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Integrated Pest Management driving sustainability at Azalea Grove Nursery

Developing and implementing a rigorous and robust Integrated Pest Management (IPM) program into nursery production businesses is critical to ensure business continuity and sustainability amidst changing environmental and market conditions.

That's the philosophy of Ray Doherty, Production Manager at Azalea Grove Nursery, a NIASA accredited production nursery located in Redland Bay, Queensland.

Operating since 1954, Azalea Grove Nursery is a family run business that specialises in supplying Azalea, Ixora, Argyranthemum, Dipladenia, Kalanchoe, Hydrangea and flowering perennials to big box retailers and independent garden centres.

Putting customer confidence and environmental sustainability front and centre of their business model, Azalea Grove places a high priority on employing best practice plant protection techniques.

"We see it as our responsibility as a business, to have these best practice measures in place to ensure a high-quality product is delivered to market and that we're supplying quality plants that are suitable for immediate point of sale at retail," Mr Doherty said.



Azalea Grove became a NIASA accredited business in 2011. Though having an existing structured monitoring and surveillance system in place, going through the accreditation process gave the business the opportunity to compare current practices against best management practice and have them externally audited.

Now, Azalea Grove is looking to further bolster their plant protection and biosecurity practices on-farm, being one of seven production nurseries participating in a program that seeks to provide production nurseries with a cost-benefit analysis on the implementation of IPM practices and elements.

Led by Greenlife Industry Australia and funded by Hort Innovation using nursery industry levies and funds from the Australian Government, participating production businesses are implementing best-practice plant protection elements and practices that form a strong foundation for effective IPM. This includes the BioSecure HACCP Procedures for: 'site surveillance', 'crop monitoring', 'plant material import inspections', 'other production input inspections' and 'plant material and greenlife product dispatch inspections'.

Employing a rigorous IPM program informs growers of the pest status within their crops at any given time, allowing for better decision making when selecting the most appropriate IPM management method.

To assist and ensure effective implementation of the IPM elements through the program, external consultants from Biological Services were engaged to provide technical expertise on-farm by performing regular structured crop monitoring. Biological Services could make recommendations to participating production nurseries in the areas of: pests and disease identification, crop lifecycle, population thresholds and methods for management.

"The consultant regularly assesses the crop monitoring program we have implemented and overlays a randomised pattern to ensure that we rigorously cover the entire site," Mr Doherty said.

"As we had an existing pest management and monitoring system in place, we've been able to directly utilise the recorded information to assess chemical use and plant stock



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losses and discards over time, allowing the business to seamlessly incorporate requirements of the IPM program.

“Having an expert consultant out at the nursery, has also provided a great opportunity for our business to train employees in crop monitoring, demonstrating and educating our staff on best-practice techniques covering observation techniques, handling techniques and release patterns. This training has boosted the capability of the two full time staff members working on the plant protection team.

“Crop monitoring is an integral component to IPM, which if done correctly, is likely to detect a pest infestation at a rate as low as five per cent within a crop or area of the nursery.

“Though the initial costs and requirements associated with establishing best-practice plant protection systems requires investment, businesses can reap long-term benefits by mitigating incursion risk and bolstering customer confidence.”

Hitting its first-year milestone, the project team at Greenlife Industry Australia has collated preliminary data, providing an initial glimpse into the cost range of managing plant pests across the seven production nursery categories, including:

- Average cost of chemical spraying per year is \$11,100 per hectare (inclusive of labour and chemical costs)
- Average cost of biological controls per year is \$4,600 per hectare (inclusive of labour and biological organism cost)
- Average lost revenue attributed to pest and disease of \$18,100 per hectare per year

“I’ve always seen great value in industry comparisons, to help us take stock of where we’re at by benchmarking where the business sits in the market against our peers,” Mr Doherty said.

“After seeing the preliminary comparison data, I was happy with where our business was at in terms of plant stock losses and discards over time.

“A business may not succeed or fail based purely on the existence of a robust IPM program, but it’s a highly effective management tool to mitigate risk of pests and disease, minimise costs, and help ensure you’re providing a good quality product to customers.

“As Azalea Grove operates in an agricultural area and with residential real estate starting to be established nearby, it’s imperative that we are adhering to stringent pest and disease and environmental sustainability measures to ensure continued business viability.

“In Redland Bay and surrounding areas, there is a very mature horticultural market. If we’re able to make incremental improvements over time, whether that is two per cent year on year, then we’ll be able to consolidate our market position and remain competitive and sustainable.

“Undertaking a cost-benefit analysis on the implementation of IPM elements will be critical to future planning and ensuring continued improvements in efficiency and productivity.”

At the conclusion of the project in 2021, the project team will compare data collected around the level of pest and disease management by each business, providing a cost-benefit analysis on the implementation of structured IPM programs in production nurseries.

“Demonstrating less chemical impact is a top priority and goal for our business, not just for cost reductions, but because we’re concerned about the environmental impact on our irrigation water,” Mr Doherty said.

“This data will demonstrate the financial and environmental benefits of IPM and provide an evidence-based database for better decision-making within the business – helping us predict and better prepare for what’s ahead.”

The ‘Improving pest management for the nursery industry’ (NY17009) project is funded by Hort Innovation using nursery industry levy and funds from the Australian Government.

Watch the video case study, [here](#).

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