Final report

Project title:

Banana industry benchmarking project

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BA22009

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Public summary

The Banana Industry Benchmarking Project (BA22009 - Opttimo IQ) represents the third national benchmarking study undertaken for the Australian banana industry over the past 18 years, following projects completed in 2008 and 2017. This final report concludes the current project, which commenced in June 2023 and concluded on 30 June 2026. The project was established to strengthen business decision-making by providing growers with meaningful benchmarking information while also building an industry dataset capable of supporting future research, strategic planning and investment decisions.

A significant component of the project focused on building grower confidence and encouraging participation. Working closely with the Australian Banana Growers' Council (ABGC), the project team engaged with growers throughout Australia, including participation in the 2024 Banana Industry Roadshows held in Carnarvon, Mareeba, Tully, Innisfail and New South Wales. Growers were offered several options for providing their financial and production information to reduce the time burden of participation. All submitted data was validated, checked for consistency, clarified where necessary, and anonymised before being incorporated into a benchmarking model specifically developed for the Australian banana industry.

The benchmarking results identified several important industry trends. Production (farm gate) declined between earlier benchmark years and 2021 before recovering during the current project period. The 2024/2025 benchmarking results indicate production recovered strongly compared with 2023/2024 and moved closer to the practical upper range observed in the benchmarking series. The project also identified five major cost categories that together account for approximately 70% of average operating costs: labour, off-site transport, single-use packaging, fertiliser and chemicals, and energy.

The benchmarking analysis highlighted several areas worthy of further industry investigation, including industry collaboration, fruit rejection, cost of compliance and single-use packaging. While the project has now concluded, it has demonstrated the value of collecting consistent financial and production data over time. The 2023/2024 and 2024/2025 Banana Benchmarking Reports are referenced as appendices to this final report.

Keywords

Australian Banana Industry Benchmarking Project.

Introduction

The Banana Industry Benchmarking Project (BA22009), branded as Opttimo IQ, was funded through Hort Innovation using the Australian banana industry research and development levy and contributions from the Australian Government. The project was delivered by Aglytica with advice and assistance of the Australian Banana Growers' Council (ABGC) in an advisory capacity. The project concluded on 30 June 2026.

The project responded to an ongoing industry need for reliable, confidential and practical business performance information. Banana growers operate in an environment where production risk, input cost pressure, labour availability, compliance requirements, logistics costs and market variability can materially affect profitability. Production data alone does not explain business performance. A grower can produce strong kilograms per hectare and still underperform financially if labour, freight, packaging, fruit rejection or overhead costs absorb the value created.

The project therefore aimed to provide a benchmarking process that would allow growers to compare their performance against anonymised industry averages and quartile groups, identify major cost drivers, and consider where operational changes may improve profitability. The project also aimed to provide industry with de-identified aggregated information that could support future research, development and extension priorities.

The project linked directly to the Banana Strategic Investment Plan 2022-2026, particularly business insights, extension and capability. It supported the development of industry knowledge, grower decision-making capacity and clearer visibility of the practical drivers of profitability.

The project concluded earlier than originally anticipated, primarily because grower participation remained below the level required to establish a sufficiently large and statistically representative national benchmarking database. This outcome occurred despite extensive engagement activities undertaken throughout the project, including direct grower visits, presentations at Banana Industry Roadshows, ongoing communication with growers, support from the Australian Banana Growers' Council and Hort Innovation.

Participation, expressed as a proportion of the Australian banana industry's average annual production of approximately **400,000 tonnes**, was:

Reporting Year	Estimated Production Represented	Estimated Industry Coverage
2023/2024	15,000 tonnes	3.75%
2024/2025	17,500 tonnes	4.4%

While participation remained below the project's original aspirations, the benchmarking program nevertheless generated valuable business and industry insights. In particular, the 2024/2025 Benchmarking Report introduced a Like-for-Like (L/L) analysis, comparing only those growers who participated in both reporting years. This approach reduced the influence of changes in the participant group and provided a more reliable indication of year-on-year movement across key production and financial indicators.

Benchmarking studies based on voluntary participation should be interpreted within the context of the participating businesses. The results provide useful indicators of emerging industry trends and business performance; however, they should be considered alongside the sample size and composition when drawing broader industry conclusions.

Despite the relatively small sample size, the consistency of participating businesses across both reporting years, together with historical benchmarking data, provides a valuable foundation for identifying operational trends and informing future benchmarking initiatives.

Methodology

The project used a service-delivery and industry-data methodology built around grower engagement, confidential data collection, data validation, anonymised analysis and annual reporting. The method was designed to reduce participation burden on growers while maintaining enough detail to produce meaningful financial and production benchmarks.

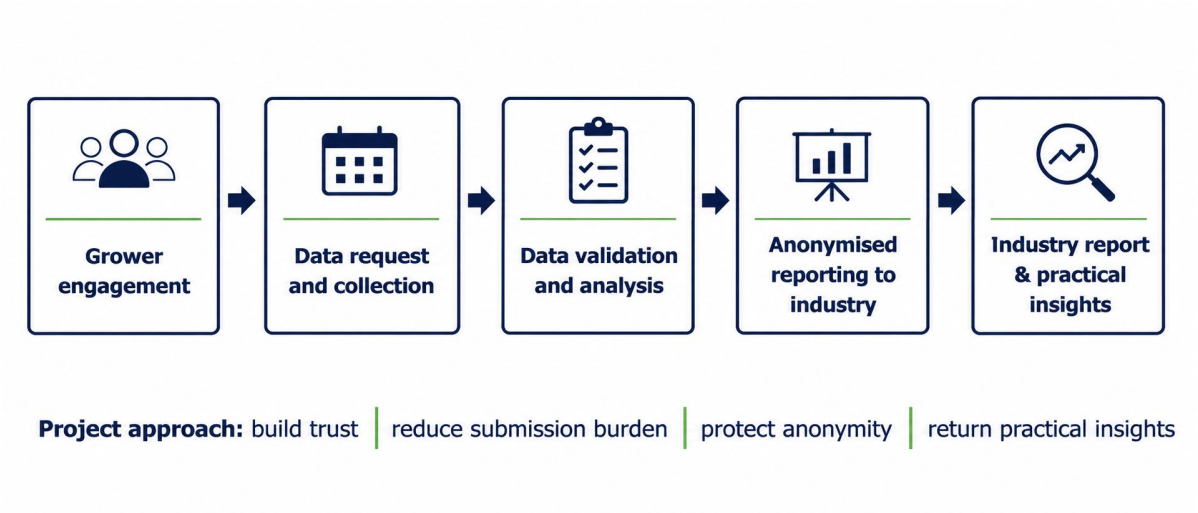


Figure 1. Project methodology and reporting flow

Grower engagement and recruitment

The project team did not have access to a centralised list of Australian banana growers. Grower engagement therefore relied on introductions through the Project Reference Group and ABGC, direct communication, industry roadshows, site visits, industry newsletters/ articles and follow-up conversations. In addition, Hort Innovations tried sending out an EDM to all Banana growers through the Hort CRM in July 2024 offering an avenue to register, no responses were received. The project team contacted 72 growers during the project period. The project reports record that 15 indicated no interest, 50 expressed interest, seven were undecided, and a smaller but diverse group contributed sufficient data for industry reporting.

Participation was the principal project constraint. The project demonstrated that trust, convenience and confidentiality are the foundations of benchmarking participation. The team adapted its approach by allowing growers to provide data through several pathways, rather than requiring one rigid data entry process.

Data collection and validation

Growers were able to submit information by completing a data request form, working through the form with the project team, authorising contact with a bookkeeper or accountant, or providing production data and profit and loss statements so that the Aglytica team could complete the data request form. The latter became the most practical option for many participants.

Once received, data was entered into the Aglytica database under a unique identifier. The data was checked for completeness and consistency, and outliers or unclear entries were raised with growers for clarification. Missing data points were treated as blank rather than zero. Owner drawings and non-banana income such as

grants, subsidies and unrelated enterprise income were excluded where required by the project methodology.

Benchmarking analysis

The analysis was built around per-hectare, per-kilogram and percentage-of-turnover measures. Results were reported using overall averages and performance quartiles. The first industry report focused on the 2023 and 2024 seasons, with historical comparisons to previous benchmarking years. The second report introduced both Year-on-Year (Y/Y) and Like-for-Like (L/L) analysis. The Y/Y method described the broader reporting-year movement across the full dataset. The L/L method compared only the growers that participated in both years, reducing the distortion caused by changes in the participant group.

This methodological development was important. Y/Y analysis is useful for describing the overall dataset, but L/L analysis is stronger for understanding how continuing businesses actually moved between years. The final report therefore treats L/L results as especially useful where the question is whether established businesses improved or declined.

Results and discussion

These results provide useful indicators of emerging industry trends and business performance; however, they should be considered alongside the sample size and composition when drawing broader industry conclusions.

Overall project result

The project achieved its central purpose: it re-established a confidential banana industry benchmarking process and produced practical business insights for participating growers and industry. The key result is not simply the annual figures, but the evidence that financial performance is increasingly determined by how well growers convert production into margin.

Across the project period, production, income and profitability moved differently. This matters because it demonstrates that kilogram output alone is an incomplete measure of business health. The 2024 report showed that average production declined by 5% from 2023 to 2024, yet income per hectare increased by 4% and gross profit per hectare improved by $9,164. The 2025 report again confirmed that financial resilience can improve even where production softens slightly within the core participant group.

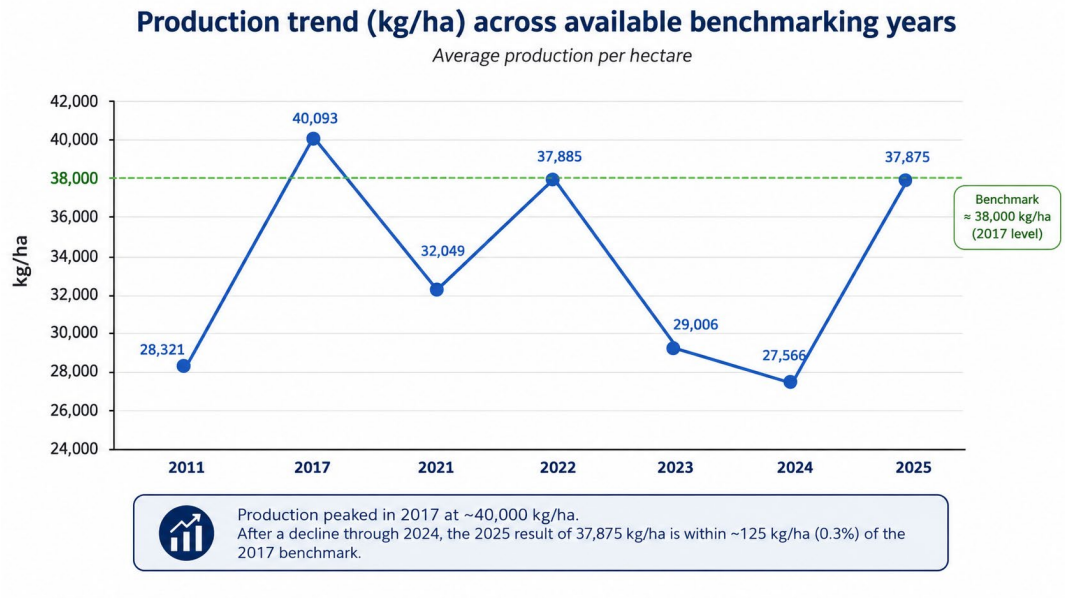


Figure 2. Production trend across available benchmarking years

Production and profitability relationship

The benchmarking data show production improved materially in 2025 compared with 2024, reaching 37,635 kg/ha in the average 2025 Y/Y dataset. This was close to the 2022 level and materially above the 2023 and 2024 results. However, the project reports consistently caution that production is not the only driver of profitability. Some higher-performing businesses did not simply outperform because they produced more fruit; they outperformed because they retained more income after major costs.

This has important implications for future extension. Grower decision-making should focus on saleable kilograms, packhouse recovery, labour efficiency, freight efficiency, packaging control and cost per kilogram. Production growth remains important, but production that carries excessive cost does not automatically increase profitability.

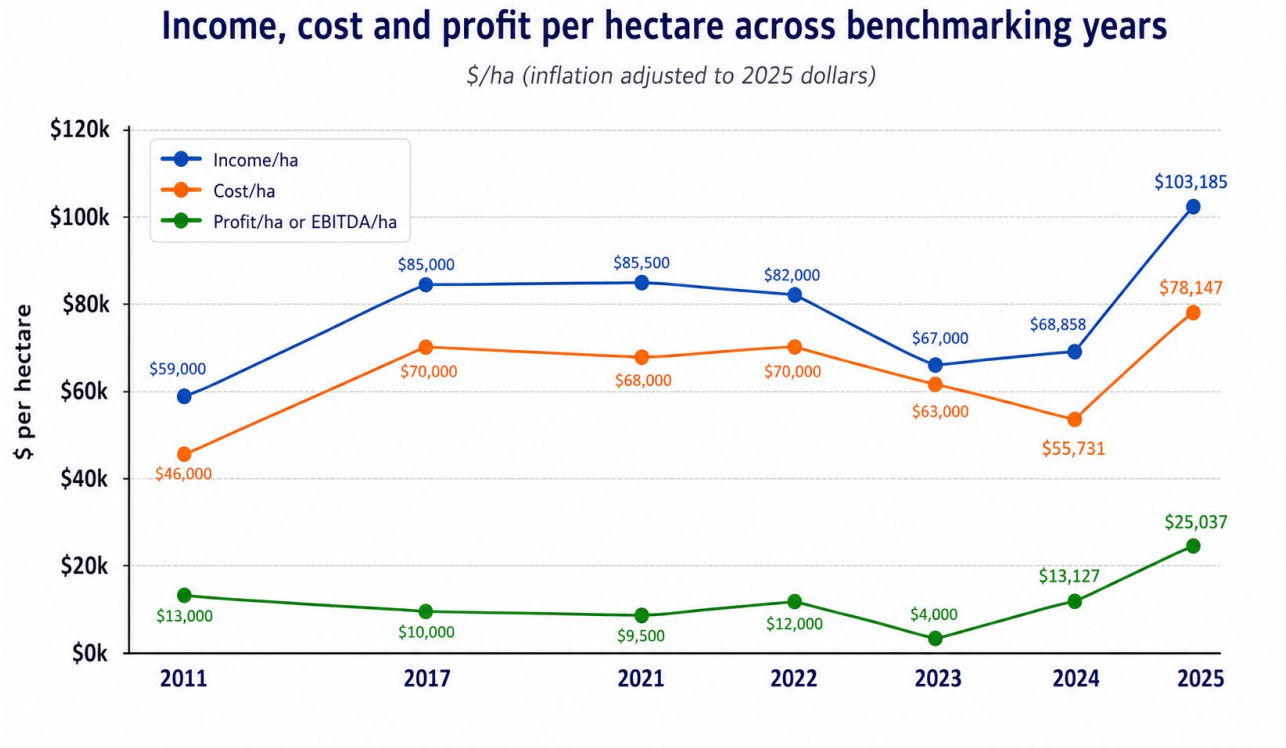


Figure 3. Income, cost and profit/EBITDA per hectare across available benchmarking years

2023 to 2024 findings

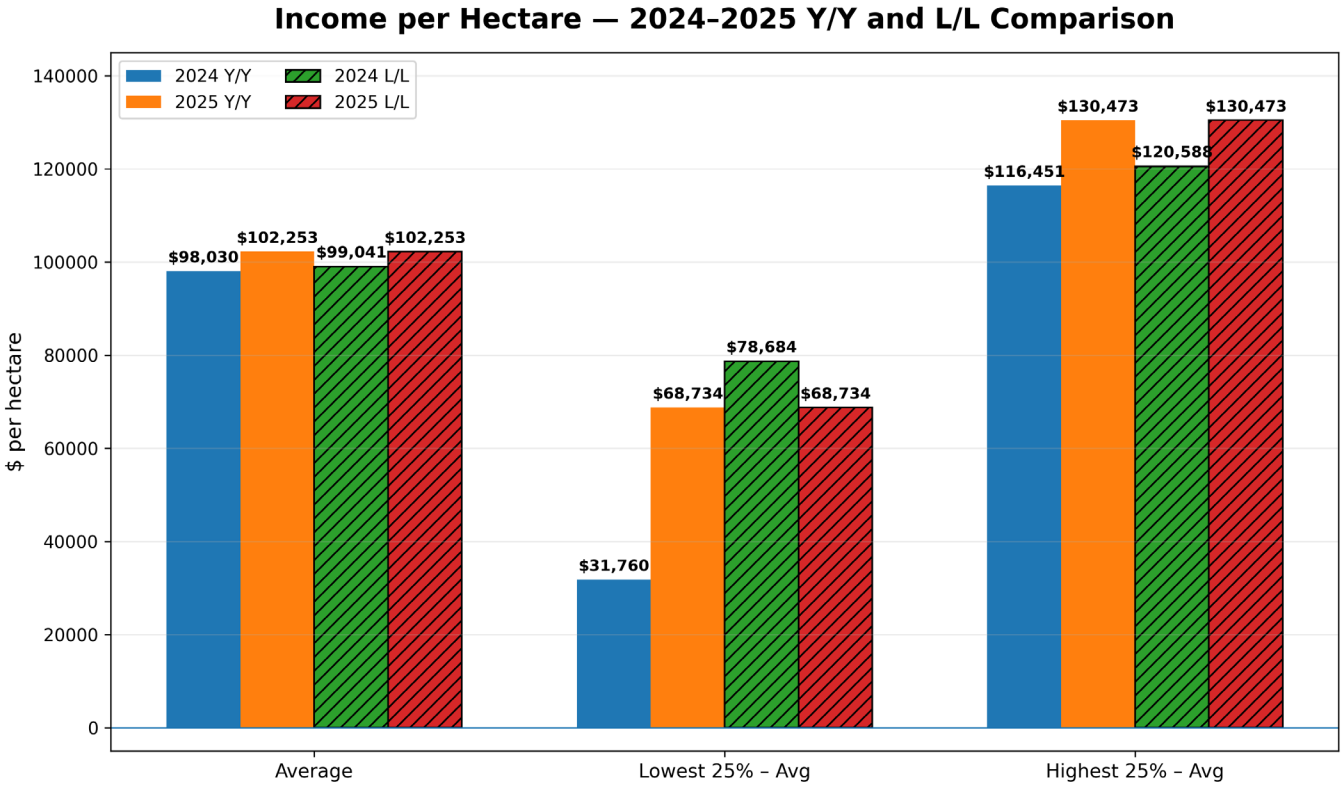
The first annual report identified a significant improvement in average financial performance between 2023 and 2024. Average income per hectare increased from $66,153 to $68,858, while costs per hectare reduced from $62,190 to $55,731. Gross profit per hectare increased from $3,963 to $13,127. This occurred even though production declined from 29,006 kg/ha to 27,566 kg/ha.

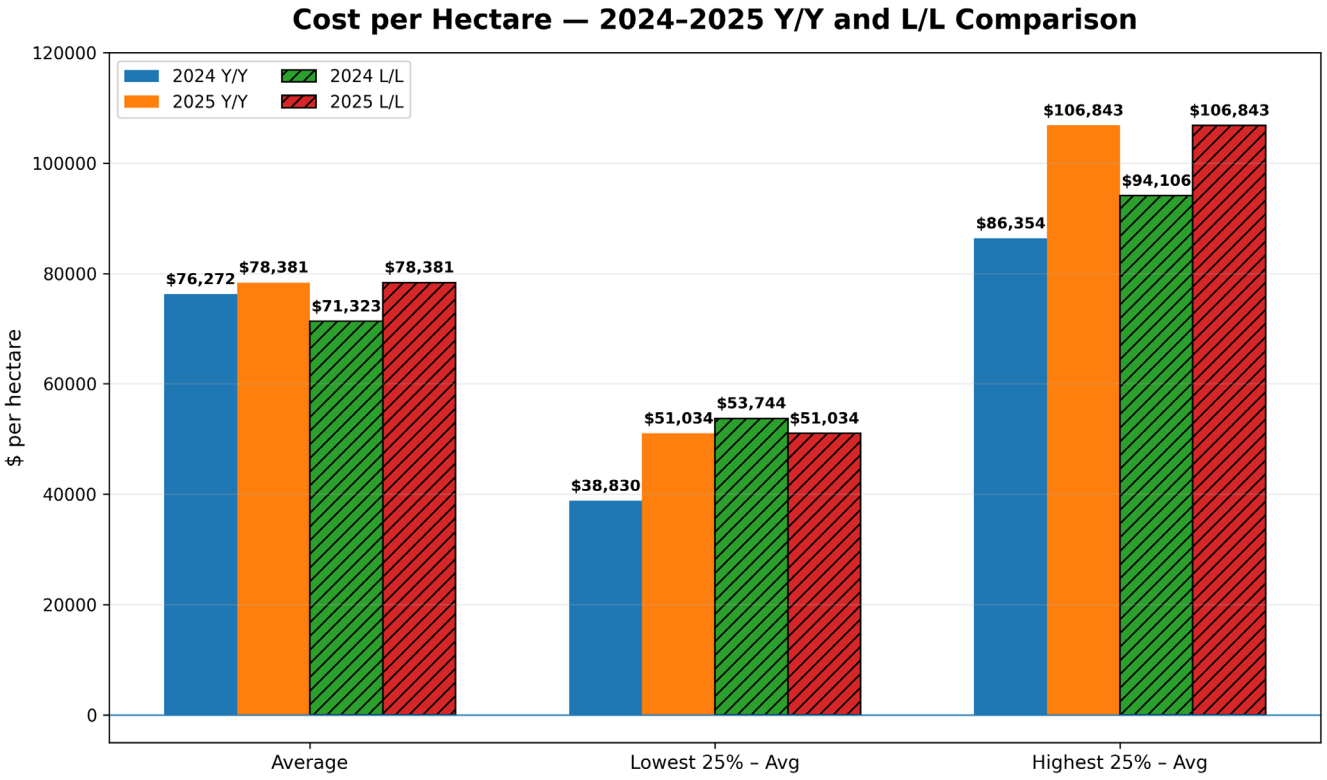
The 2024 result is important because it demonstrates the value of cost discipline. Lower production would normally be expected to reduce profitability. However, the reduction in major costs offset the production decline and improved gross profit. The strongest improvement occurred in the highest 25% group, where cost reduction was materially stronger and gross profit increased from $10,173/ha to $30,437/ha.

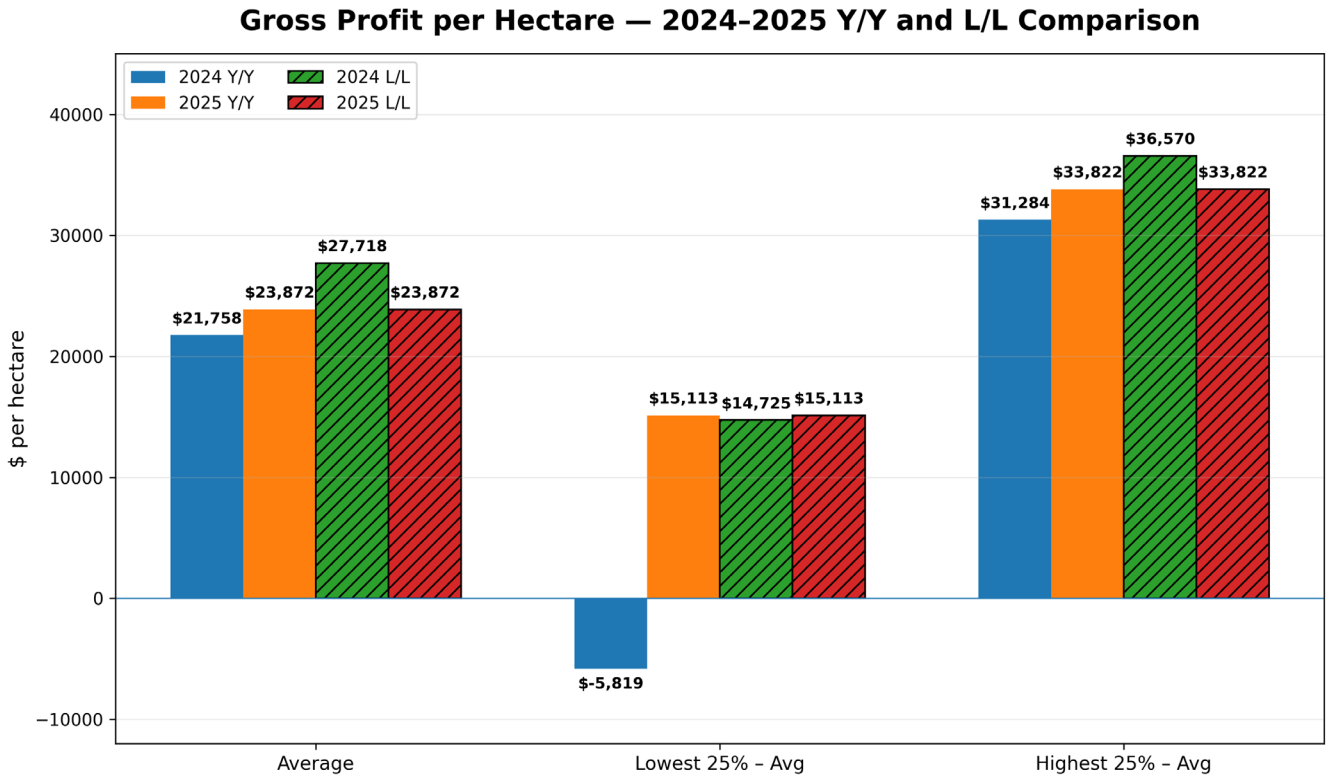
2024 to 2025 findings

The second annual report strengthened the conclusion that business discipline is a key profitability driver. The 2025 Y/Y results show average production of 37,635 kg/ha, income of $102,253/ha, cost of $78,381/ha and EBITDA of $23,872/ha. The highest 25% achieved 50,876 kg/ha, income of $130,473/ha and EBITDA of $33,822/ha.

The L/L analysis added a more cautious and useful interpretation. Continuing growers experienced greater production pressure than the broader Y/Y dataset suggested, but many still improved their financial position through better income conversion, cost control and operating discipline. This means the project should not be interpreted as simply showing a production rebound; it shows that business resilience improved where growers managed the margin between turnover and costs.


Income per Hectare — 2024–2025 Y/Y and L/L Comparison
2024 Y/Y
2025 Y/Y
2024 L/L
2025 L/L
$ per hectare
140000
120000
100000
80000
60000
40000
20000
0
$98,030
$102,253
$99,041
$102,253
$31,760
$68,734
$78,684
$68,734
$116,451
$130,473
$120,588
$130,473
Average
Lowest 25% – Avg
Highest 25% – Avg


Cost per Hectare — 2024–2025 Y/Y and L/L Comparison
2024 Y/Y
2025 Y/Y
2024 L/L
2025 L/L
$ per hectare
120000
100000
80000
60000
40000
20000
0
$76,272
$78,381
$71,323
$78,381
$38,830
$51,034
$53,744
$51,034
$86,354
$106,843
$94,106
$106,843
Average
Lowest 25% – Avg
Highest 25% – Avg



Major cost drivers

A central project finding is that a relatively small number of cost categories dominate business performance. Labour, off-site transport, single-use packaging, fertiliser and chemicals, and energy collectively accounted for approximately 69.5% of grower expenses in 2024 and approximately 70% of operating costs in 2025. This provides a clear focus for future extension and business improvement activity.

The key insight is that small percentage improvements in these cost categories have disproportionate financial impact. A 1-2 percentage point improvement in labour efficiency, freight efficiency or packaging use can have more effect than many smaller savings elsewhere. For growers, this means benchmarking should become a practical management tool, not simply a reporting exercise.

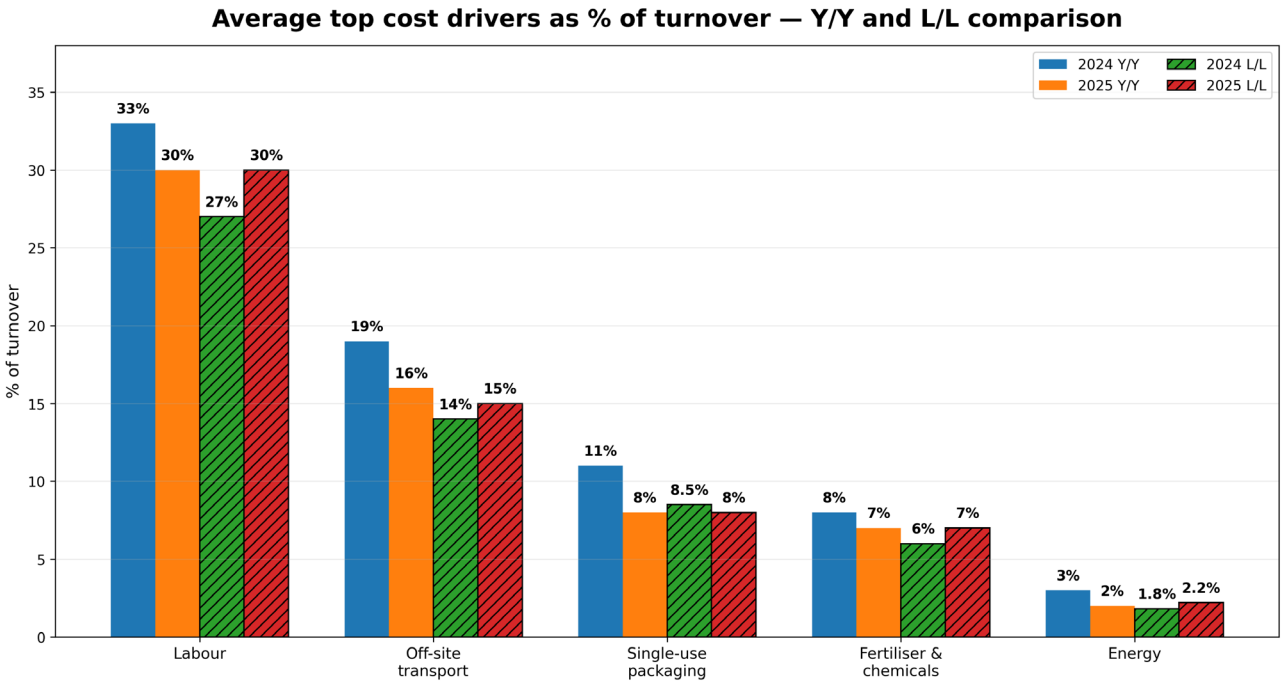


Figure 5. Major cost driver comparison

Labour

Labour remained the largest single cost across the project. In 2024, labour accounted for approximately 33% of turnover. The 2025 report continued to identify labour as the strongest controllable lever available to most growers The Y/Y analysis showed average labour costs reducing from approximately 33% to 30% of turnover. However, the L/L analysis indicated a smaller reduction among growers who participated in both years, suggesting that while labour efficiency improved across the benchmark as a whole, labour remains a significant and ongoing cost pressure for individual businesses. This difference reinforces why L/L analysis is useful: it reveals that the improvement in the broader dataset was partly influenced by participant mix.

The project does not support a simplistic conclusion that labour reduction alone is always beneficial. Rather, the finding is that labour productivity is critical. Reducing labour hours without affecting fruit quality, recovery or packhouse performance may improve profitability, while under-resourcing labour can shift costs into lower fruit recovery or poorer pack out. Future benchmarking should continue to link labour to saleable fruit recovery, cartons packed, and EBITDA per kilogram.

Freight and logistics

Freight remained a structural pressure. The 2024 report identified off-site transport costs increasing from approximately $0.39/kg to $0.42/kg between 2023 and 2024. In the 2025 report, freight costs generally improved as a share of turnover for average and highest-performing groups where income strengthened, but the lowest 25% experienced freight cost pressure. The L/L analysis indicated that freight pressure remained more persistent within continuing businesses than the broader Y/Y comparison suggested.

This finding indicates that freight is less flexible than some variable costs and can quickly compress margin where turnover weakens. It also suggests that logistics optimisation may require collective or supply-chain-level solutions as well as individual grower management.

Packaging

Packaging remained a major cost but was more responsive to production movement than labour or freight.

The 2024 report recorded packaging costs remaining steady at approximately $0.23/kg. The 2025 report found that packaging costs remained relatively controlled despite lower production volumes, suggesting growers generally adjusted packaging use in line with reduced fruit throughput.

Despite this, the scale of industry packaging cost remains significant. The2025 report estimates the annual cost of single-use packaging exceeds $60 million across the Australian banana industry, excluding waste disposal and recycling costs. This remains a candidate for further investigation and potential cross-industry innovation.

Fertiliser, chemicals and energy

The 2024 report recorded a 40% year-on-year reduction in fertiliser and chemical expenses from the 2023 records, with fertiliser representing up to 55% of that cost category. Based on the records from previous reports and additional data it shows that the % of turnover for Fertiliser chemicals has been 2011 – 10%, 2017 -8%, 2021- 5 %, 2022-11%,2023-11%, 2024- 7% and 2025 – 8%. While a small number of other growers had rejection rates as low as 5% Stronger growers appeared able to reduce input costs while maintaining production, suggesting opportunities for more efficient input management.

The 2025 report showed a more nuanced result. Fertiliser and chemical costs remained controlled overall, but the L/L average increased from approximately 6% to 7% of turnover, suggesting continuing growers-maintained input programs to protect plant performance and future production potential. This is an important distinction: input reduction may improve short-term profitability, but the data should not be interpreted as recommending indiscriminate reductions in agronomic inputs.

Energy remained comparatively stable. The project findings suggest energy management matters, but energy was not as large a driver of performance variation as labour, freight or fruit recovery.

Fruit rejection and secondary income

Fruit rejection emerged as one of the most important areas for future data capture and industry improvement. The project reports indicate some participating growers reported rejection rates of 10-20% of harvested fruit. However, a few growers indicate that their rejection rate was at 5% of total picked fruit as a result of good plantation and packhouse management including having alternative markets for the rejected fruit, albeit at a reduced sale price per kilogram. This has a direct effect on income because costs have already been incurred to grow, harvest and present the fruit.

The project therefore points to fruit recovery as a major profitability lever. Improved on-farm management, packhouse practices, defect reduction, improved grading feedback and development of secondary income opportunities could all improve returns. The 2025 report specifically recommends strengthening fruit recovery and reject management, including secondary income opportunities for fruit rejected from primary markets.

Compliance burden

Compliance was identified as an emerging issue requiring deeper measurement. The 2024 report identified compliance costs as a growing burden, particularly for small to medium farms, with anecdotal estimates of up to 2,000 hours per year. The final public summary further notes that for some businesses the time commitment may be equivalent to between one and three full-time employees.

This is not simply an administrative cost. It is an opportunity cost. Time spent maintaining compliance systems can reduce time available for production improvement, innovation, staff development, business review and market planning. The project did not collect sufficient structured compliance data to quantify this across the industry, but it identified the issue clearly enough to justify future work.

Outputs

The project produced the following tangible outputs. The two annual benchmarking reports are recommended as appendices to the final report.

Output	Description	Evidence/availability
Project benchmarking model and data collection process	A confidential data collection and analysis process developed for banana growers.	Used to collect, validate, anonymise and analyse grower data.
Grower contact and engagement program	Direct engagement through ABGC links, PRG introductions, phone/email follow-up, site visits and roadshows.	72 growers contacted; multiple submission options provided.
Individual grower benchmarking reports	Confidential reports allowing growers to compare against industry average and quartile groups.	Provided to participating growers with allocated time for discussion. See appendix C for an example proforma that was used.
2023/24 annual industry report	Industry report covering 2023 and 2024, major cost drivers and historical comparisons.	Referenced as Appendix A.
2024/25 annual industry report	Industry report with Y/Y and L/L analysis, expanded cost-driver review and recommendations.	Referenced as Appendix B.
Industry insights and recommendations	Identification of major cost categories, fruit rejection, compliance burden and packaging issues.	Informed final report recommendations (this report).

Outcomes

The project outcomes are best understood as changes in access to information, grower awareness, industry understanding and future capacity to undertake business improvement. While practice change was not measured formally through adoption surveys, the project produced evidence of the areas where changes would most likely improve business performance.

Outcome	Alignment	Description	Evidence
Improved access to business performance information	Outcome 4: Business insights	Participating growers received confidential comparisons against industry average and quartile groups.	Individual reports and annual industry reports.
Improved understanding of profitability drivers	Outcome 4 and Outcome 3	Project reports demonstrated that profitability is driven by cost control, fruit recovery and income conversion, not production alone.	2023/24 and 2024/25 annual analyses.
Improved industry awareness of key cost drivers	Outcome 4: informed decision-making	Five cost categories were shown to account for around 70% of costs, focusing attention on controllable levers.	Cost-driver sections in annual reports. The growers that received individual reports did comment that the information provided was useful and aligned with these predictions. It appears that some growers did make some changes in the costs, mainly labour, but this was not confirmed as a result of the 2023/2024 report.
Improved benchmarking methodology	Outcome 4: business insights	Introduction of Like-for-Like analysis improved interpretation of year-on-year movement.	2024/25 report Y/Y and L/L analysis.
Identification of future RD&E priorities	Outcome 3 and 4	Fruit rejection, compliance cost, packaging and logistics were identified as priorities for further investigation.	Final recommendations and annual report discussions.

Monitoring and evaluation

The project was monitored through milestone reporting, grower engagement records, data collection progress, annual reports and feedback discussions with participating growers. The following evaluation summary is structured around effectiveness, relevance, process appropriateness and efficiency.

Key evaluation question	Project performance	Continuous improvement opportunity
Effectiveness: To what extent did the project achieve expected outcomes?	The project delivered two annual reports, individual grower benchmarking outputs, a working benchmarking model and industry recommendations. Participation remained lower than desired, limiting representativeness, but sufficient data was collected to identify meaningful trends.	Future projects should begin with a stronger industry-endorsed recruitment pathway and clearer expectations for industry participation.
Relevance: How relevant was the project to intended beneficiaries?	The project was highly relevant because it addressed profitability, cost pressure, labour, freight, packaging, fruit rejection and compliance - issues directly affecting growers.	Future reports should simplify language further and provide more grower-facing action checklists.
Appropriateness: How well were growers engaged?	The team used roadshows, direct contact, site visits, accountant/bookkeeper pathways and assisted data entry. This was appropriate for time-poor growers, but conversion from interest to participation remained difficult. In terms of actual feedback from growers about 50% of the participating growers, noted that the information was useful, reinforced there thinking and provided useful data mainly in the cost factors for future consideration. This was all verbal feedback at the time of reviewing the individual grower reports.	Recruit grower champions if possible and use peer-to-peer recruitment to strengthen trust, providing the industry has paved the way.
Efficiency: What efforts improved project delivery?	The project reduced grower burden by accepting P&L statements and production data, with Aglytica completing forms where needed. L/L analysis improved analytical efficiency and interpretability.	Use integrated accounting exports or tools such as CashPeek-style data feeds where available to reduce manual handling.

Recommendations

The recommendations below are based only on the project reports and data generated through BA22009.

- Increase participation through grower champions, ABGC-supported recruitment, regional engagement and direct support for time-poor growers.
- Retain Like-for-Like analysis in future reports because it provides the clearest view of how continuing businesses are actually performing.
- Make labour productivity the first management focus in future extension, including workflow, labour deployment, harvest efficiency and packhouse productivity.
- Develop a structured fruit rejection and recovery module to quantify on-farm rejection, packhouse rejection and secondary market returns.
- Investigate the cost of compliance as a measurable business cost, including direct cost, staff time, management time and opportunity cost.
- Investigate single-use packaging costs and potential industry-level alternatives, given the scale of packaging expenditure identified through the project.
- Review freight and logistics options, particularly for businesses where freight remains a high percentage of turnover.
- Use benchmarking outputs to guide future RD&E investment by focusing on the cost categories and operational issues most strongly linked to profit margin.
- Ensure future reports provide both industry-level trends and practical grower actions so benchmarking is seen as a business tool, not only a reporting exercise.

Refereed scientific publications

Nil

References

Nil

Intellectual property

Nil

Acknowledgements

Aglytica and the project team would like to acknowledge the substantial advice and assistance of the ABCG during the execution of this project.

Appendices

Appendix A - Banana Benchmarking Project: Season 2024 Report **Confidential – available on request from the Australian Banana Growers' Council**

Appendix B - Banana Benchmarking Project: Season 2025 Report **Confidential – available on request from the Australian Banana Growers' Council**

Appendix C – Individualised Grower performance Matrix Proforma **Confidential**