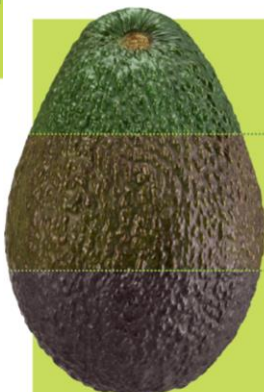
等待2-3天  
wait  
2-3 days

未成熟：呈青綠色  
可多等待2-3天直至其成熟才享用  
hard: olive green  
wait 2-3 days before eating



## 如何挑選成熟的澳洲牛油果？

Hass牛油果的外皮顏色會因應其成熟程度而有所轉變。  
所以牛油果的外皮顏色是分辨其成熟程度的最佳準則。  
牛油果最佳的品嚐時刻為其開始成熟(呈墨綠色)至成熟(呈紫棕色)的階段。



未成熟：呈青綠色  
可多等待2-3天

開始成熟：呈墨綠色  
隨時享用，適用於製作沙律或即食  
切成粒狀 | 切成片狀 | 即切即食

成熟：呈紫棕色  
隨時享用，適用於製作冰沙或牛油果醬  
搗成泥 | 製作牛油果醬 | 攪拌

## 牛油果的營養價值

- 豐富營養**  
牛油果蘊含多種營養有助維持健康身體
- 豐富維他命C和E**  
蘊含抗氧化維他命C和E
- 蘊含好脂肪**  
蘊含高度的單元不飽和脂肪酸
- 豐富膳食纖維**  
有助維持健康的消化系統

可放置於室溫保存直至其成熟，成熟後放入雪櫃可保存最多2天



切成粒狀製作沙律



切成片狀製作三文治



即切即食



搗成泥用來作捲餅的抹醬



製作牛油果醬



製作牛油果冰沙

如欲觀看更多牛油果食譜，可以進入以下網址：  
[australianavocados.com.au](http://australianavocados.com.au)

## 澳洲牛油果 簡易健康好煮意



### 牛油果南瓜沙律

份量：4人  
烹調時間：20分鐘

- 材料：
- 大牛油果 1個 / 細牛油果 2個 (切開去核起肉切粒)
  - 南瓜 500克 (去皮去籽並切粒)
  - 鹽及胡椒 適量
  - 橄欖油或其他沙律油 2湯匙
  - 菠菜或唐生菜 2-3碗 (約100克)
  - 青檸汁或香醋 1湯匙

- 做法：
- 預熱焗爐至200°C。於烤盤上放上烘焙紙，倒下1湯匙的油並將南瓜鋪面，再以鹽和胡椒調味。
  - 焗約20分鐘或見到表面呈金黃色後，可將南瓜反轉至另一面焗至軟身便可。
  - 將焗好的南瓜、菠菜及牛油果放置於一個大碗上，加入適量青檸汁和餘下的油並一起攪拌。完成後請立即食用。

## australian avocados ripe and ready to eat



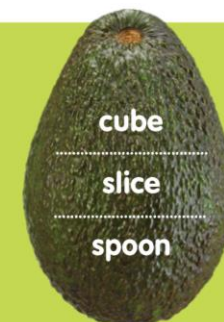
[www.australianavocados.com.au](http://www.australianavocados.com.au)

## choosing your australian avocado use colour as your guide



wait  
2-3 days

hard: olive green  
wait 2-3 days before eating



cube  
slice  
spoon

firm ripe: green black  
ready to eat



spread  
mash  
mix

soft ripe: purplish black  
ready to eat



for delicious recipes and fresh serving ideas  
visit [australianavocados.com.au](http://australianavocados.com.au)

# *Avocado Ripening and Handling - A Video Guide for Retailers*

- <https://www.youtube.com/watch?v=zZZW7YmXak8>





# *Managing avocados on display*

- Don't tumble fill displays
- Don't stack fruit more than 2 layers deep
- Regularly check display and stock levels
- Identify ripe fruit with stickers or signage
- Display the ripest fruit on top and towards the front
- Discard avocados that are over-ripe or damaged
- If you have issues ask for help





# *How to cut an avocado*



## ***How should consumers ripen avocados at home***

- Put ripening avocados in the fruit bowl (not the refrigerator)
- To ripen fruit quicker, put it in a brown paper bag with a banana or apple (these fruit release natural ethylene to trigger ripening)
- Once avocados reach the desired level of ripeness (softness) they can be refrigerated for 2 to 3 days if they are not being used immediately





Supported by:



**Australian Government**  
Department of Agriculture,  
Fisheries and Forestry

*Thank you for your attention ..*

*Any questions?  
Contact Avocados Australia at  
[admin@avocado.org.au](mailto:admin@avocado.org.au)*

