Mapping Orchard Flowers and Fruit

Cater to the needs of every tree!
Why Map an Orchard?
Geometry from Lidar
Image Detections
Light Interception
Mapping Fruit Ripeness
Cartographer

• Reduced cost
• Increased scan speed
• Automated & faster processing
• Improved sensing
• GPS-free mapping
• Easy to use platform
Orchard View: Maps and Photos
Block View: Variability and Zones
Canopy View: Lower vs Upper Canopy
Canopy View: Lower vs Upper Canopy
Use Cases

- Manage variability
  - Blocks are rarely uniform
  - See what’s there
  - Respond: do more where there is more, less where less

- Digital workflow for farm managers
  - All blocks visible from the office
  - Browse, make decisions and measure consequences

- Record keeping and review
  - Block forecasts, actuals and history
  - Compare current and past actions and results

- Industry-level recording
  - After widespread adoption
  - Only with grower permission and participation
  - Compiling country-wide databases
    - Crop performance
    - Marketing and supply chain
    - Biosecurity
Flower Timing: Daily Updates
Measure in the right place

- Measuring or counting trees:
  - What is the average tree here?
  - Where should you measure?

- This is why yield estimates are hard to get!
Measure Pollination Performance

Pollinator Rows

Hive Hives
Assess Flower Pruning Performance

Before

After

After (Hotspots Highlighted)
Track Nursery Performance

Flowers

Lower Canopy  Upper Canopy

Fruit
Coming Soon...

- Variable rate spray
- Fruit thinning support
- Bin placement support
- Calibrated yield estimation

- Extension to Cherries
- Pest management for almonds
Thanks to our supporters!

- Batlow Apples
- Battunga Orchards
- Montague
- Plunkett Orchards
- Sanders Apples
- Turnbull Brothers Orchards
- Jobs for NSW
- Incubate