



Development and direction of new varieties in Australia and internationally

Malcolm Smith, Debra Gultzow and Michael Reid

Australian Citrus Congress, Thursday 7th March 2024

**Hort
Innovation**





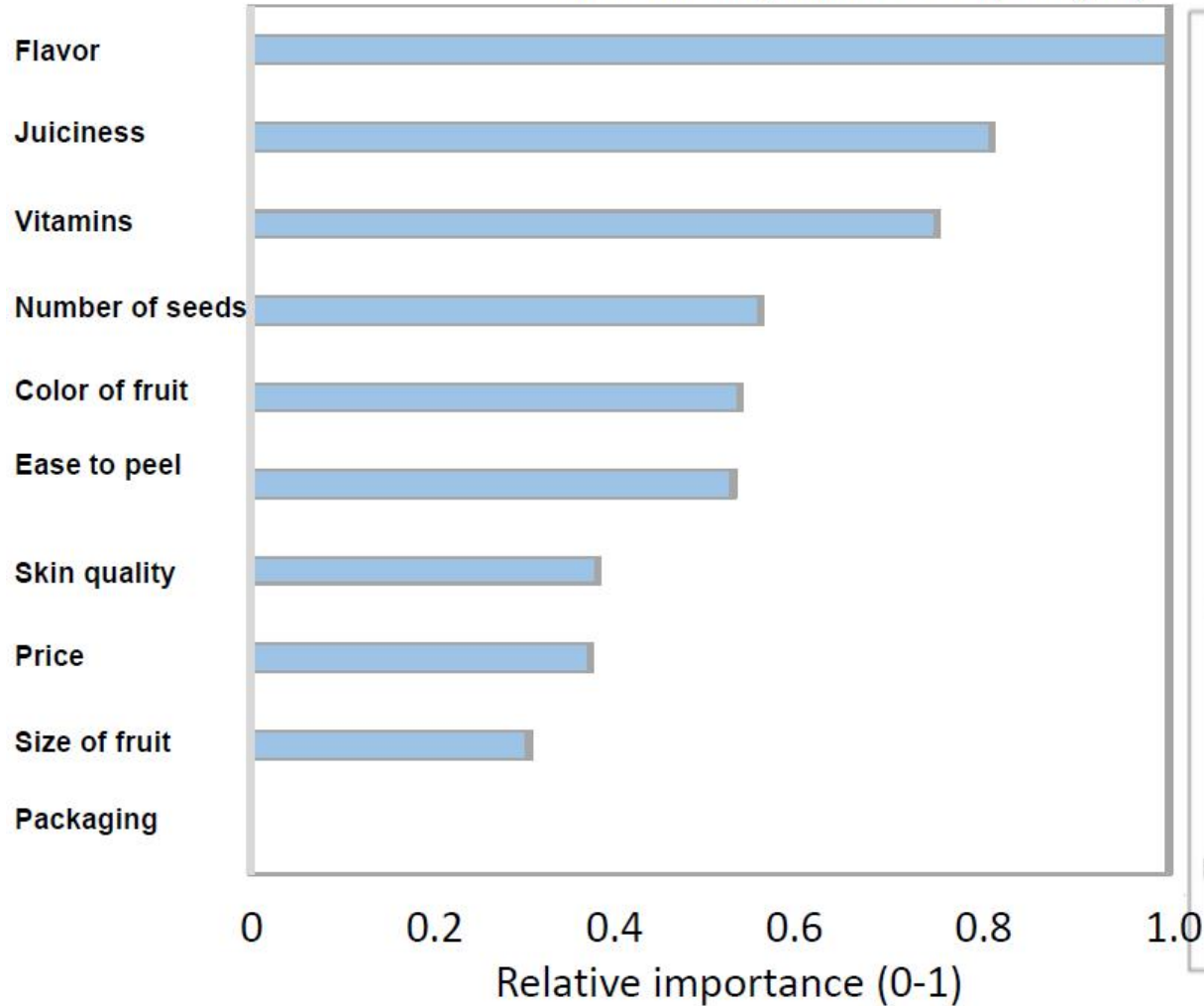
**Consumer preferences as
market drivers**

Sources of new varieties

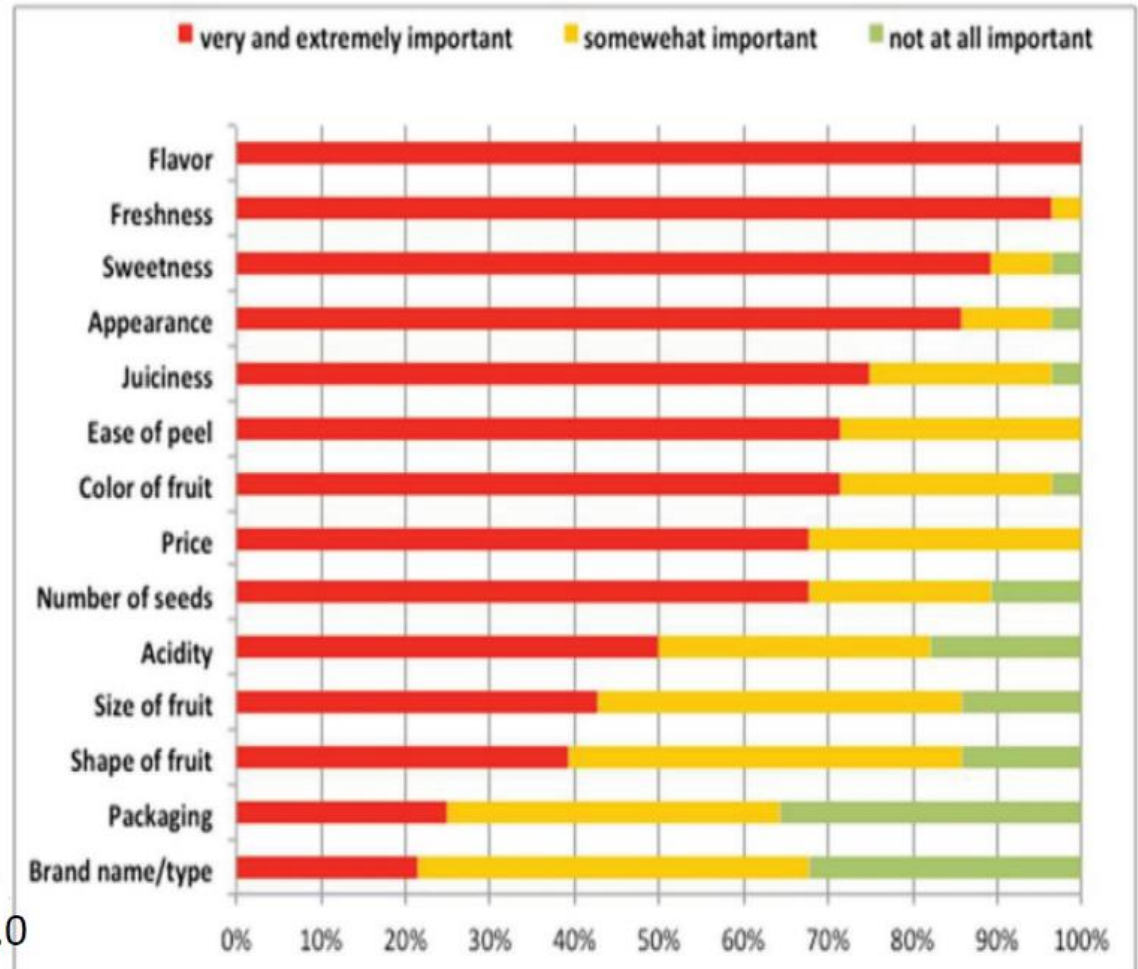
Future trends

Consumer preferences as market drivers

Lado et al. unpublished 2016, Uruguay



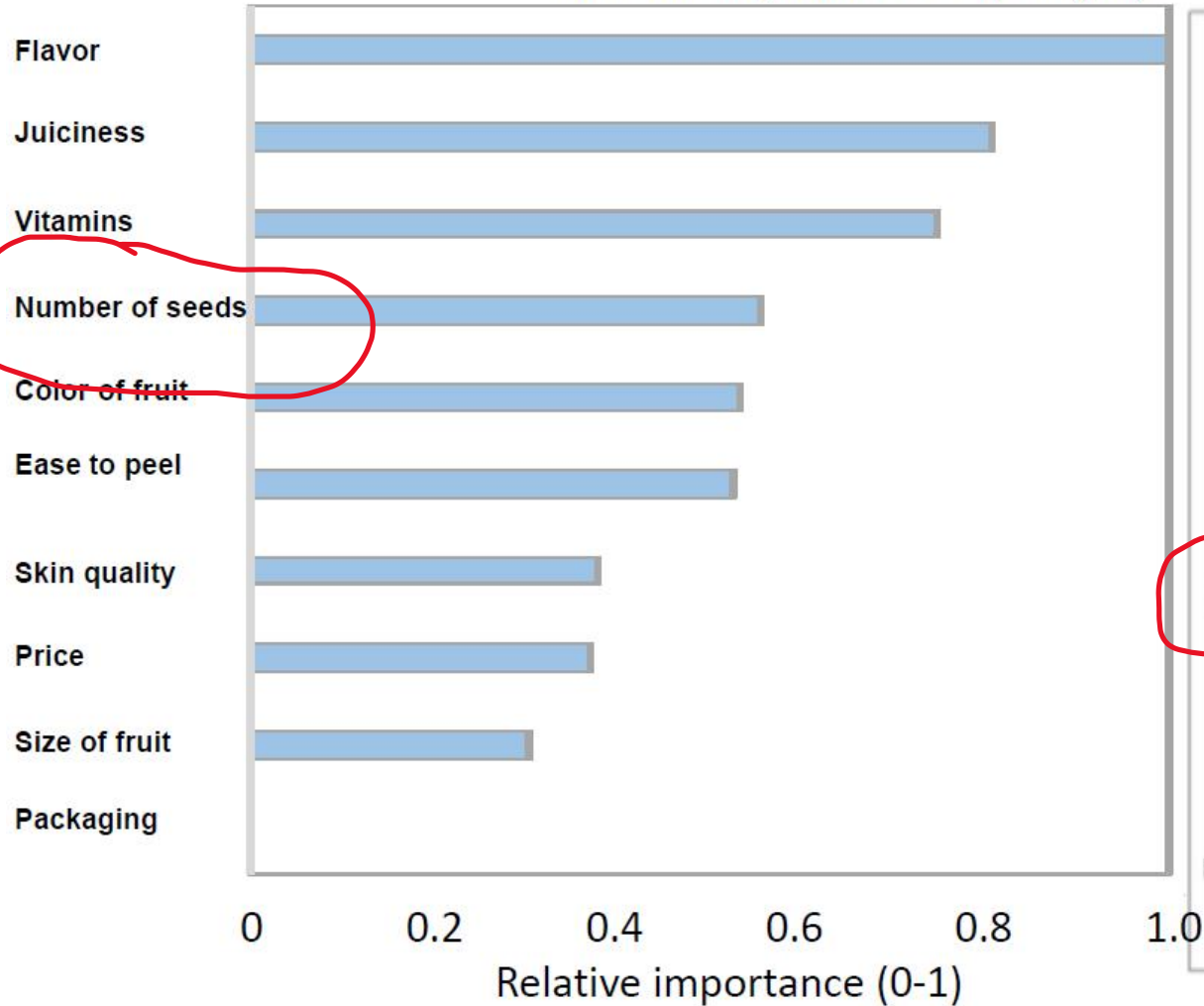
Xiang Bi, et al. 2014, USA



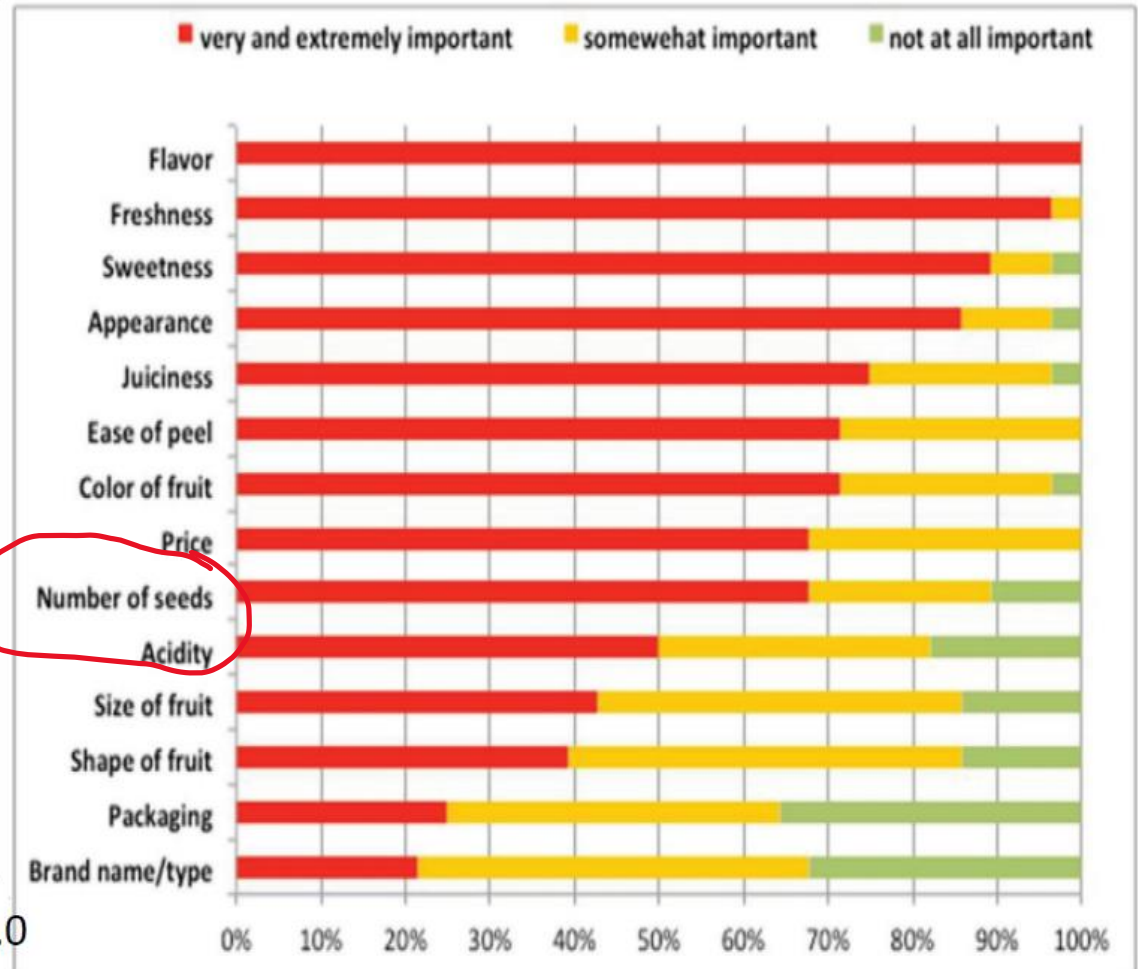
Consumer preferences as market drivers

Does Attitude predict Behaviour?

Lado et al. unpublished 2016, Uruguay

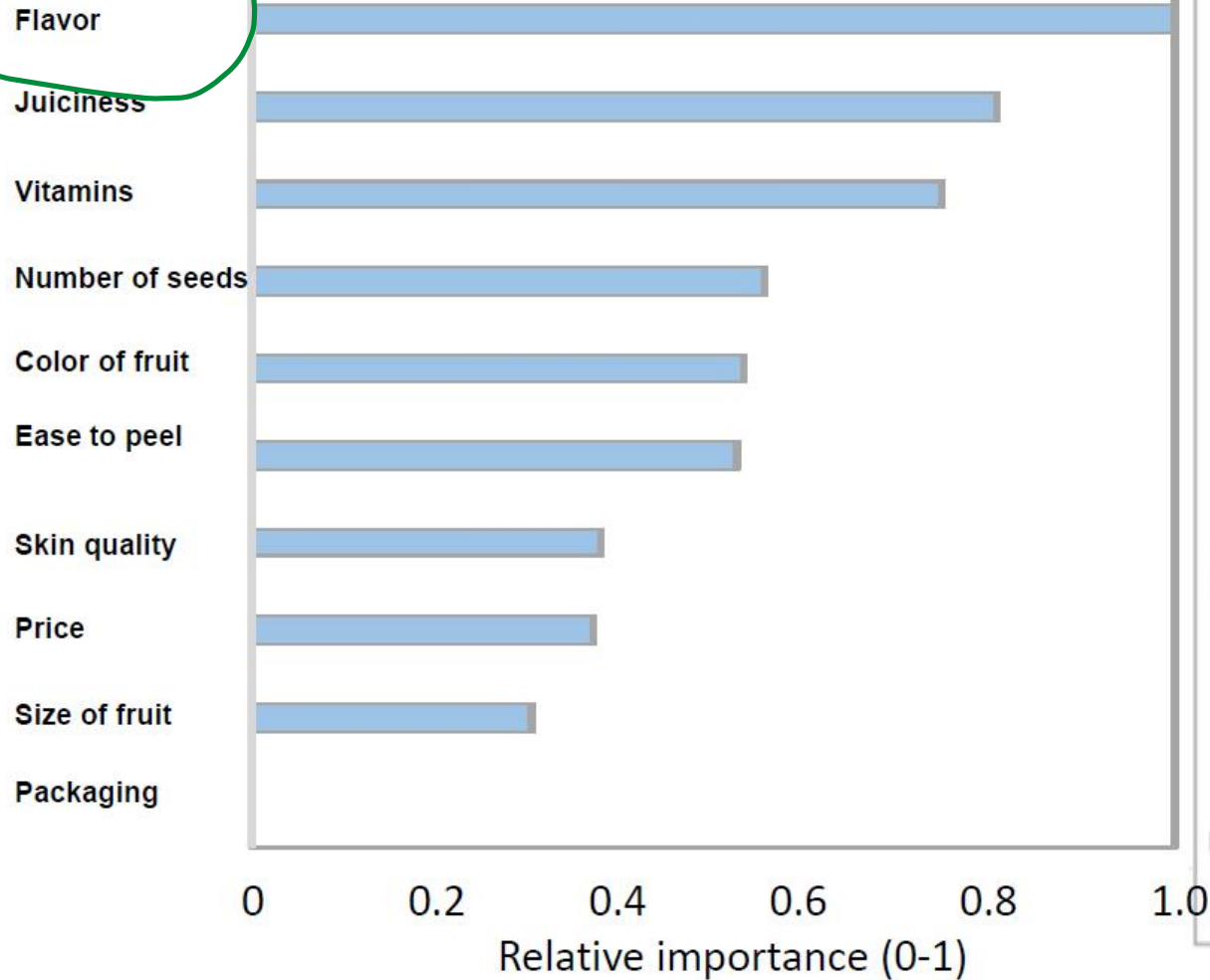


Xiang Bi, et al. 2014, USA

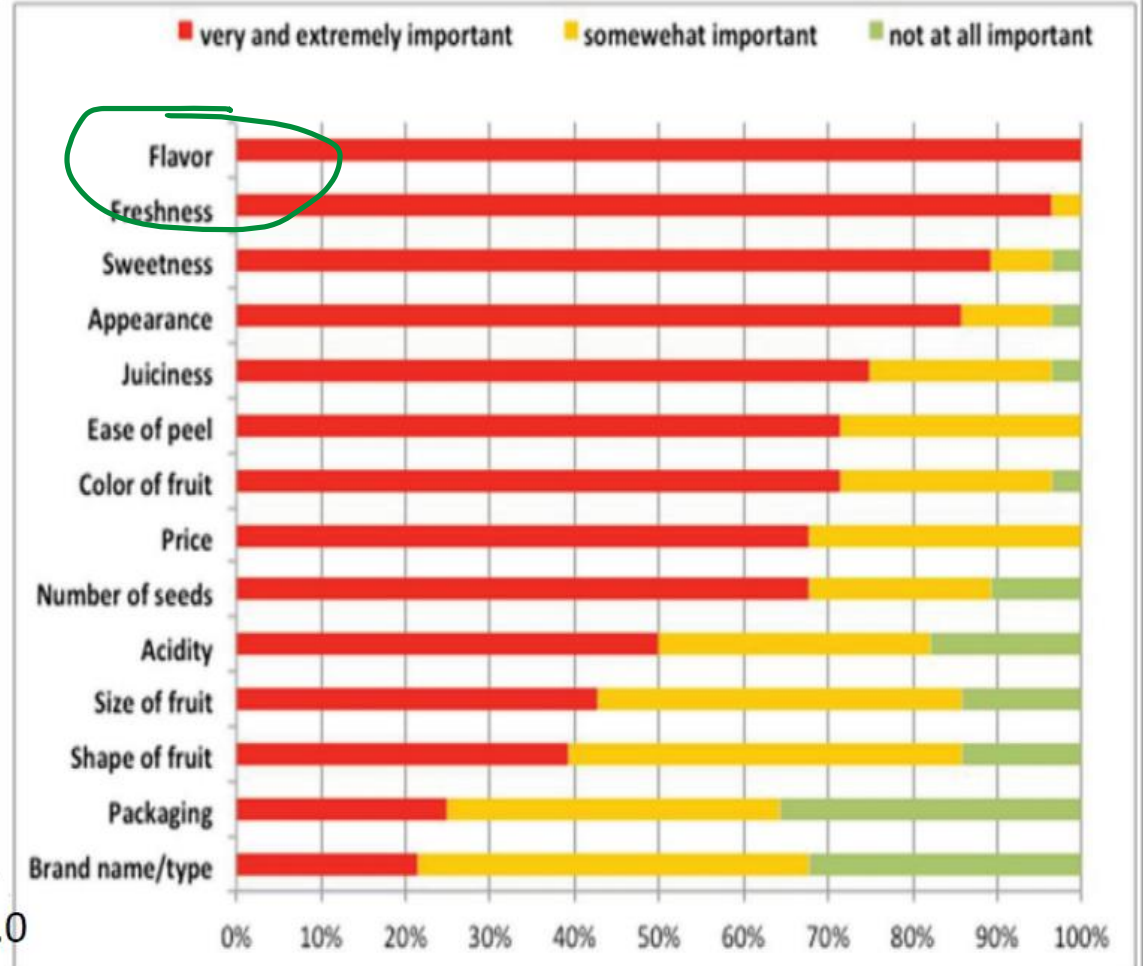


Consumer preferences as market drivers

Lado et al. unpublished 2016, Uruguay

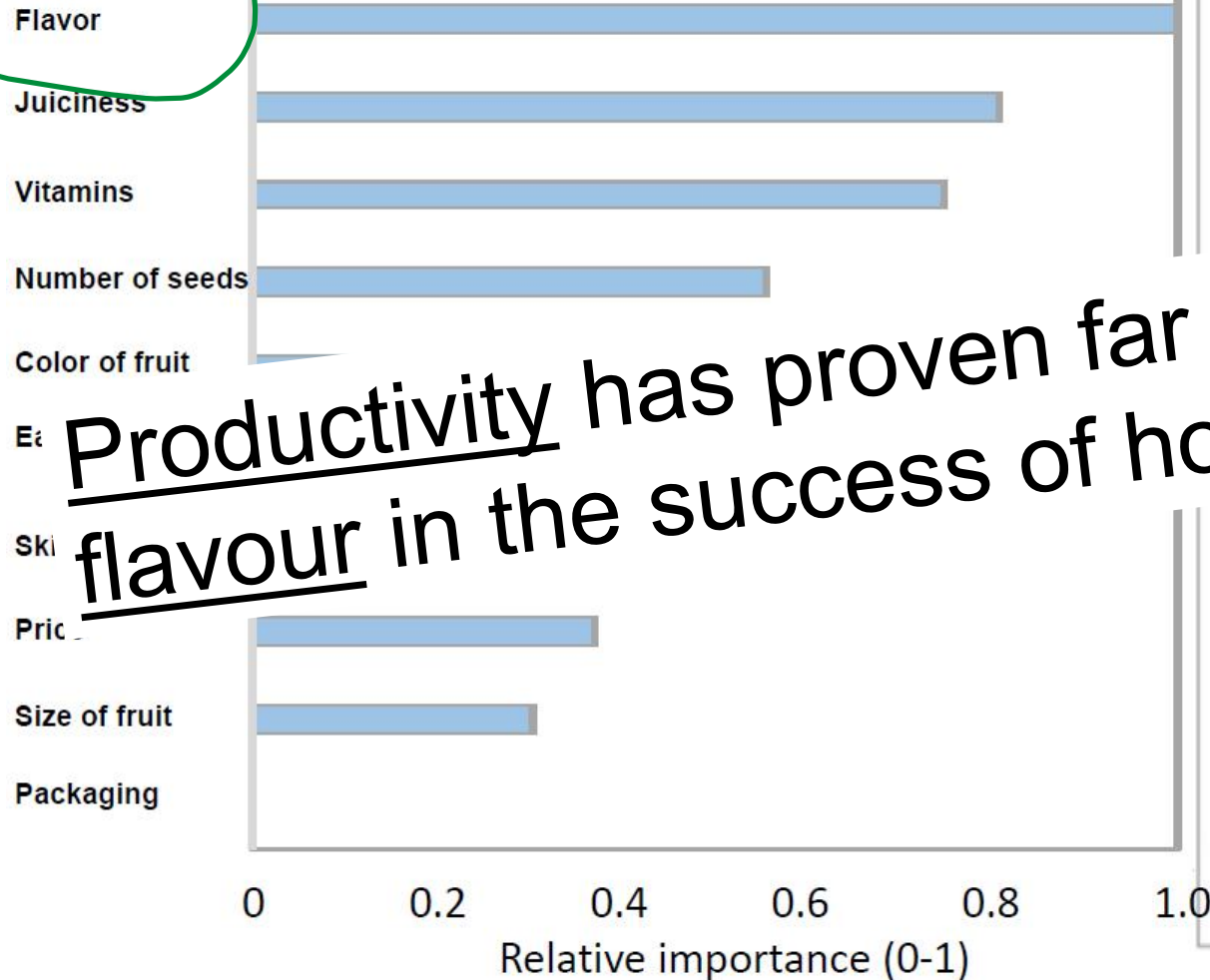


Xiang Bi, et al. 2014, USA

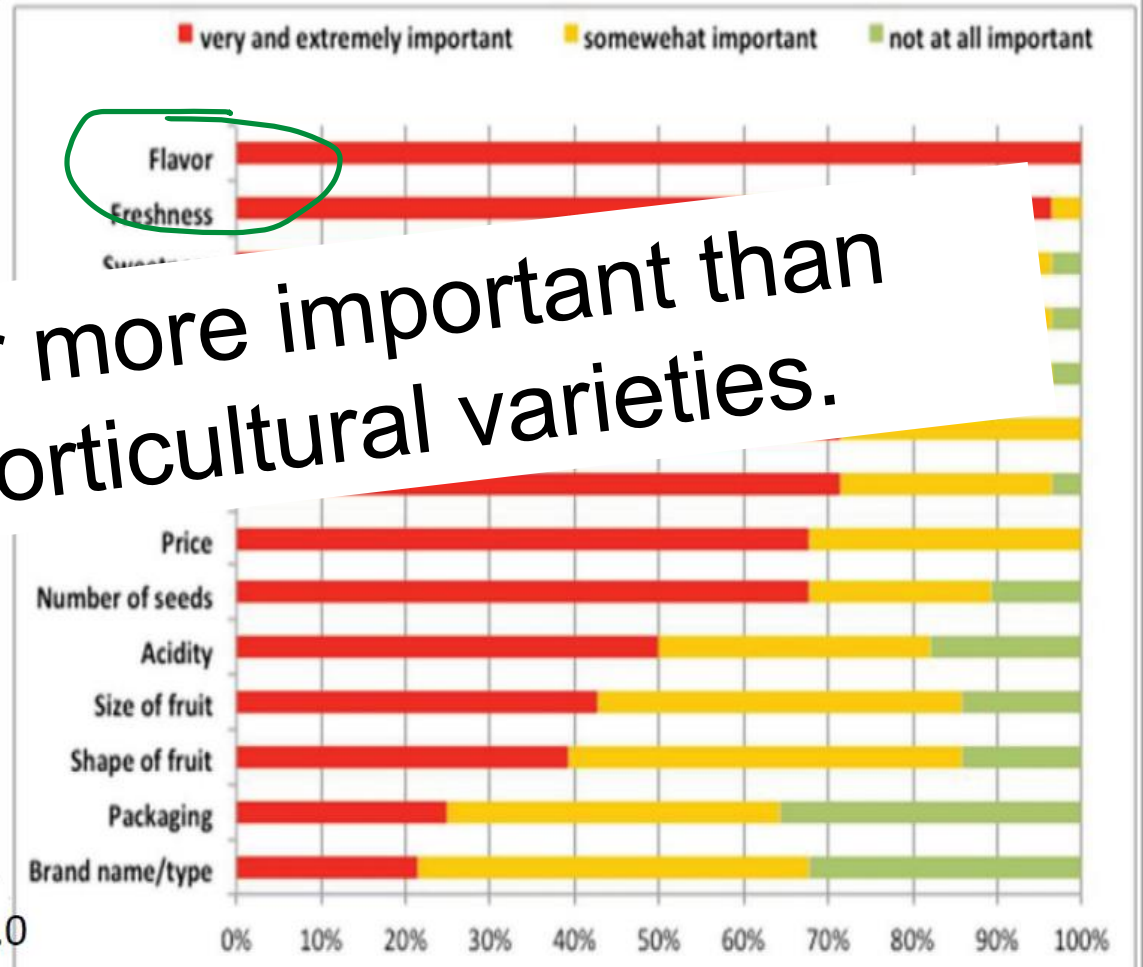


Consumer preferences as market drivers

Lado et al. unpublished 2016, Uruguay



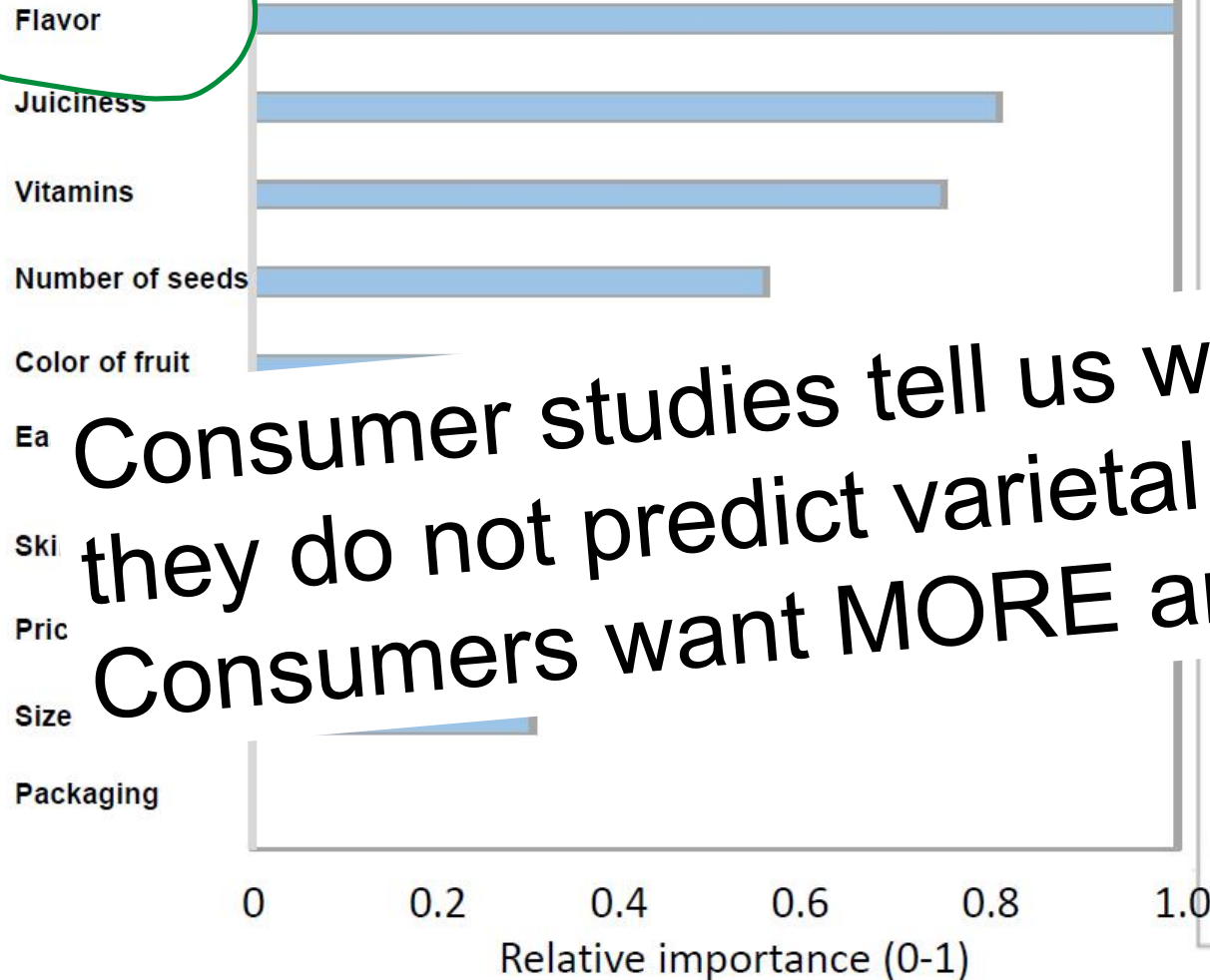
Xiang Bi, et al. 2014, USA



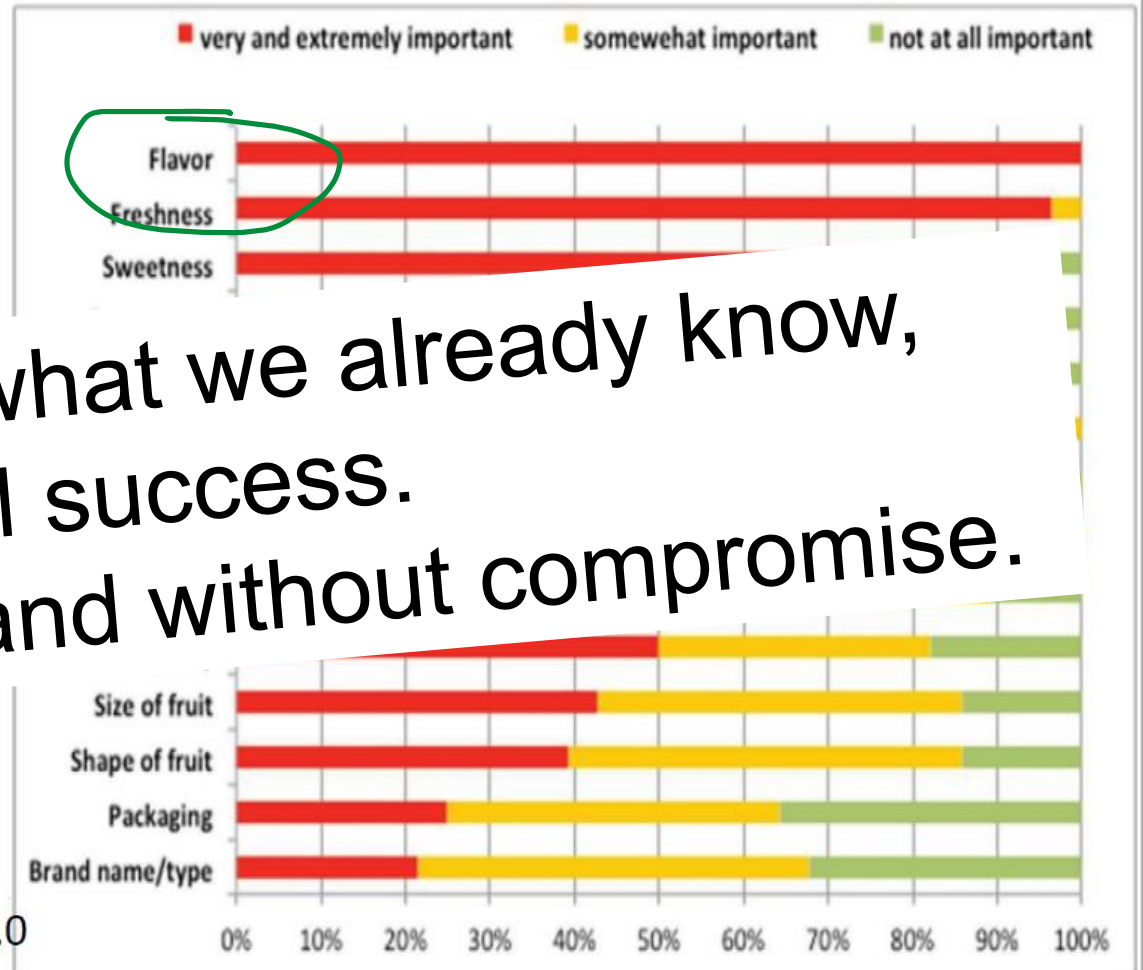
Productivity has proven far more important than flavour in the success of horticultural varieties.

Consumer preferences as market drivers

Lado et al. unpublished 2016, Uruguay



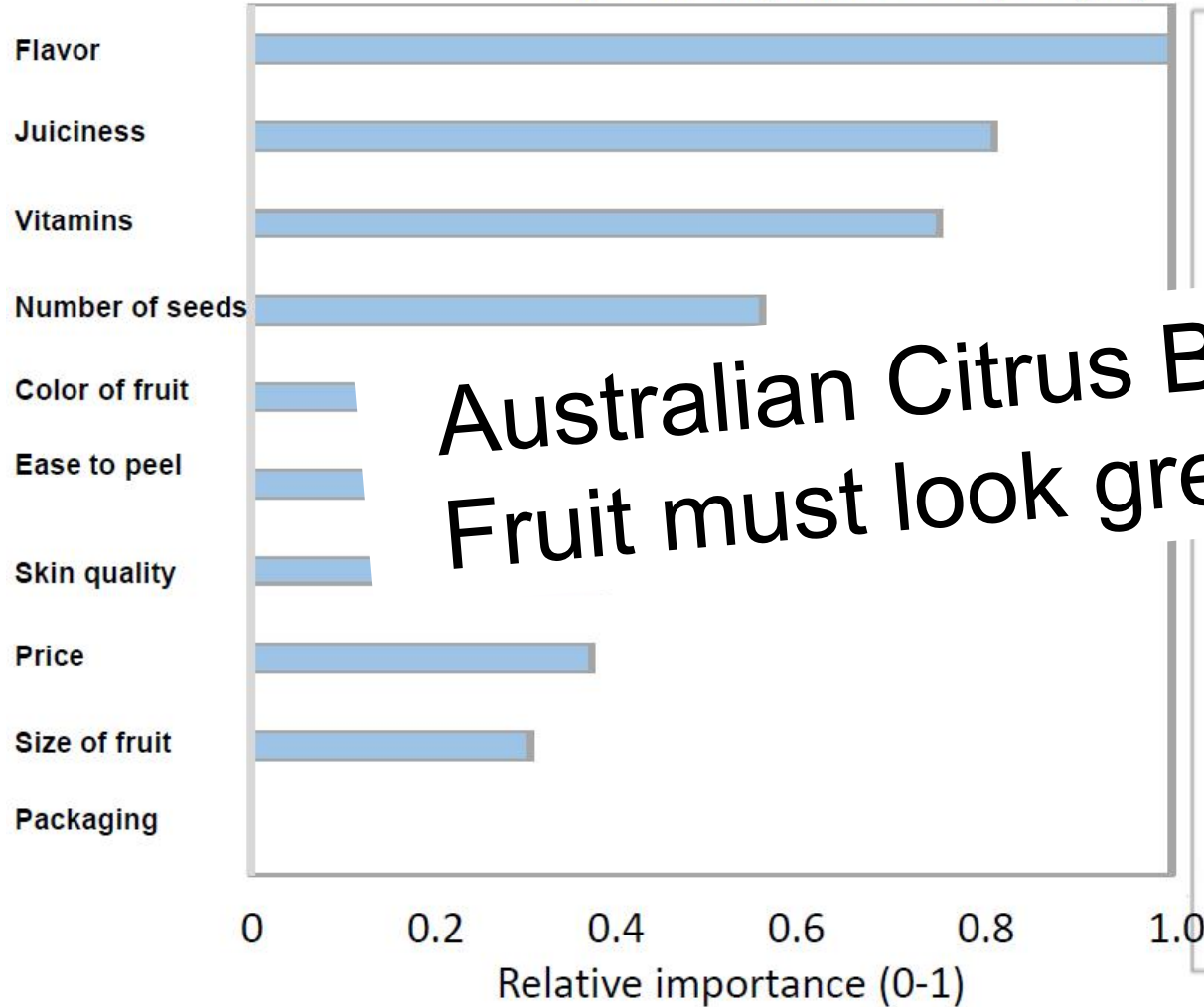
Xiang Bi, et al. 2014, USA



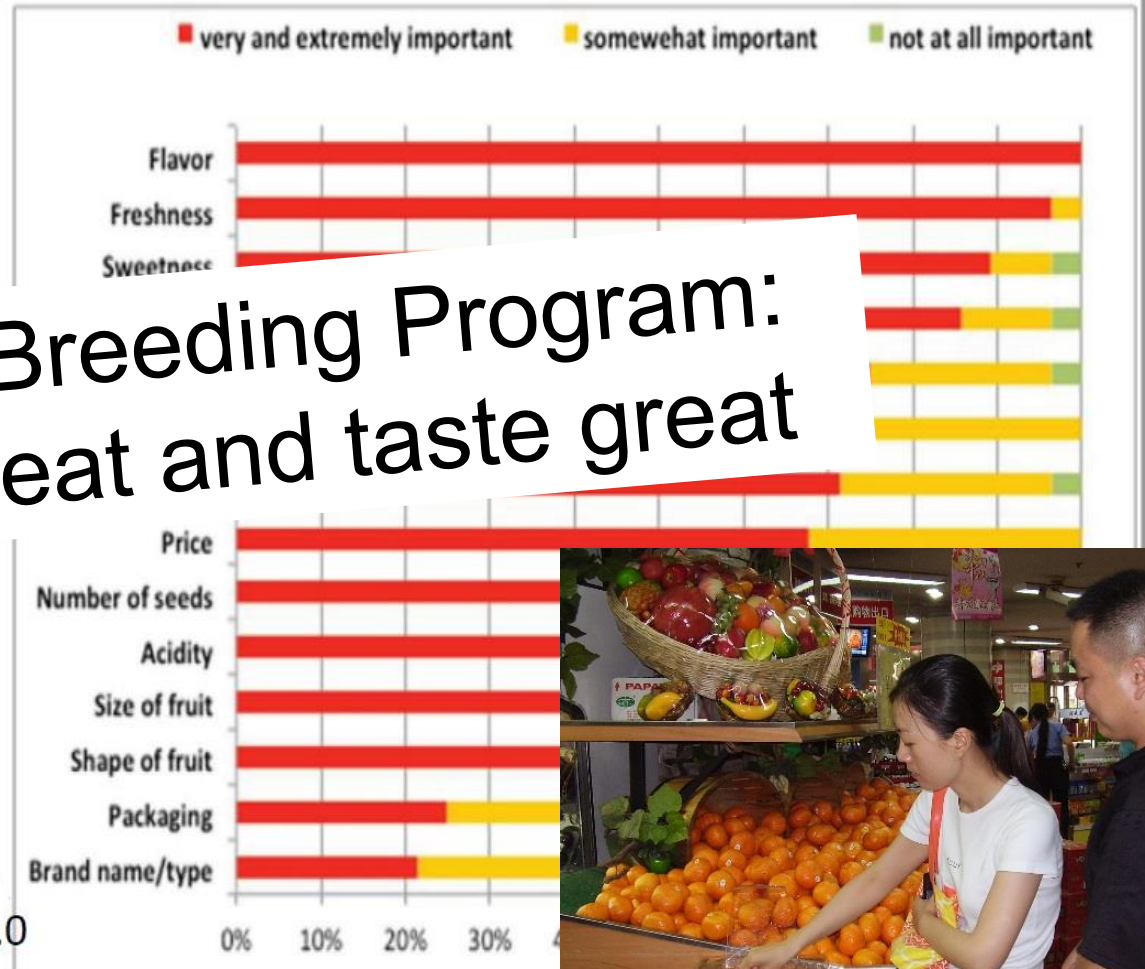
Consumer studies tell us what we already know, they do not predict varietal success. Consumers want MORE and without compromise.

Consumer preferences as market drivers

Lado et al. unpublished 2016, Uruguay



Xiang Bi, et al. 2014, USA



**Australian Citrus Breeding Program:
Fruit must look great and taste great**





**New varieties are
driven by TRENDS.**

**These trends have
remained
remarkably stable.**

- **Less seeds**
- **Less chemical residues**
- **Less effort** (easy to peel, no mess)
- **More taste**
- **More consistent** (same product every purchase)
- **More visually attractive**



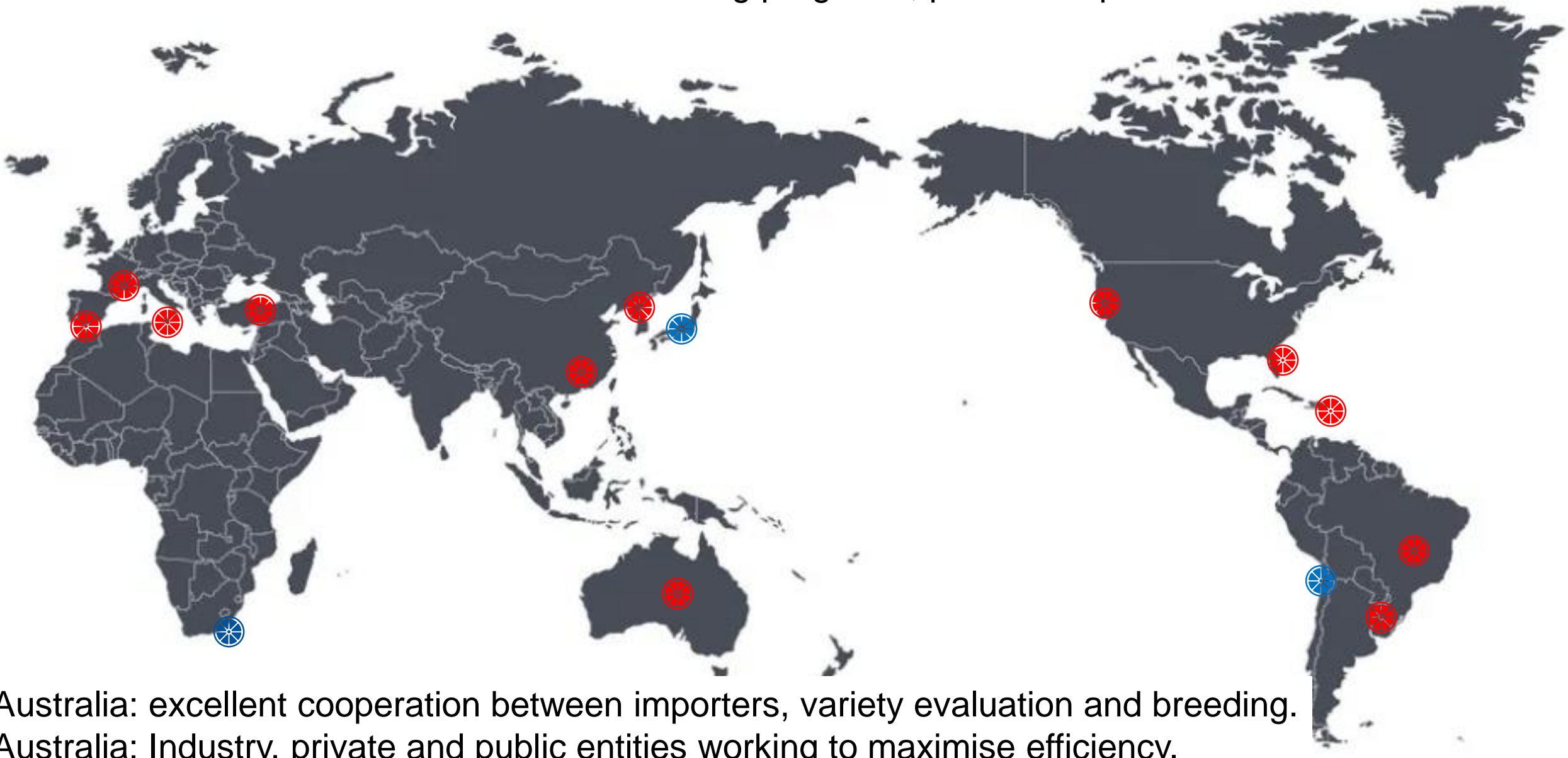
**Sources of
new varieties**

**Where will they
come from?**

International citrus breeding programs, public and private.



International citrus breeding programs, public and private.



Australia: excellent cooperation between importers, variety evaluation and breeding.
Australia: Industry, private and public entities working to maximise efficiency.

Historically

1. Local selections (e.g. Navel orange mutations, Imperial, Ellendale, RHM).
2. Local breeding, private and public (e.g. Amorette, IrM2).
3. International breeding programs (e.g. Murcott, Daisy, Fremont).
4. Unexpected and unpredictable (e.g. Afourer).





The future

1. Local selections.
2. Local breeding, private and public.
3. International breeding programs.
4. Unexpected and unpredictable.
5. Collaborative international releases.



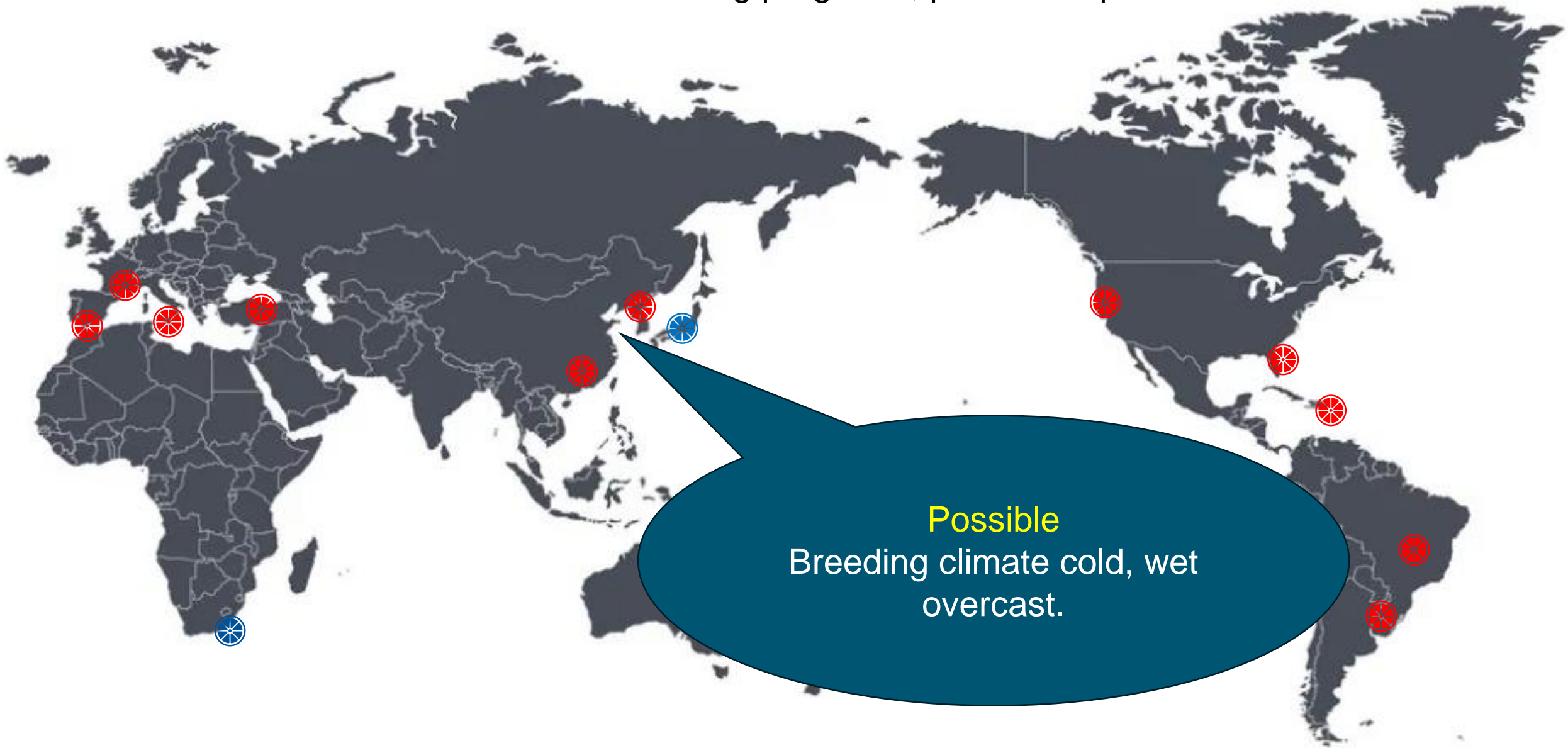
International citrus breeding programs, public and private.



Unlikely/limited
Breeding objectives do not
match Asian markets (small,
acid, rough skin)



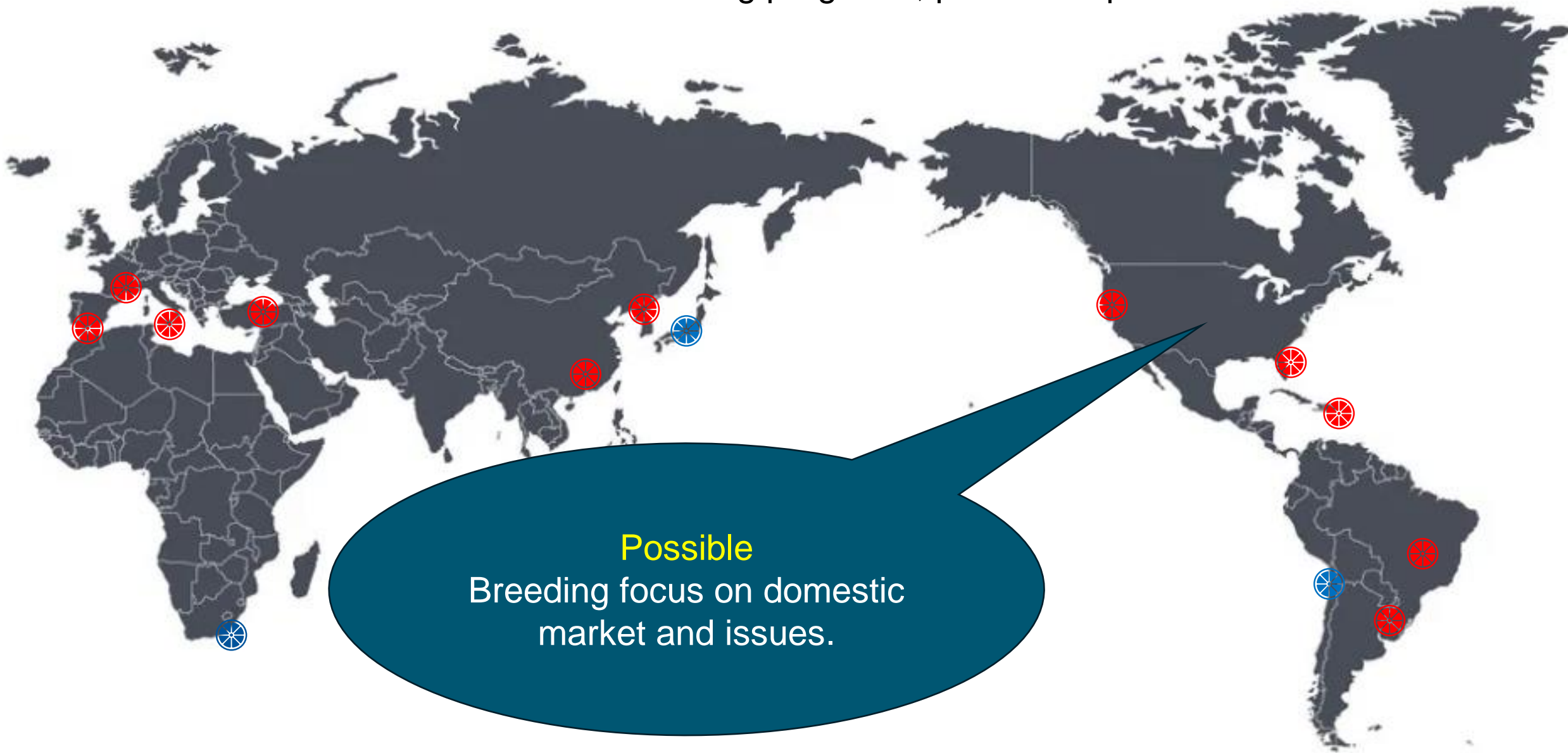
International citrus breeding programs, public and private.



Possible

Breeding climate cold, wet
overcast.

International citrus breeding programs, public and private.



International citrus breeding programs, public and private.



Likely

Breeding for Asia.
Breeding at scale.

International citrus breeding programs, public and private.



Highly likely

Breeding for Asia.

Breeding at scale.

Commercial focus.

International citrus breeding programs, public and private.





Australian Breeding Program

7 scion varieties now in commercial production

IrM1 and IrM2

Low seeded Fremont and Low seeded Daisy

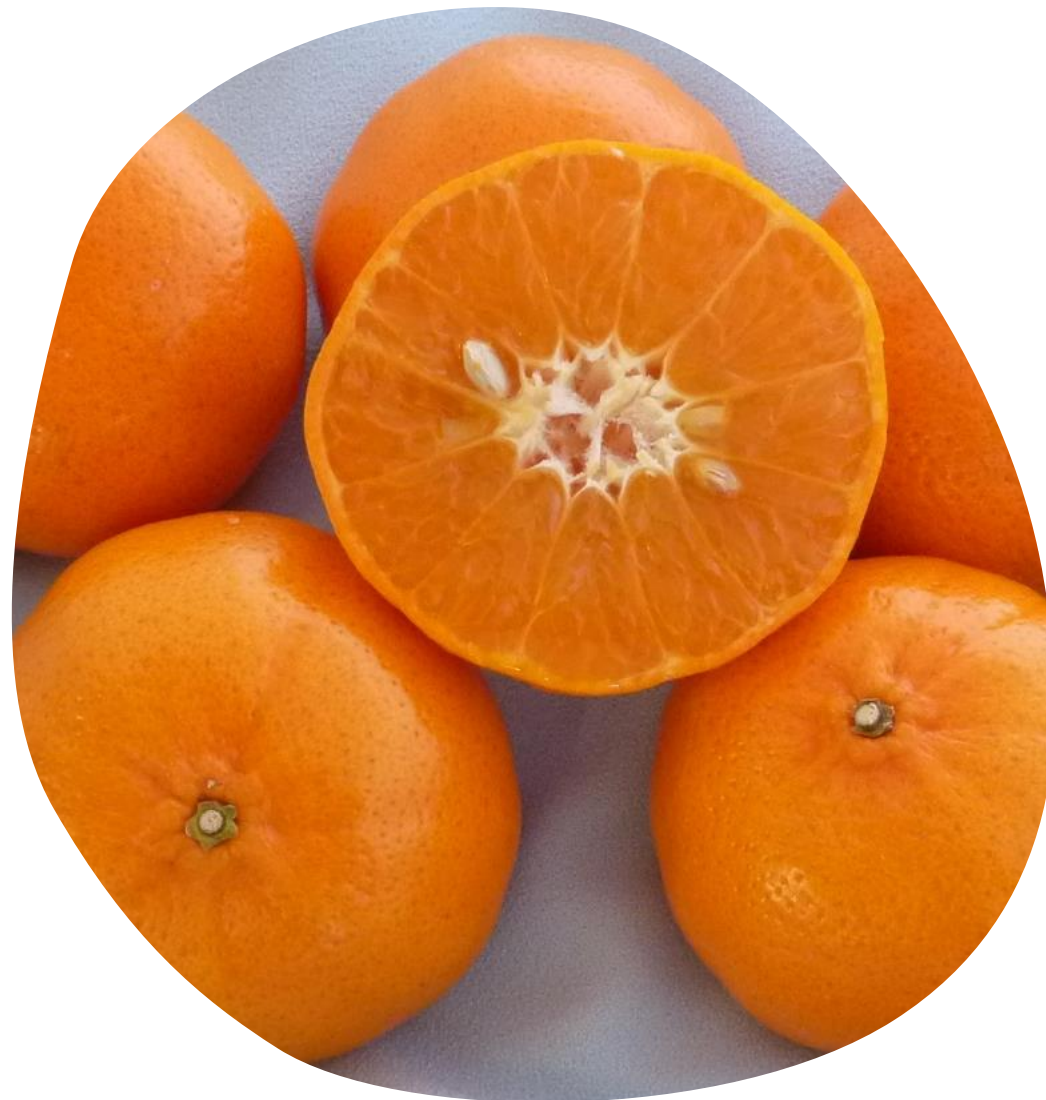
Premier Murcott

CB Murcott

15C001

Likely next release:

High quality export orange





The 15th

International Citrus Congress 2024

Human-healthily,
Environment-friendly,
Industry-productively

Nov. 10(Sun) - 15(Fri), 2024

ICC JEJU, Jeju Special Self-Governing Province, Korea

www.icc2024.kr



Queensland
Government

Thank You

Hort
Innovation