

SUSTAINABLE SUCCESS STORIES

Leading Use of
Compost and
Cover Crops Yields
Strong Results for
Thorndon Park
Produce

Sustainable Success Stories showcase how the Adelaide and Mount Lofty Ranges NRM is working with industry to improve production outcomes in the South Australian vegetable industry.



Compost and Cover Cropping work at Thorndon Park Produce

Waterloo Corner based vegetable grower Anthony De Ieso has seen strong results through soil

monitoring, nutrient management and use of compost in a new trial delivered through AUSVEG SA and the Adelaide Hills and Mt Lofty NRM Board.

Background on the trial

AUSVEG SA engaged Dr Doris Blaesing in 2019 to set up a trial to better manage salinity and crop nutrition on a challenging block at Thorndon Park Produce in Waterloo Corner. Increasingly saline water and a dry summer had posed challenges in bringing the block into full production, so Anthony participated in the Advance Compost trial as a way to improve crop nutrition management and see if compost could be used to better manage the effects of salinity.

Further trials conducted over 2019/20 further fine tuned production on the block and incorporated use of other techniques such as cover cropping and advanced nutrition management practice through linkages with the national Soil Wealth and Integrated Crop Protection project.

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About Thorndon Park Produce

Thorndon Park Produce are quality growers of bunch line produce such as kale, beetroot, radishes and spring onions. Anthony has long run the packhouse side of the business with his father managing the growing side of the business. In recent years Anthony has increasingly stepped into the growing side of the business and now manages the Waterloo Corner block for Thorndon Park Produce where he has introduced a number of new production practices such as Integrated Pest Management.




The problem

Over long hot summers Anthony recognised a number of issues with crop production at his Waterloo Corner block. In particular, Anthony faced considerable challenges in managing the effects of salinity due to spikes in the salinity of his bore water as well as the fact that the land had become less productive after years of cropping and his need as a bunch line grower to continuously crop throughout the year.

Trials and production practice change

Dr Doris Blaesing of RMCG worked with AUSVEG SA and on the ground agronomists at Complete Ag and Seed Supplies Virginia to set up a trials as well as ongoing follow up to implement other practice changes gradually over time. Pre plant testing was conducted at the site before applying compost kindly supplied by Peats Soil to the crop at a rate of 4.5 tonnes per hectare to a crop of kale. One area received compost only and soil applied, preplant DAP, another area was treated with compost mixed with DAP at the usual preplant application rate, omitting the soil applied DAP. Controls were set up to show the difference between areas of the crop where compost had been applied and conventional management. Initial pre plant testing showed that due to ongoing use and application of fertilisers there were already significant residual nutrients in the soil. As such, Anthony was able to significantly reduce his fertiliser programme over the crop and conduct follow up testing to measure uptake of these nutrients as the plants grew. Follow up monitoring was then conducted using soil moisture monitoring equipment supplied by MEA which allowed Anthony to fine tune his irrigation to prevent overwatering and better manage salinity issues. Anthony found the trial to be extremely successful in introducing organic matter to his trial block which helped with a number of issues such as improving drainage, soil structure and led to a more consistent overall crop.

In addition to the compost work, Anthony has finetuned his production over the past year by incorporating top dressing compost trials. He has now incorporated top dressing compost into this farm fertiliser regime with the aim of adding organic matter to manage salinity issues and promote better plant nutrition and repair of the soil after bed forming. The trial blocks established under the AMLR NRM compost programme continue to produce exceptional crops after the trials and Anthony continues to access state and federal R&D programs as well as commercial suppliers to trial new practices and products on these blocks.



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Anthony is positive about his experience in participating in R&D trials on his property. “Trials are a great way to discover new products and growing practices. In our business we have adapted our growing practices over time to incorporate a greater amount of organic amendments and lower our reliance on synthetic fertilisers, leading to better soil structure and salinity management” said Anthony.

“Participating in the trials was important first step in proving that research concepts could be applied on our farm so we could fine tune our growing practices. We have updated our growing practices to incorporate top dressing, cover cropping and other practices which have improved the quality of our crops under production”

Anthony is also eager about sharing his knowledge more broadly within industry.

“We regularly participate in field days and industry events to share knowledge and have a young growers group where we all share information regularly. Issues like salinity are region wide, so it is good to share our experiences so we can improve how we manage production issues on a regional basis.”

Key practice change results

The new practices introduced resulted in a number of benefits for Anthony including:

- More even crop growth and quality resulting in a better cut out rate (marketable yield)
- Introduction of organic matter and targeted irrigation management with reduced water input to better manage the effects of salinity on the block and improve soil drainage.
- Stronger root growth where compost was applied and better uptake of trace elements
- Improved crop longevity, longer harvesting period
- Better soil water holding capacity.
- Time savings from reduced need to apply a fertiliser programme and reduced irrigation costs through use of soil monitoring to more efficiently irrigate.
- Reduced harvesting and packhouse costs through less grading and increased percentage of marketable produce with less wastage.

Background on Sustainable Success Stories

AUSVEG SA and the AMLR NRM board wanted to highlight the significant trial work and innovation which has occurred in the Northern Adelaide Plains over the past few years as a means of highlighting the growers who have made significant advances in improving the sustainability and efficiency of their practices.

Background on our partnership

AUSVEG SA and the Adelaide and Mount Lofty NRM Board have partnered for a number of years to deliver extension activities and activities which highlight and support the adoption and promotion of sustainable practices in the intensive horticulture industry throughout the Northern Adelaide Plains region. The Northern Adelaide Plains is one of the most prominent horticulture regions in Australia and produces over \$500 million in horticulture per annum at the farm gate with key crops including greenhouse produce, potatoes, onions and other vegetable crops.

AUSVEG SA and AMLR NRM have had a strong working relationship in a number of areas and have conducted significant work together in areas such as Integrated Pest Management extension and trials, advanced compost use, biosecurity practice change and weed management over the past years.

Further information

This projects outlined in this case study were delivered by AUSVEG SA in partnership with the Adelaide and Mount Lofty NRM Board and national Soil Wealth and ICP project.

AUSVEG SA and the AMLR NRM have a number of resources and programs designed to assist South Australian horticulture producers to improve their practices and any interested growers can contact Jordan Brooke-Barnett, AUSVEG SA CEO on 0404 772 308 or Jordan.brooke-barnett@ausveg.com.au to discuss programs and opportunities.

Images have been provided by AUSVEG.