Orchard Business Analysis How-to Guide

Block Background Dataset

AgFirst Consultants, July 2026

Why record background data?

Many orchard decisions rely on understanding the block characteristics, history and the associated management inputs. To understand why a block has performed the way it has, growers should collect background data as well as performance data, to be able to apply context, accurately benchmark and drive meaningful change.

Background data provides context into the characteristics of the individual block. This information tends to remain static between seasons and is determined at planting. Background data allows the performance data to be benchmarked block by block, season by season or by comparing different rootstocks, planting densities, varieties etc.

Performance data is focused towards collecting seasonal outcomes. These include physical block metrics (e.g. Trunk Cross-sectional Area, canopy fill, bud/fruit counts etc), production outcomes (production yield, packout, fruit size), operational and financial metrics.

Good records streamline future orchard analysis. Whether reviewing production trends, evaluating redevelopment opportunities, comparing performance over time or simply sharing performance with others involved in the business, having confidence in the underlying information allows accurate interpretation of block performance results. Additionally, both background and performance data can help support:

- The increasing adoption of precision technologies on orchard, by being used to set up background assumptions
- Accurate sprayer calibrations that are suitable to the canopy.

What are the key background data metrics?

There are a wide range of on-orchard metrics that matter. Key data collection requirements differ within a single growing season, as can the orchards limiting factors that need quantifying. However, establishing a baseline for consistent data collection between blocks and seasons enables trends and outliers to be tracked.

This all starts with collecting background data. This dataset defines the foundation or setup of an individual block, and as these attributes rarely change, usually this data only needs to be collected once.

Table 1 outlines the metrics which AgFirst believe to be the most important to collect when establishing a background dataset.

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Table 1 Suggested Block Background Dataset

Information to collect for each orchard block	Why it matters
Block name or identifier	Provides a consistent reference point across orchard records e.g. Block A1
Planted Area (hectares)	Allows for production and expenditure planning and analysis on a per hectare basis. Supports accurate crop protection planning (e.g. knowing how much chemical to buy, and whether the right amount of product is being used in each block).
Producing or non-producing	While this is recorded at a block level, it should also be understood across the whole orchard. Costs (expenditure) are incurred across both productive and nonproductive area (e.g. pruning labour, spraying etc.), however only productive area produces an income.
Variety	Influences production, fruit quality, management requirements and market returns.
Rootstock	Influences block growing characteristics and resulting productivity.
Planting or grafted year	Records block age (longevity) and guides production expectations to assist with budgeting and labour requirement forecasting.
Tree density (trees/ha)	Aids in understanding orchard design and production potential.
Total Tree number	Helps quantify missing tree numbers leading to more accurate block forecasts, and replant considerations
Row and tree spacing	Provides context into orchard system performance and management requirements. Also useful for irrigation system requirements, sprayer calibrations etc.
Canopy Support System	Influences labour requirements and orchard performance (production and packout expectations). Depending on the canopy system, number of wires may also be important.

How to get started

Most growers already have much of this information available, though it may be spread across a range of sources within the business. It may exist across orchard maps, planting records, redevelopment plans, consultant reports, APAL Data hub, spreadsheets or existing management systems. The system used to store the data is less important than the quality of the information itself. The goal is to create a reliable source of information that can evolve alongside the orchard.

Like any data collection process, block background information becomes most valuable when it is kept up to date, therefore be sure to store this information in a single location where it can be easily maintained and updated. Reviewing and updating records with any orchard redevelopment changes ensures information remains accurate and useful.

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