Orchard Business Analysis How-to Guide

Revenue: Production, Yield, Packout and Returns

AgFirst Consultants, July 2026

What are the key revenue drivers?

Driving profitability is about maximising the volume of fruit sold into the highest value markets. AgFirst continually references the concept of the 3 P's. Growers should have a good understanding of each of these "P's", as they have been identified as the drivers to on orchard profitability.

- Production
- Packout
- Price

By understanding and collating revenue data at a variety level, growers can identify where improvements to orchard management strategies will have the biggest positive impact on the bottom line. This data allows growers to identify the influence that volume (production), quality (packout) and price has on revenue, rather than treating income as a single end-of-season result.

Once a season's production outcomes have been quantified, this data can be used to identify which of the 3 Ps are driving individual orchard performance (by volume, packout, price, variety mix or market selection). This can then be used to direct orchard management decisions heading into the next growing season.

Yield vs Production

There are two ways to understand the volume of fruit harvested, and each provides a slightly different performance insights.

Table 1 Yield vs Production

What is Yield data?	What is Production data?
Production volume relative to the area	Total quantity of fruit harvested (gross)
Calculated by: Yield = gross production divided by planted area	***Calculated by:*** Production = number of bins harvested x bin weights
Allows for comparisons across blocks or varieties of different sizes, as well as performance by tree age or canopy fill.	Allows for seasonal comparison of gross volume harvested across the business.

APAL's OBA looks at both production and yield at a variety level, however it is useful to understand this down to the block level also. Be sure to interpret this data in the context of the block background dataset, such as variety, planted year and tree density. For more information on this, refer to the *Orchard Business Analysis How-to Guide: Block Background Dataset*.

Revenue Driver Metrics

APAL's Orchard Business Analysis model highlights seasonal production, yield and packout outcomes by variety, before calculating revenue by variety. This is done by multiplying the volume of fruit sold in each packout or grade category by the actual return achieved. Therefore, to benchmark seasonal orchard outcomes against this industry data, AgFirst recommends collecting the 'revenue driver' metrics outlined in Table 1 below, and in the *Orchard Business Analysis How-to Guide: Standard Chart of Accounts* document.

Table 2 Orchard revenue key metrics – collected by variety

Revenue drivers	Data definition and notes
Planted area	Total planted area (regardless of age/productive status).
Gross production (kg)	Gross volume picked, calculated from gross bins picked and average bin weight.
Class 1 volume (kg)	Volume of fruit packed as Class 1 compared to the gross volume harvested.
Class 2 volume (kg)	Volume of fruit packed as Class 2 compared to the gross volume harvested.
Process volume (kg)	Volume of fruit that wasn't packed as either Class 1 or Class 2, compared to the gross volume harvested.
Class 1 return $/kg	Weighted average in-market return achieved per kg, wholesale and net of commissions.
Class 2 return $/kg	Weighted average in-market return achieved per kg, wholesale and net of commissions.
Process return $/kg	Weighted average in-market return achieved per kg.

Collecting Revenue Data

Step 1: Production Data

Gross production can be quantified by multiplying the number of bins picked by the average bin weight, reported as either kilograms or tonnes. Gross production should also be reconciled against bins sent to the packhouse (packhouse received volume). This data can be commonly extracted from on-orchard sources such as payroll systems, data management software platforms, diaries or manager records, as well as truck dockets and bins submission reports from the postharvest facility. APAL's OBA uses production by variety, but this data adds more value to on orchard decision making when recorded at a block level.

Understanding production data is important to quantify any differences between estimated yield and actual picked volume. It also helps confirm the outcomes of management strategies implemented throughout the season e.g. chemical thinning outcomes, implementation of hand thinning etc.

Another metric worth quantifying is each block's pickout percentage. This is the proportion of fruit on the tree that actually ends up in a harvested bin. This information helps inform the difference between block targets and harvested yield, quantifying the fruit left behind due to reasons such as fruit drop, poor colour or fruit defects.

Step 2: Packout Data, Class 1 and Class 2 Volume

Packout data summarises the proportion of the crop packed and sold as Class 1 or Class 2, or process volume, compared to the gross volume harvested. Growers should understand this data as a total volume (gross kilograms), as well as the percentage of the gross harvested volume that the fruit in each category represents. Having visibility over the packout by variety helps drive focus on quality outcomes, and an understanding of how orchard management practices might influence the bottom line.

The best source of this data is reporting from the postharvest facility which may be individual run packout reports, season summaries or in some cases, live postharvest dashboards. Packout data may also be collected using sales reports, depending on the avenue of sale and variety. These may come in the form of individual sales or provided as a summary of the selling season by variety. Where fruit is sold by bin, it is important to understand what proportion of the crop was sold this way, and what market this fruit was sold into. Did this fruit reflect Class 1 or Class 2 volume?

Packout data to extract from reporting includes:

- Class 1 percentage and Class 1 total volume
- Class 2 percentage and Class 2 total volume
- Process volume - This can also be calculated as gross harvested production minus Class 1 and Class 2 volume.

Step 3: Returns Data

Returns are collected by variety for Class 1, Class 2 and process, as a $/kilogram figure. This enables growers to compare the different values by variety and quality outcomes and calculate the resulting revenues.

The returns definitions for the APAL OBA benchmarking are *wholesale, in-market, at point of sale and net of commissions*, as opposed to an orchard gate return. If returns are reported as an orchard gate return, be sure to add the relevant postharvest charges back on when benchmarking returns against APAL's OBA. The return recorded for each variety should be the weighted average, acknowledging that there is likely to be a range in returns due to factors such as size profile, markets or sales category.

To ensure the total revenue is associated with the crop grown in that financial year, returns data should be multiplied by volume to calculate revenue by variety for each packout category, before being aggregated to calculate total orchard business revenue.

Some growers see value in collating returns at a product type level, such as packaging type, or by market type or market location. This level of data allows growers to track the benefits of targeting fruit into different markets and sales timings.

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