

NURSERY PAPERS

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Mastering the art of gross margins in production nurseries

Financial analysis allows growers to look inside the workings of their business and improve decision-making.

That's the key message from Yarralumla Nursery Production Supervisor, Nathan Wells, a participant in the 2019 Masterclass of Horticultural Business.

In this Nursery Paper, Nathan speaks about the importance of financial planning in the context of nursery production and highlights important tools, such as gross margin analysis, to boost productivity.

SUMMARY

- While growers have high-level skills in plant production, many are looking to improve their financial literacy to better run their horticultural businesses.
- Courses such as the Masterclass of Horticultural Business are a stepping-stone to build these skills and to gain exposure across all parts of a business plan including financial planning.
- In particular, a gross margin analysis is an effective way to generate data to provide a better understanding of the business and therefore make better decisions.
- A valuable measure for comparison of nursery crops is gross margin per m².
- Gross margin analysis gives growers an edge in an increasingly competitive environment and provides a clear picture of the production and dispatch processes of the business.

BACKGROUND

Historically, financial literacy had not been a key focus for many Australian small businesses. Fast forward to 2019 and the tide has changed, with both owners and senior staff placing a significant emphasis on business acumen.

In the context of nursery production, there has been a shift in the skills required to run a modern and successful business. No longer are growers just required to have strong technical plant production skills, such as in pests and diseases, irrigation and nutrition, they must also understand finance, business planning and human resource management.

To fulfil this new requirement, trained horticulturalists like Nathan Wells from ACT Government's Yarralumla Nursery, are looking to external training to build these skills. In 2019, he enrolled in the Masterclass of Horticultural Business, run by the University of Tasmania and part of the Hort Frontiers Leadership Fund.



Nathan Wells



Financial planning

The Australian nursery industry is one of the most diverse of all horticultural industries. It encompasses a broad spectrum of businesses and production segments, from small to large, and with a customer base across wholesale, retail, government and industry.

According to Nathan, the Hort Masterclass enabled him to examine the costs and revenue flows within his specific business environment.

By generating this data through a gross margin analysis, he gained a greater understanding of the nursery and identified areas for improvement.

“The analysis is a useful platform to inform management decisions and improve the gross margin on nursery stock produced, by examining the time and cost to complete certain tasks, such as hand potting or applying chemicals,” he said.

“It’s crucial to take into consideration the many variables associated with nursery production, such as plant type, level of staff experience and seasonal conditions.

“For instance, plants with a dense branch structure will take longer to stake than those that are upright.

“This analysis is valuable when it comes to justifying expenditure to improve productivity.

“At Yarralumla, the analysis identified a need to reduce the distance to move our plants from potting machines to trailers, so we were able to plan physical changes to our potting shed to improve efficiency.”

Gross Margin Analysis

Overview

A gross margin analysis is the process of measuring the total direct costs of producing and distributing (selling) individual product lines and evaluating this cost against the return for the product (the sale price) to calculate the profit (or loss) made.

Participants in the Hort Masterclass are required to undertake a comprehensive gross margin analysis of their respective businesses. Nursery growers use a different gross margin to their fellow vegetable and fruit growers. For instance, a fruit grower may produce 10 crop lines; a nursery grower may produce 1000.

Nathan explains that the real challenge for nursery businesses is the need to generate the best possible profit in their growing areas, which can be achieved by scheduling crops at the best time of the year to secure the highest gross margin.

“It’s a complex area, as individual products have varying costs of production over the calendar year. For example, a 200mm Photinia ‘Red Robin’ grown during summer has a shorter production time than one grown during winter.

“As the summer crop spends less time on the ground, there are fewer maintenance, water and chemical costs to produce it. In reality, a nursery that produces

400 products per year, yet grows two batches of each product per year, may have 800 individual margins on their products per annum. Whilst this may seem overwhelming, growers may group similar products together to simplify the process.”

Nathan says that many nurseries operate in a supply chain that is demand driven, but can help counter this by implementing marketing strategies to build the appeal and value of certain product lines to increase overall margin.

Conducting a gross margin analysis

A gross margin analysis takes time, but is well worth it explains Nathan. Unlike other horticultural crops, where there may be limited crop lines, he confirms the ultimate figure for comparison of nursery crops is **gross margin per m², not gross margin per unit**. To complete it, he provides a systematic guide:

- 1. Calculate total material costs** including tube stock, pots, industry pot levy, potting media, water, as well as other requirements such as stakes, labels or chemicals.
- 2. Calculate total labour costs** including potting, trimming and spacing, staking and dispatching. The unit of measurement required is hours per unit per person.





Yarralumla Nursery, ACT Government

Labour cost = total wages cost (annual salary as per industry award + annual leave loading + superannuation levy + workers compensation insurance) ÷ by number of working days per year = wages cost per day, then ÷ by number of hours worked per day.

- 3. **Multiply total hours per unit per person for producing crop x labour cost per hour = total labour cost per unit.** Often this number can be quite small (e.g. 0.02 hours to produce a plant), but when multiplied by tens of thousands, it can add up into a significant amount.
- 4. **Calculate other costs:** freight, levies or rebates payable at point of sale, and loss (or disposal) rate (as a percentage).
- 5. **Calculate total material + labour + other costs = total direct costs.**

Additionally, overheads like electricity or leases may also be added here. The total overhead cost per annum can be ÷ by plants produced to give an average overhead cost per unit.

- 6. **Calculate return per unit (sale price)**
- 7. **The gross margin per unit is the difference between total direct costs and net return.**
- 8. **The ultimate figure for comparison of nursery crops is gross margin per m².**
- 9. **To calculate gross margin per m² per year:** Crop turn = number of units sold during a year divided by number of units held in an area based on optimum plant density. To calculate plant density, divide total growing bed area (m²) by total number of plants held at capacity. Multiply the crop turn expressed

as a ratio (e.g. 0.8 or 1.2) by gross margin per m² (gross margin per unit multiplied by units per m²) to calculate gross margin per m² per year.

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Assuming finite space, the crop with the highest gross margin per m² per calendar year is the most profitable for a nursery to grow, says Nathan.

“To illustrate, the 140mm Azalea may have the same gross margin per unit as a 140mm Viola, however the Viola has a significantly greater gross margin per m² per calendar year owing to a higher crop turn. In other words, a Viola grows faster than an Azalea, and so multiple crops can be scheduled for the same m².”
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Nathan Wells (right) believes the gross margin analysis is a valuable decision-making tool. He is pictured with fellow 2019 Masterclass students, Kristian Spink, Marlborough Nursery (left) and David Russell, Wallum Nurseries (centre).

Benefits of Gross Margin Analysis

Generating accurate data on the business is the real benefit of a gross margin analysis, says Nathan. For example, to calculate the gross margin for a crop you need to know your disposal (or loss) rate, to complete the puzzle. Ultimately, the formula helps growers to understand the business better and make better decisions.

Nathan said the results of the gross margin analysis are already paying off. Most recently, the business invested in benches for their greenhouses to increase protected growing capacity and therefore increase crop return. In turn, this generates greater gross margin

per m² per year by increasing the crop turn of products grown in these houses. He also said the nursery is re-designing the workflow inside their machine potting shed and dispatch areas, to improve productivity and thereby reduce the labour component of a product's cost.

Another way the business has used the gross margin data is by presenting the different costs of producing a product in pie charts, which enables the team to visually identify higher production costs. The charts have been circulated to key staff for their input on ways to improve productivity and build margins.

Acknowledgments

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LINKS TO RESOURCES

PAST EDITIONS OF NURSERY PAPERS ARE AVAILABLE ONLINE on the Nursery & Garden Industry Australia website http://www.ngia.com.au/Section?Action=View&Section_id=46

IMPLICATIONS FOR THE NURSERY INDUSTRY

This Nursery Paper has looked closely at financial planning – through the lens of Nathan Wells and his learnings from the Hort Masterclass. It demonstrates how gross margins provide nurseries with a clearer picture of the production and dispatch processes of the business.

Courses like the Hort Masterclass are a valuable opportunity that provides horticulturists and production staff with the knowledge and confidence to analyse the business and make better, evidence based decisions. It enables production staff to become commercially aware and technically competent.

About the Hort Masterclass

There are several Hort Masterclass scholarships awarded to students in the nursery industry every year, which are funded by Hort Innovation using nursery industry levies and funds from the Australian Government. The Hort Masterclass runs for 10 months and covers the following modules:

- Horticulture Management
- People and Culture
- Supply Chain Management and Logistics
- Financial Management and Law
- Horticulture Marketing and Communication
- Global Trends and International Business
- Innovation and Entrepreneurship
- Business Development and Strategy
- Portfolio and Practice

To find out more about the course including 2020 scholarships, please visit the University of Tasmania's website <http://www.utas.edu.au/horticulture>. To learn more about the Hort Frontiers Leadership Fund, please visit: <https://hortfrontiers.com.au/project/masterclass-in-horticultural-business/>

