

Modern Farming and Maluma

ZR Ernst - Allesbeste



Allesbeste



"Kwaliteit weens passie"
"Quality through passion"

Trends in Modern Fruit production

- High Density
- Intensive Pruning Programs
- Lower Pesticide Usage
- Spraying Efficiency
- Cost Efficiency
 - Less Labour Intensive
 - Mechanisation



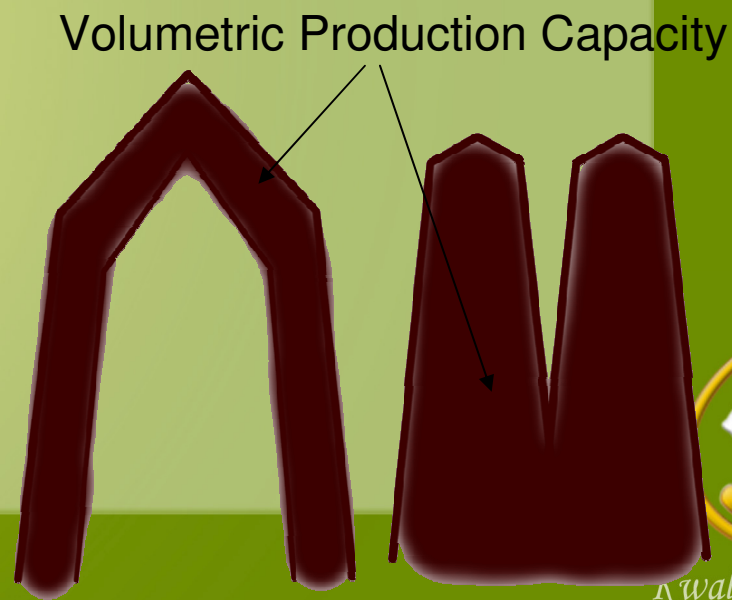
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Why high density?

- Rate of Return on Investment (ROI)
- Higher yields per hectares
- Space utilisation
- Efficiency



Conventional orchards



High density CL orchards



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Pruning Intensity

- Fixed pruning programs
- Unique pruning methods
- Pruning for consistent yields
- Pruning to maintain high density



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Lower Pesticide Usage

- Better results on smaller more manageable trees
- Target clarity
- Tolerant cultivars

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Efficiency of Spraying

- Smaller trees
- Lower concentrations
- Target clarity

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Cost Efficiency

- Mechanisation
- Less labour intensive
- Efficient use of chemicals

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Citrus

- 60 tons /ha from 2500 – 5000 trees per hectare (Victoria Australia)
- South Africa
 - 3x6m Hedgerows (660 trees /ha)
 - 20 – 60 t/ha depending on cultivar
- Longevity
 - 18 to 32 years depending on cultivar



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Apples

- Production per ha
 - 15 – 45 t/ha
- Up to 2400 trees/ha
- 1.5 – 2.7m apart
- More or less 2.5m high
- Dwarfing rootstocks
- Pruning techniques
 - Central leader (1970's) / spindle
 - Perpendicular V
 - Weights, toothpicks, wires
- Longevity 10 – 15 years



Pears

- Production per ha
 - 15 – 38 t/ha
- Plant density
- Dwarfing rootstocks
- Pruning techniques
 - Central leader
 - Spindle
 - Much same as apples



Peaches

- Production per ha
 - 16 – 34 t/ha
- Plant density
 - 370 - 1946 trees / ha
 - 4.2m x 6m to 1.21m x 4.26m
- Dwarfing rootstocks
- 12 – 18 year lifespan



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Peaches

- Pruning techniques
 - Vase / open cut system
 - Steep ladder system
 - Upright renewal system – Perpendicular V
 - Single leader



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Avocados

- Only few cultivars could work on high density in South Africa
 - Lamb Hass
 - Reed
 - Pinkerton
 - Maluma
- Only these cultivars are precocious and have relative dwarfing characteristics



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Maluma

- The Difference – Less Vigor

Hass



Maluma



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- The Difference – Lateral Branching



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Maluma

- The Difference – Willowy Branches



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- Central Leader Pruning - Method



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- Central Leader Pruning – Result



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Maluma

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Maluma

- 800 trees per Ha
- 15 – 33 t/ha
- Lower disease pressure
- Plants are 4m high
- Lower tree complexity
- Relatively dwarfing
- Less labour intensive



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Maluma

- 1 600 trees/ha – How?
 - 60 fruit per tree (count 16) (3/4 Lug)
 - 24 t/ha
 - 100 fruit per tree (count 16) (1,5 Lug)
 - 40 t/ha
- 2.1m high trees
- 2.5m x 2.5m



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Conclusion

- We can learn tremendously from other industries
- Is the Avocado industry lagging behind?
- With Maluma it is within our reach
- Carpe Diem



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