Economic considerations OF MALUMA

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Maluma avo

Introduction

- More than 80% of avocados produced in the world belong to a cultivar that was patented 80 years ago
- 'Maluma'
  - In production for 15 years – still quite new
  - Discovered in South Africa
  - Chance seedling - Unknown parentage
- Viability of new cultivar
  - Present significant economic advantages
  - Mitigate risks

Introduction

- Planting new cultivar = long term investment
- Long term viability crucial
- Long term economic aspects :
  - Production volume per ha
  - Production stability
  - Fruit quality
  - Consumer value
- Shorter term aspects are secondary

Introduction

- Looking at :
  - Orchard cold damage
  - Alternate bearing
  - Labour cost
  - Fruit size
  - Fruit quality
- Comparisons mostly made with ’Hass’

Orchard cold damage

- Damage to fruit skin and/or pulp
- Causes significant production losses
- Leads to market spikes
- Known that susceptibility differs among cultivars

Orchard cold damage

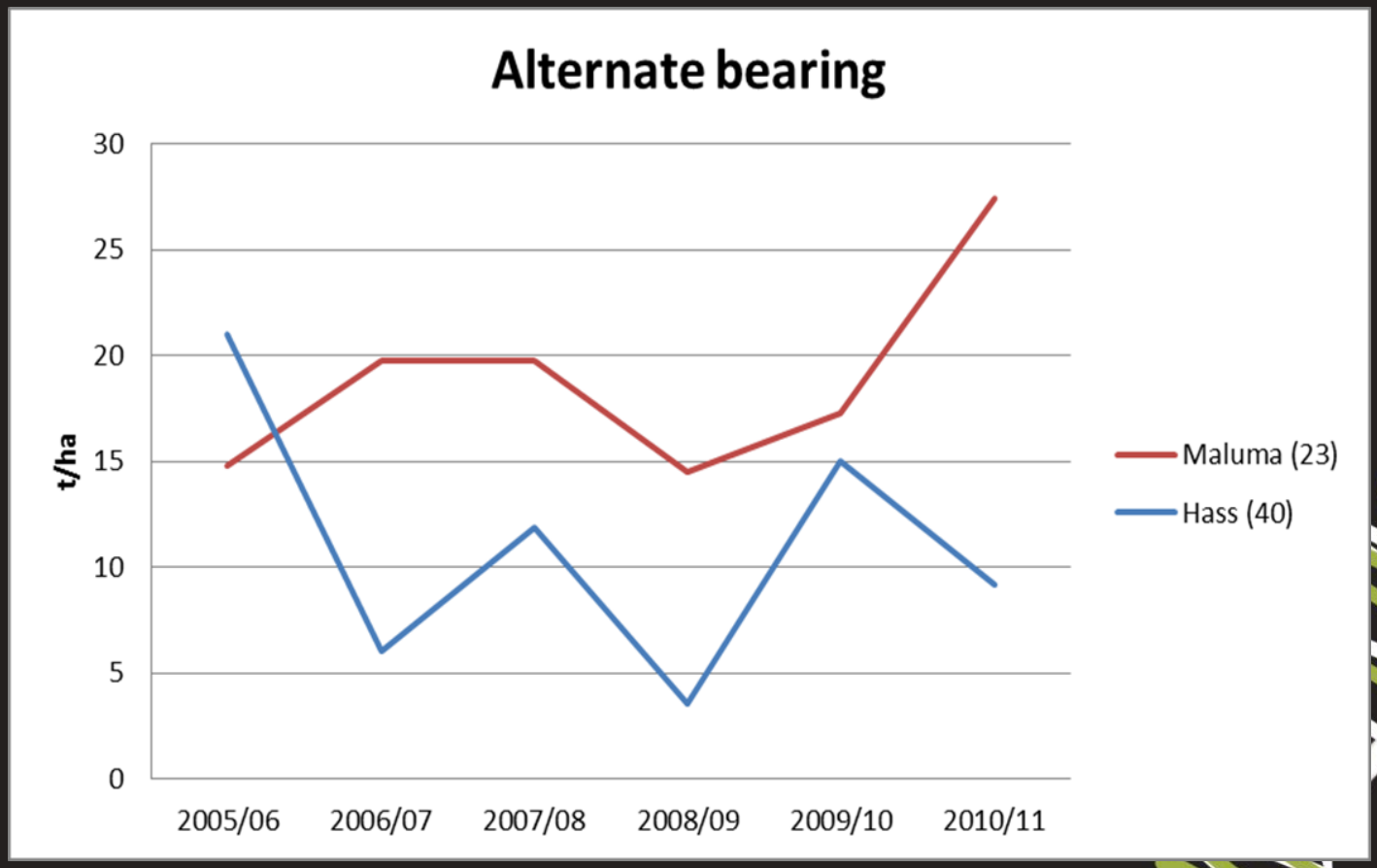
Maluma @ -6°C

Hass

Alternate bearing

- Well-known phenomenon in avocado production
- Cyclic
  - Heavy crop > depletes reserves > poorer crop
- Certain cultivars more susceptible than others – genetic influence
- Management practices can lessen severity

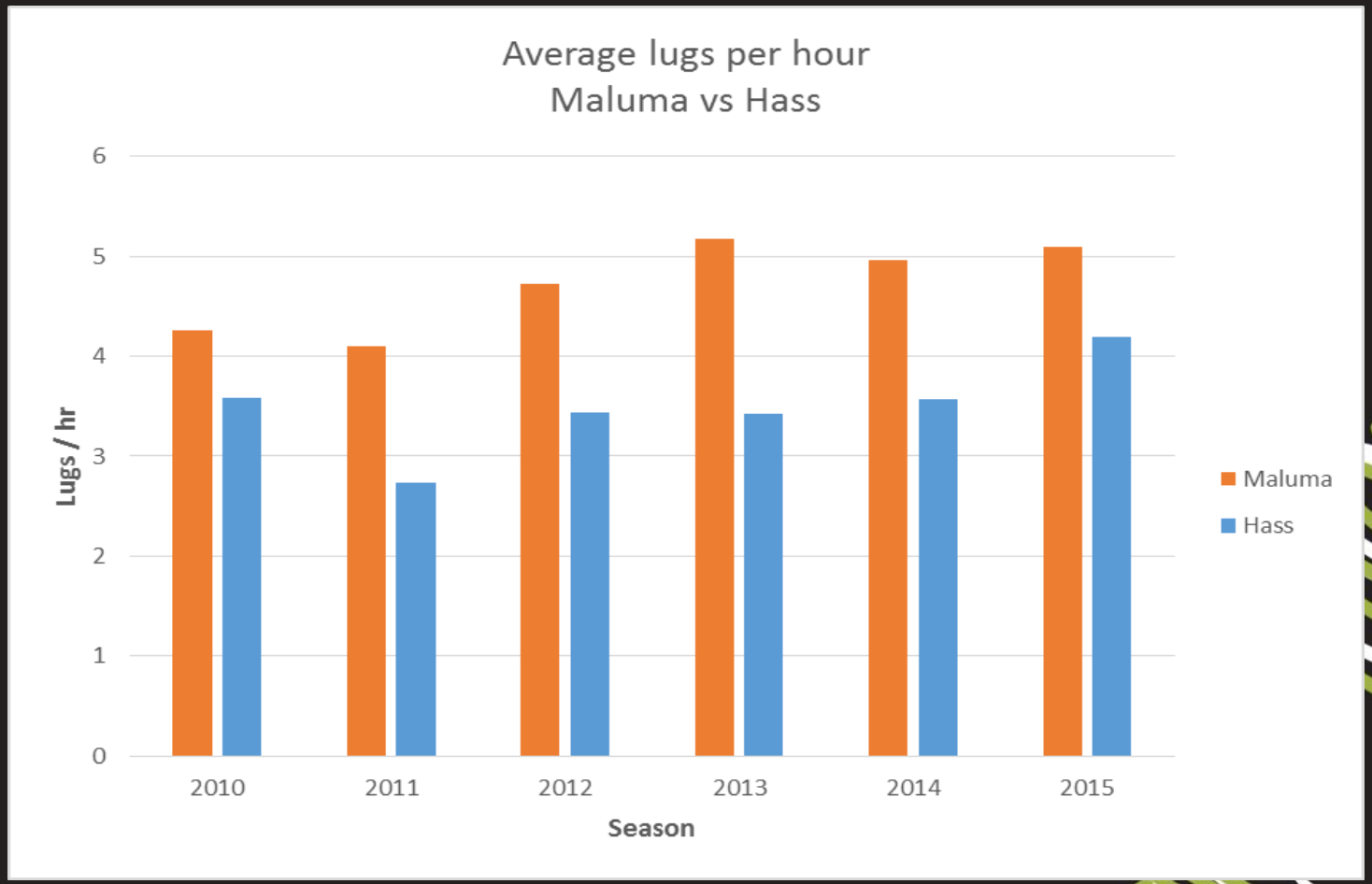
Alternate bearing



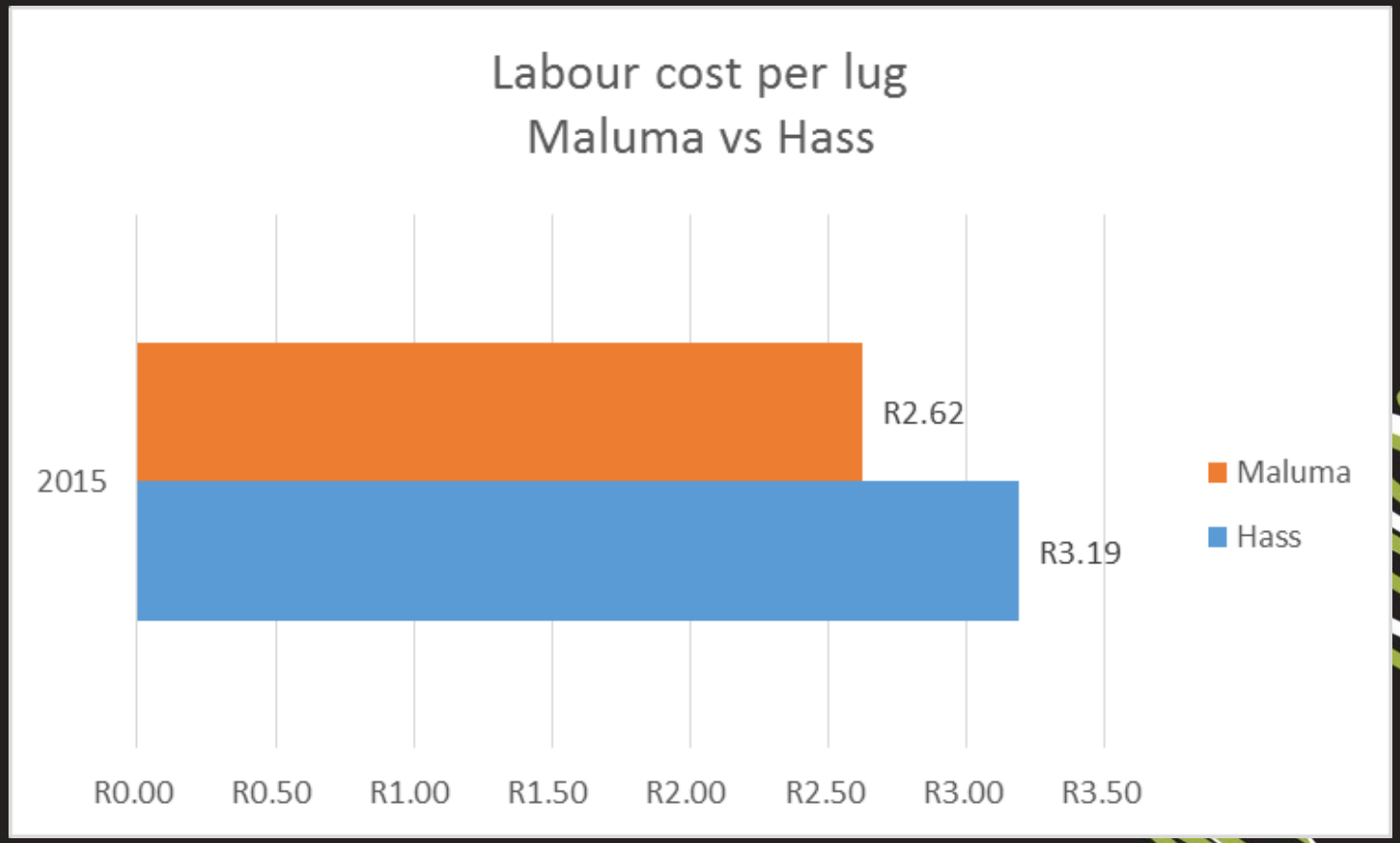
Labour cost

- SA labour still relatively inexpensive
  - Sharp increases in recent years.
- Biggest single contributor to production cost
- Harvesting most labour intensive of all activities
- Smaller, more productive trees > harvested quicker (more efficient)

Labour cost (harvest)

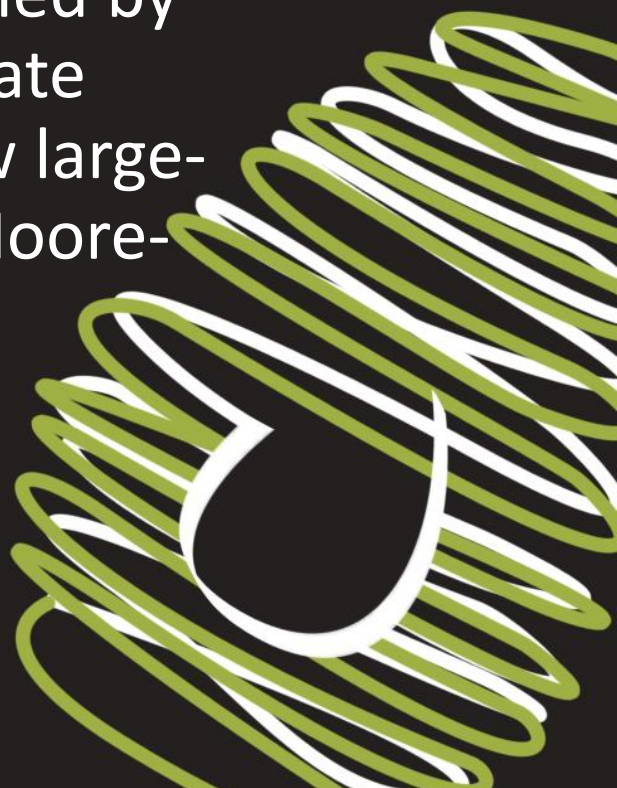


Labour cost (harvest)

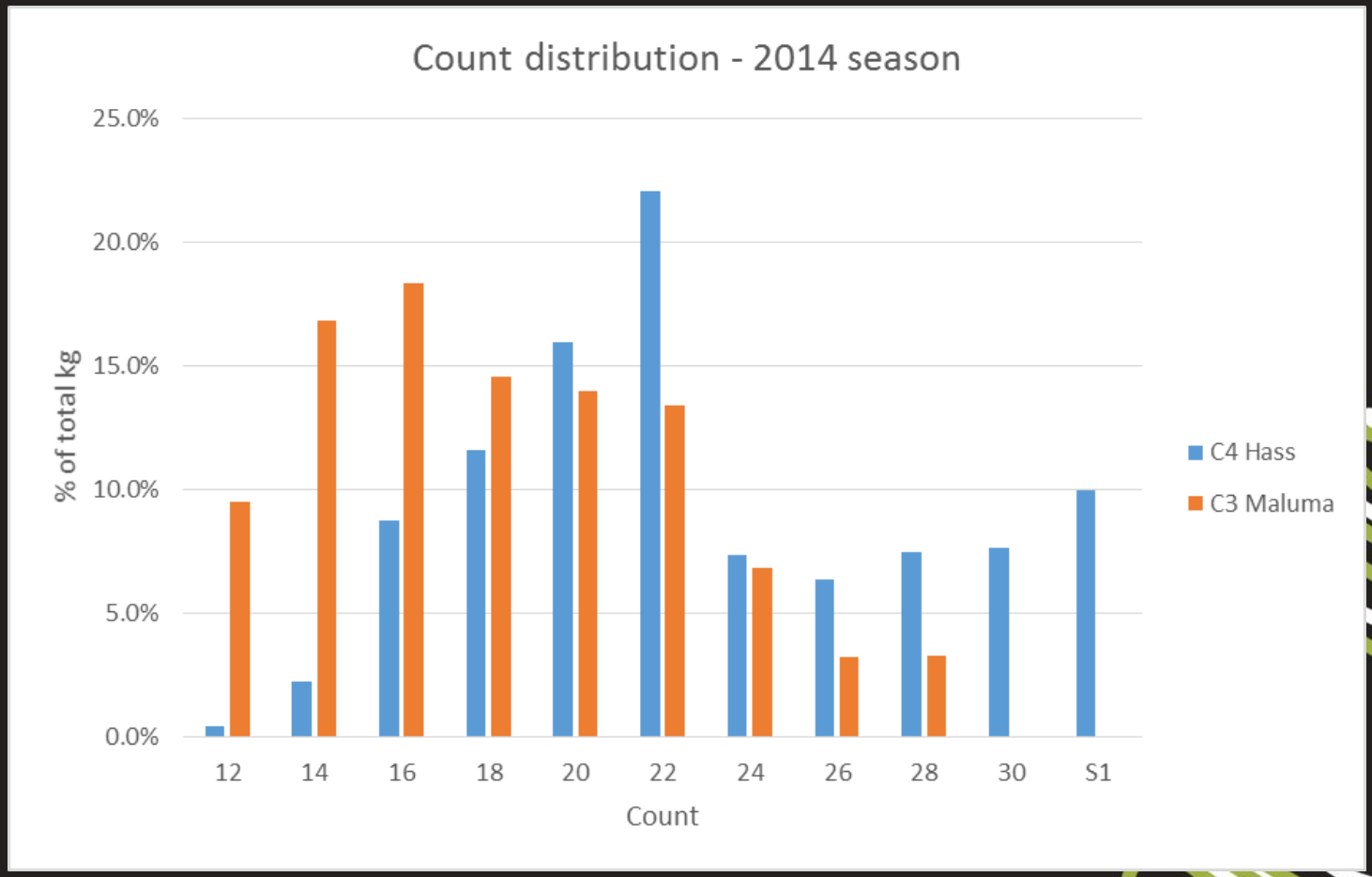


Fruit size

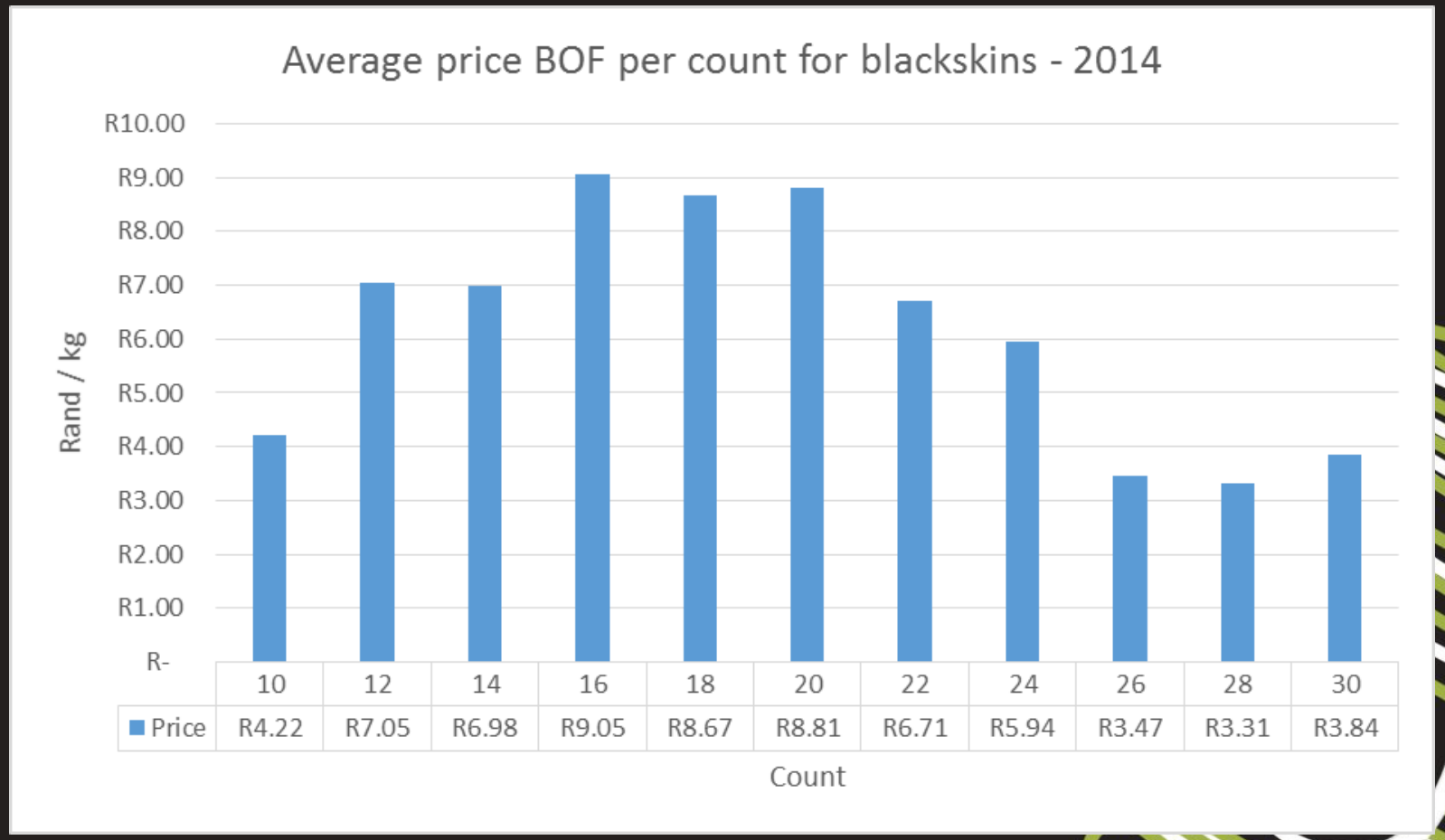
- 'Hass' produce large proportion smaller fruit
- Worse with poor health and tree age
- "Fruit size is fundamentally determined by genome, so the long-term and ultimate approach is to discover or breed new large-fruited black-skinned cultivars." – (Moore-Gordon & Wolstenholme, 1996)



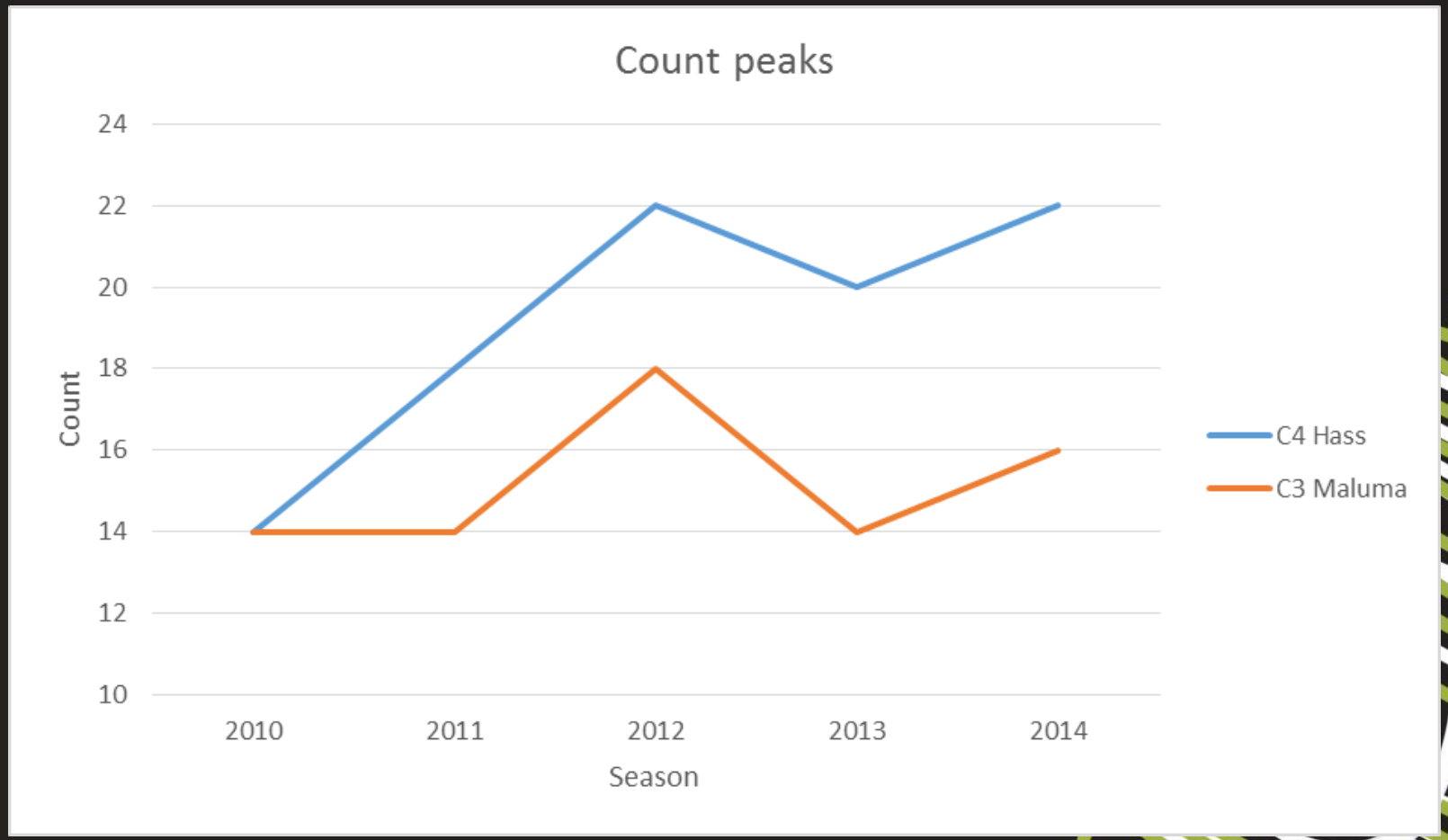
Fruit size


Count distribution - 2014 season
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
% of total kg
12
14
16
18
20
22
24
26
28
30
S1
Count
C4 Hass
C3 Maluma

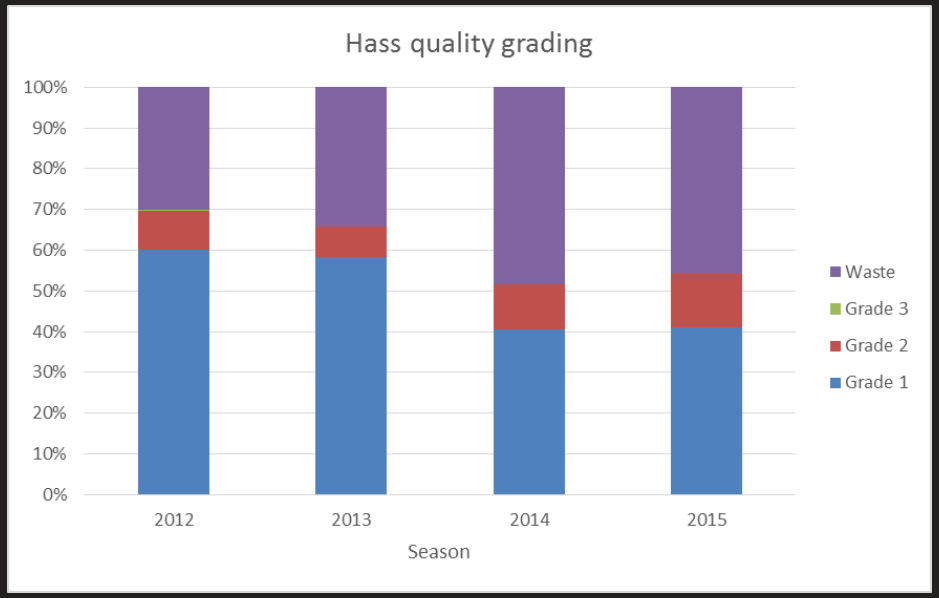
Fruit size

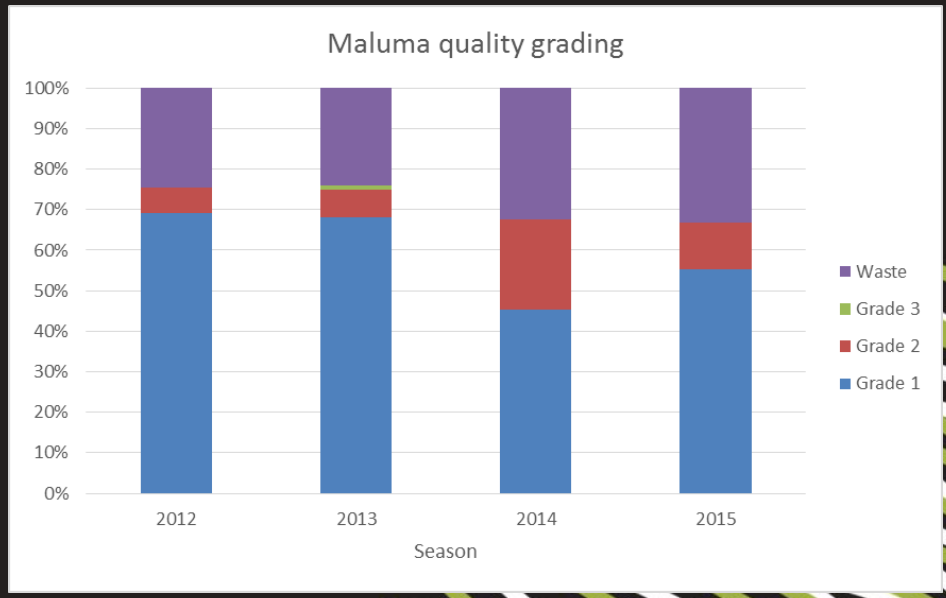

Average price BOF per count for blackskins - 2014
Rand / kg
R10.00
R9.00
R8.00
R7.00
R6.00
R5.00
R4.00
R3.00
R2.00
R1.00
R-
10 12 14 16 18 20 22 24 26 28 30
Price R4.22 R7.05 R6.98 R9.05 R8.67 R8.81 R6.71 R5.94 R3.47 R3.31 R3.84
Count

Fruit size


Count peaks
24
22
20
18
16
14
12
10
Count
2010
2011
2012
2013
2014
Season
C4 Hass
C3 Maluma

Fruit quality





Conclusion

- 'Maluma' presents significant economic advantages compared to 'Hass'
  - Highly tolerant of orchard frost
  - Significantly less susceptible to seasonal variation in production (alternate bearing)
  - Increased labour efficiency during harvest
  - Produces fruit of appropriate sizes where prices are highest
  - Higher proportion premium quality fruit

More information

- Full article in WAC Peru proceedings
- Maluma blog (www.maluma.info)
- E-mail (edrean@allesbeste.com)