

Grower case study — MC15004 Australian Macadamia Industry Innovation and Adoption Program

Grower	Elle Revell
Location	Rous, Northern Rivers of NSW
Orchard details	About 10,000 trees over 30 ha, with a wide range of varieties and ages including some more than 30 years old.

What was the research about

Between October 2016 to April 2021, *MC15004 Australian Macadamia Industry Innovation and Adoption Program* (delivered by The Australian Macadamia Society (AMS)) worked to enhanced innovation and technology adoption and facilitated capacity building in the Australian macadamia industry. The project supported the role and activities of a dedicated macadamia industry productivity development manager (IDM) and delivered activities including MacGroup workshops, regular grower and consultant meetings, trips and field days, and the production of communication materials, such as videos and industry publications.

Below, Elle Revell, a grower in the Northern Rivers of NSW, talks about her involvement in MC15004, why the project was important and how it changed her family’s business.



Re-planted block on Revell Farms (supplied Elle Revell)

Why did you get involved in the Macadamia Innovation and Adoption Program?

“We have only been here for 3.5 years, so being a relatively new person in the industry it’s good to see what other people are doing and hear about the research. Otherwise, it’s only our small team on the farm. We run some trials ourselves on farm, but we are limited by time and the ability to measure yield. Yield monitoring technology on farm in macadamias is still developing so we get our yield data from the processors by sending nuts in separate batches. With storage and logistics, at our scale, it is not efficient to run too many trials at once. Being involved with the project means that we don’t have to try and run every trial ourselves. We can see the results of the wider industry trails and research and adapt this to our farm as well as sharing the results of our own work. The networking is also one of the great strengths, I can get in touch with the AMS the IDM with an issue and they’ll put me in touch with someone to talk to.”

What was your involvement in the Macadamia Innovation and Adoption Program?

“I think I’ve nearly been to everything they have put on. I go to the MacGroups and workshops, and the online resources are also useful. We are grafting this week, so we are searching the database for that to keep up-to-date on research. We have also been to a few canopy management field days, and the nursery standards workshop which was good. The pollination podcast was really good too. More recently they have released the book “Macadamia Grower Toolkit” which would have been great when we started. Even as we are now more experienced it’s still of value.”

What changes have you made as a result of your involvement in the Macadamia Innovation and Adoption Program? What have been the results?

Canopy management. “The canopy management field days which has cemented a plan for us over the next 5 years as we

were a bit undecided. We have decided to put more money into it as we have the reassurance that we will get the money back. So we are going to start taking out about 20% of the canopy from the older trees, and we now have the confidence to go about that. Through the program we had access to the researchers, demonstration sites, and farmers who have done the trials with the backing data so we could see that replicated and have the confidence. For us its early days to know the change at a business level, because macadamias are so slow growing and slow to react. They only produce nuts on 2-3 year old wood so it takes a while to see the results of something like canopy management. But the innovation program gives us the confidence that we are moving in the right direction as we hear from other growers and researchers who have done the work and crunched the numbers.”

Pollination and pest management. “We made changes based on the pollination podcast. It talked about how macadamias don’t usually self-pollinate, so now we are making sure we are putting different varieties in as we develop our blocks and supporting native bees with cover crops and shrubs including inter-row planting of shrubs down the centre of our wider rows. We’ve also seen some good results from this with regards to pest management. With a trial strip of 6ha we only applied one weevil spray in the 2021-22 season, but it got the same yield as the conventional pest control with 4-5 pest sprays. That is only one year so we might have been lucky, so we will run it again this year which will likely be a higher pest year due to the weather.”

Nursery management. “The nursery workshop was really good. It went over all aspects of growing macadamias in a nursery, so that got us going with best practice for setting it up, and how to meet market standards. Having a two-day event gave us exposure to all the different practices.”

Chemicals. “At the last MacGroup they did a big chat about the new chemistry that we have available, so we have changed some of the chemicals that we would use. They had both the researchers and the chemical company and also growers there so it seemed a bit more objective, and a good forum for discussion about usage and regulations. You have to be really careful when they put out new chemistry, so it is great to have the support.”



Inter-row plantings for pollination and pest-management (supplied Elle Revell)

What are the challenges to ongoing innovation?

“An unsteady price is a huge challenge. If you run out of money you are going to stick to what you know, and you pull back a bit from innovation. In some ways the lower price does makes you think more about how to cut costs, like with the inter-rows and compost, as you can’t afford the inputs, but in other areas you will be more risk averse and not innovate— not because of lack of wanting to but because of a lack of cashflow. And another huge challenge to macadamias generally, and one that new research can hopefully help address, is new or increasing pest pressure and unstable changing weather patterns.”

MC15004 Australian Macadamia Industry Innovation and Adoption Program was funded by Hort Innovation, using the macadamia research and development levy and contributions from the Australian Government. This case study was developed as part of MT21015 Horticulture impact assessment program 2020-21 to 2022-23, funded by Hort Innovation, using research and development levies from across horticulture, and contributions from the Australian Government.

Hort Innovation is the grower-owned, not-for-profit research and development corporation for Australian horticulture. For more information visit www.horticulture.com.au.

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