



**Almond Centre of Excellence –
Orchard Update
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**australian
almond**
RESEARCH & DEVELOPMENT FORUM

ACE Orchard Update

Orchard Layout – Horizon 1

- Based on the traditional planting design (318 trees/Ha)
- Planting density – 7m x 4.5m
- Current tree architecture
- Ground harvesting
- Trials aimed at improving productivity and practices for current orchards
 - Water Use Efficiency
 - Fertiliser Efficiency
 - Chemical Efficacy and Product Registration Trials

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Orchard Layout – Horizon 1

- First trial planted Winter 2017
- Traditional Varieties
- 50% Nonpareil, 25% Monterey and 25% Carmel
- 6 Ha drip irrigated
- Nemaguard rootstock
- Second trial to be planted in Winter 2018
- Soil Amelioration Trial
- Planted to Nonpareil and new Australian varieties
- 7.26Ha drip & sprinkler irrigated
- Garnem rootstock

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Orchard Layout – Horizon 2

- Aim to investigate increased productivity from tighter spacings
- Higher density plantings (513 trees/Ha)
- Planting spacing 6.5m x 3m
- New Australian varieties OR varieties suitable for higher density
- Testing scion/rootstock compatibilities
- Assessing tree architecture & light interception

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Orchard Layout – Horizon 2

- First trial planted Winter 2017
- 25% Nonpareil, 25% Vela, 25% Carina and 25% Maxima
- Nemaguard rootstock
- 5.6Ha drip irrigated
- Randomised row plantings
- Ability to test self fertile properties on pollination
- University of Adelaide Breeding selections
- 4.48Ha
- Secondary evaluations of 10 tree lots
- Tertiary evaluation of 72 tree lots (1 row per variety)
- International varieties planted for comparison

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Orchard Layout – Horizon 3

- Blue sky vision
- Higher density plantings:
 - 1,111 to 1,666 trees/Ha
- Focus on more upright tree architecture
- Aim to implement shake ‘n catch harvesting
- Trialing dwarfing rootstocks and scion compatibility
- Designing the correct tree architecture first, then the correct tree density, and finally engineering of the harvesting method

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Horizon 3

- Autonomous machinery
- Drone technology
- Mid-row management
- Green harvesting and infield hulling
- Advanced storage practices
- Pollination - Testing the benefits of self fertility
- Pollinator habitat

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Thank you

Questions???