

# How can we generate real value from better tasting citrus fruit?

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## Basic Concept # 1:

Consumers actually eat our fruit!

Certainly fruit must look good, but for return purchases fruit must taste good.



## Basic Concept # 2:

If we are going to increase consumption of citrus, our fruit must always eat well.

We need to entice people back to eating more citrus.. or just citrus at all!



# Our talk today

- Why the need for quality standards?
- What are other industries doing?
- How do we know what consumers really want?
- How can technology help us?
- What are the Australian Citrus Quality Standards all about?
- An ACQS progress report on the 2011 season
- Future plans for locking into an **industry culture of quality**



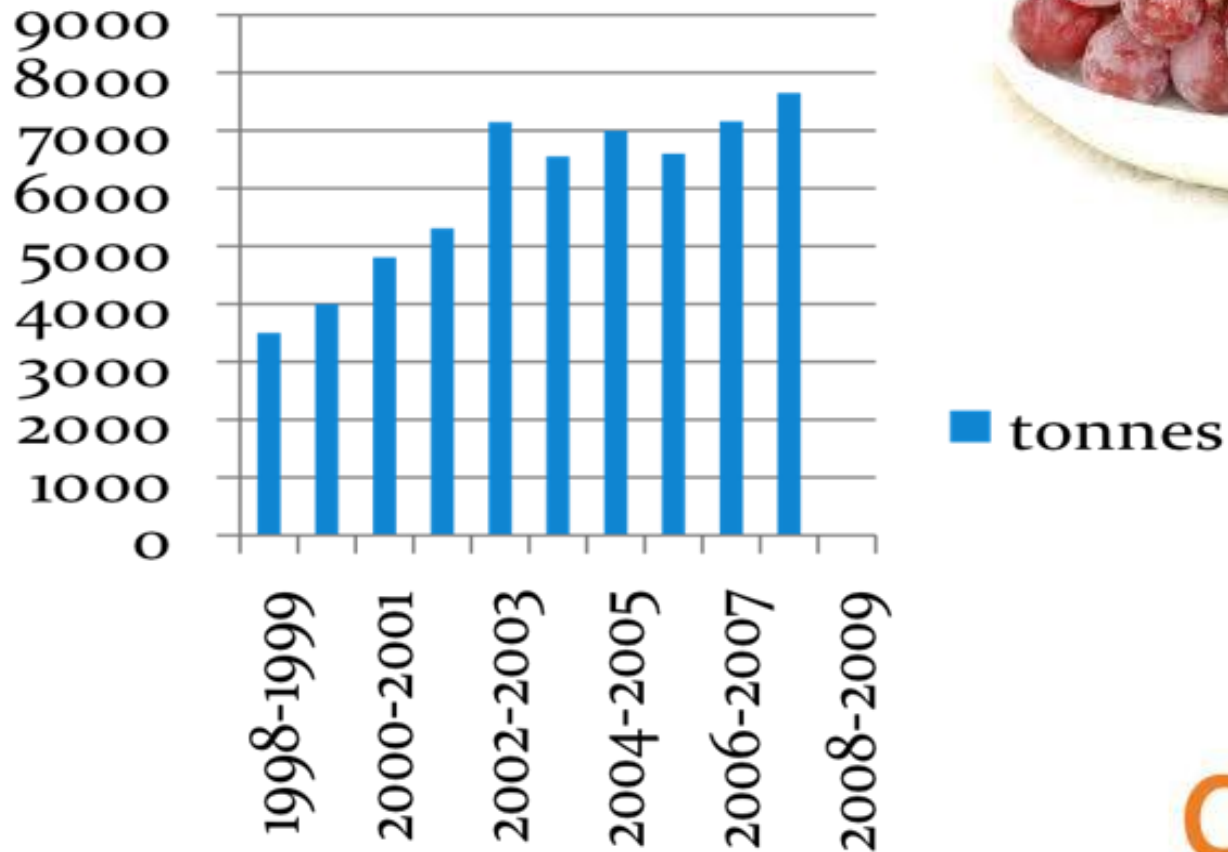
# Why worry about citrus taste?

- Citrus has good market penetration but needs to increase volumes purchased at each sale (Nielsen)
- Widespread dissatisfaction with early season fruit (consumers & retailers)
- Early season high prices give the wrong market signals to growers/packers
- Retailers have approached industry for guidance on national maturity standards, seasonality & volumes – a value chain approach



# Success story: WA table grapes

## W.A Domestic Production



# California re-thinks the Brix:acid ratio

- Consumption of Californian fresh oranges has fallen by 23% since 1987
- Missed market opportunity = 3 lbs oranges per person = US\$108 million
- The main problem: inconsistent eating quality (especially early season)
- Two-pronged approach:
  1. Large-scale consumer study to find what people really liked
  2. Finding a better way to measure eating quality



# Large-scale orange taste study in Chicago, 2008 (400 consumers)

## Hedonistic Scale

Dislike extremely

Dislike very much

Dislike moderately

Dislike slightly

Neither like or dislike

Like slightly

Like moderately

Like very much

Like extremely



## The results were revealing..

- At 8:1 ratio less than 15% of consumers rated oranges as 'acceptable'
- Raising the ratio to 9:1 only increased 'acceptable' rating to 30%
- At 9:1 ratio less than 25% of people only 'liked slightly'
- After a negative eating experience 43% would wait before purchasing oranges again
- 43% would purchase fewer oranges than usual

## But after a positive eating experience..

- 90% would repeat purchase at the store
- 59% would purchase more than usual
- 66% would purchase more frequently
- This study showed that Brix minus acid is a better predictor of taste preference than Brix:acid ratio



# What is the California Standard?

The testing procedure is exactly the same as for Brix:acid ratio

1. Juicing
2. Brix reading
3. Acid titration

But the calculation is different:



California Standard =  $(\text{Brix} - (\text{acid} \times 4)) \times 16.5$

Brix:acid ratio = Brix divided by acid

# Should we be raising our standards?

- At California Standard of 90, 50% of consumers rated fruit as 'acceptable'
- California Standard of 90 equates approx to 10:1 ratio
- Reminder: at 9:1 ratio less than 25% of people only 'liked slightly'
- The current ACQS for oranges is 9:1
- Reminder: the success of the WA grape maturity program is based on 75% consumer acceptance

# Should we be raising our standards?

Grapefruit at 7:1 ratio  
- would you really be smiling?



# How can technology help?

- Pre-planting: micro-climate; soil type; variety; rootstock
- In the orchard: crop load; fertiliser; sprays; water; timing of harvest
- In the packhouse: maturity testing; NIR grading; choice of wax



# Australian Citrus Quality Standards – ACQS

- The standards were released prior to the 2011 season
- At present the standards focus on the internal maturity of the fruit: Juice content, Sugar and Sugar to Acid ratio



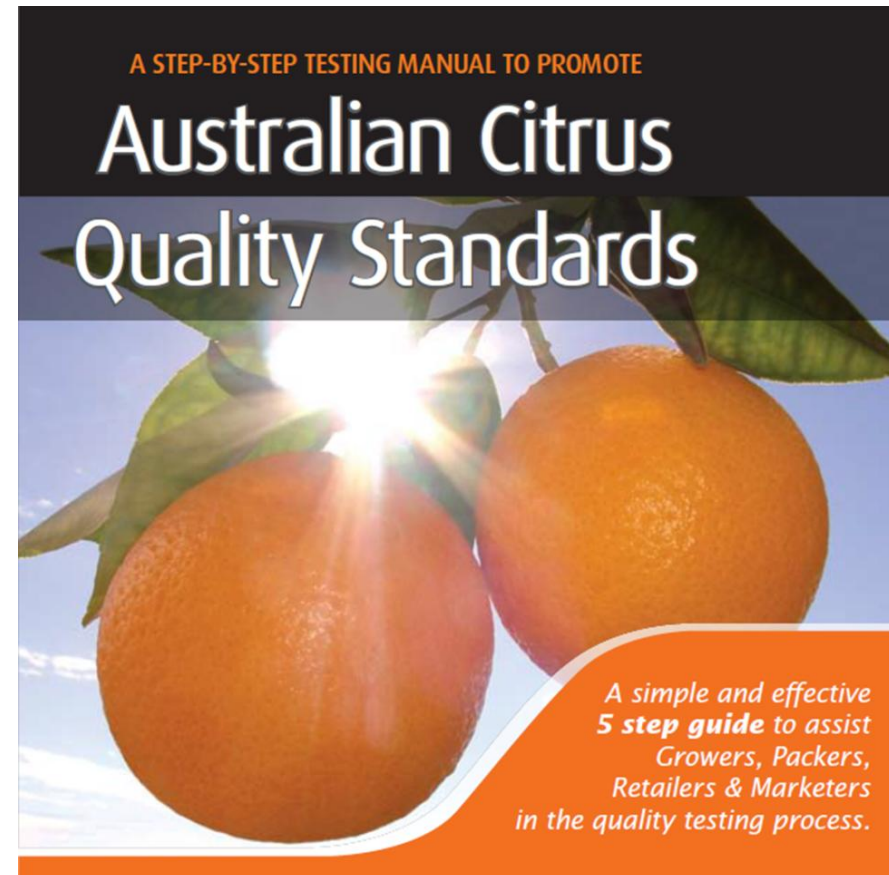
## Boosting citrus sales

- In 2010 Citrus Australia formed a Domestic Market Committee with members from the growing, packing & marketing sectors.
- Key objective:  
increasing demand for citrus
- Two major priorities were immediately set:
  - \* Promotion
  - \* Quality standards



# Progress to date

- Step by step instruction manual
- Downloadable information on our website
- Instructional DVD/CD
- Grower/packer staff training & demos



- Presented at forums and grower meetings
- Continued discussions with major retailers
- Conducted random testing in the market place
- Provided feedback to growers/packers individually
- Provided feedback to all of industry



# What we've heard so far

- Brix : acid ratio
- Increased grower testing
- Marketers
- Retailers
- Growers
- Consumers



## ACQS : Field and Market Reports

<b>ACQS Report</b>	<b>Test conducted by</b>	<b>Target</b>	<b>Report content</b>
Field	Riverina Citrus Murray Valley Citrus DAFWA Citrus Australia Various packhouses	Industry	Test results from each Region – no source shown
Market	Rudge Produce Systems  Australian Peri Ag Labs  Citrus Australia	Industry	Source of fruit & test results – both passes & fails

## The Cold Shoulder – early navels

	Juice %	Brix	Acid	Brix:acid
Sunraysia	45	10.2	1.34	7.6 : 1
Riverina	45	10.4	1.40	7.4 : 1
Riverland	45	9.3	1.16	8.0 : 1
Queensland	48	11.6	0.65	17.8 : 1
California	45	12.2	0.64	20.3 : 1



# What's wrong with this fruit?!



# Quality is the keystone to future success

- Research – must consider effects on quality
- Consumer studies – domestic and export
- Quality Standards must be a management tool

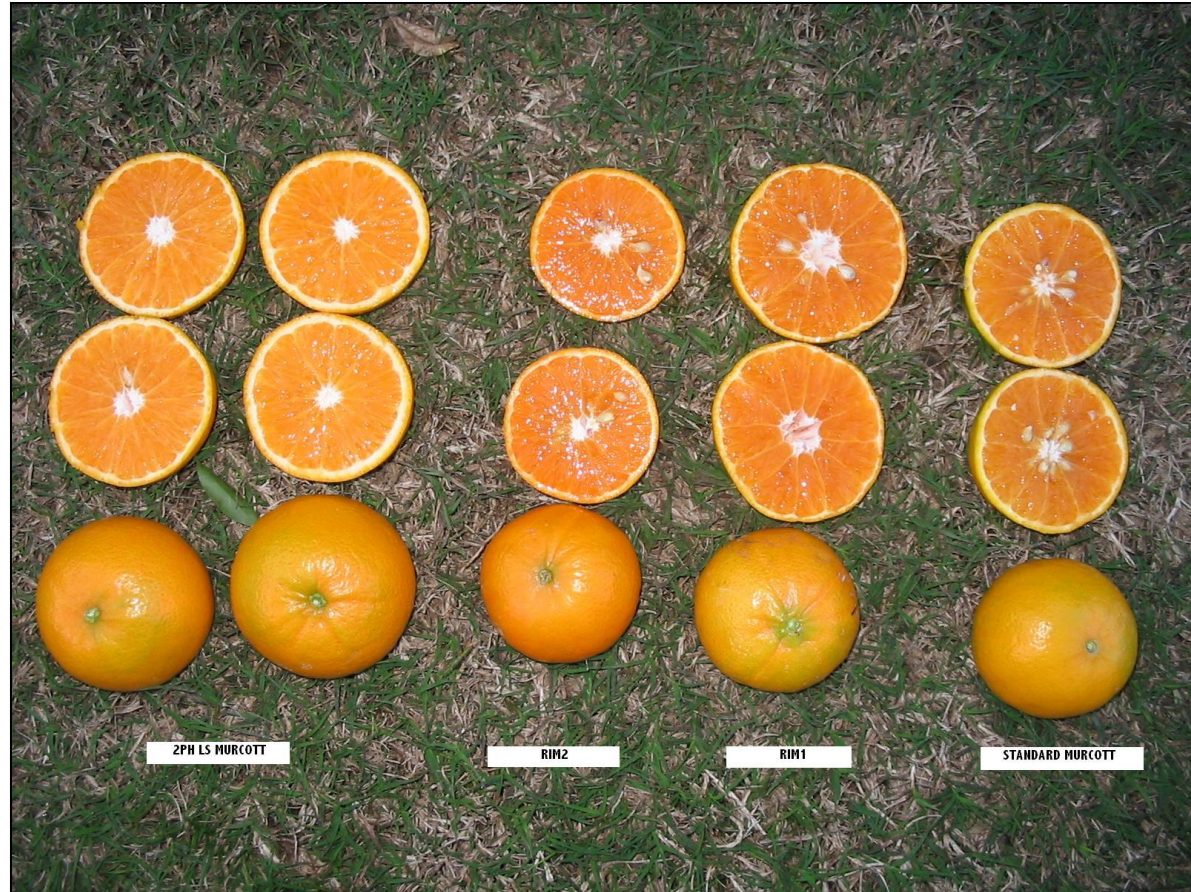


# Why a whole of industry approach to standards?



# Quality issues industry must address soon

- Seeds
- Wax & off-flavours
- Gassing
- Dryness



## In summary

- Increasing consumption is a key objective for Citrus Australia and the Industry Advisory Committee
- Maturity standards are essential for the increase of consumption and demand
- Brix minus acid appears to be a more reliable predictor of appeal to consumers than Brix:acid ratio
- Industry must make sensory analysis a priority in key markets, domestic and export

Making citrus consumers happy..



*Know-how for Horticulture™*

