

2009 Australia / South Africa Exchange IPPS Paper

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INTRODUCTION

My name is Dan Austin, I work for TAFESA at the Urrbrae Education Centre in horticultural facilities and more recently as a lecturer. In 2009 I was the IPPS Southern African Exchange participant. I was lucky enough to split my time on the exchange in S.A. staying in two very different climatic zones. After a quick stop at Johannesburg I was on to Durban, Pietermaritzburg, and Umpholzi for a week. This area has wet summers and dry winters and I found, has a much stronger African feel than Capetown where I spent the second leg of my journey. Finally, the conference was held an hour or so out of Capetown at a whale-watching town called Hermanus. I got to study many nurseries and sites of horticultural significance and the photographs have already been put to use as teaching resources for classes. During the trip I was given exposure to:

- Nine production nurseries, three forestry nurseries.
- One succulent nursery, four retail garden centers.
- Two advanced tree nurseries, one nursery tradeshow.
- Two forestry trial sites, two tissue culture labs.
- One roof-top garden, three game reserves.
- Three botanic gardens, one edible and medicinal plants tour at Kwazulu Natal University.
- One meeting with hydroponics students at a technicon.
- And much more.

On the journey I also was able to study the native flora. Some of the most noteworthy included the:

Flat top acacia (*Acacia abyssinica*) and flat crown (*Albizia adianthifolia*). The flat tops of Africa are fantastic. I got off the plane in Durban and they were everywhere. I naively thought they'd be in Capetown too but I was wrong so I missed out on photos.

Sausage tree (*Kigelia africana*). This is a strange one, the oil is sold as a remedy for skin cancer and the woody fruit can be several kilos.

Fever tree (*Acacia xanthophloea*). This tree is almost luminescent green in the right light; it got its name because settlers sleeping under it often caught malaria as its canopy creates a nice humid microclimate that mosquitoes seem to enjoy.

Ghaap (*Hoodia gordonii*). *Hoodia gordonii* is an unusual little succulent. It has been used by native people as an emergency food and as a thirst and hunger suppressant and there must be some truth to it because pharmaceutical companies are now processing it for weight-loss pills.

Natal plum (*Carissa macrocarpa*). This one is common in Australia but I've included it because I had always wondered why it was called a Natal plum. I had to go to South Africa to realize its pronounced Naataal plum after its native province Kwazulu Natal.

Capetown's fynbos was also in flower while I was there, and seeing this showy plant kingdom really was worthwhile. There were absolutely stunning fields of hundreds of species all in bloom.

Other than studying plants I also gained an insight into the South African nursery industry. Some comparisons I drew include the workforce — much is done by hand with very little mechanization. There was a lot of road repair happening in preparing for the World Cup when I was there. It was happening mainly without machinery just teams of around ten with hand tools to dig up old bitumen. I saw the same thing in a massive trenching project for a high speed broadband cable across Durban. It was interesting to see something as modern as broadband being made possible through labour-intensive methods now uncommon in Australia.

One initiative that I thought was a great idea was at Shadowlands Nursery where a trainer comes to the nursery and teaches formal lessons to workers on site and I believe the training is recognised similarly to what we call accredited training.

The other difference in nurseries I noticed were the innovations nursery managers had come up with. From a nursery next door to an ostrich farm where someone had incorporated broken ostrich eggs and plants into a novel new product, to another utilizing the nutrient-rich wash water from a nearby chicken farm for irrigation.

Mike Kruger has to be the king of innovative thinking. The innovations at "Top Crop Nursery" could fill a book. How do you maintain plugs of turf? Keep them on the ground and mow them with a lawnmower. Mike doesn't actually sell much turf as plugs; he has a machine that cleans and cuts them into pieces that are bagged and sold to be spread like seed. The leftovers in the machine are then spread onto new trays to start the process again. Other S.A. innovations included using toilet roles as tubes, eliminating moving parts in misting sensors and using a conductivity sensor to gauge moisture instead.

I'm involved particularly in the hydroponics program at home at the Urrbrae Education Centre, so it was great to visit hydroponics students at a South African Technicon and was interesting to see how many nurseries were incorporating hydroponics principles. From an Airoponic method of producing eucalypt cuttings using no media only fertigation to a Brazilian gravel bed system the SAPPI Forestry Nursery was using to grow their eucalypt stock. Because of the availability of coconut coir I saw many nurseries producing cells or saleable products using only coir and fertigation, basic hydroponics! I also work closely with rooftop gardens and the vertical farming concept, so it was fantastic to visit a very successful example of a rooftop garden on top of the multi-storeyed environment ministers building in Capetown.

Another highlight was the time I got to spend learning about tissue culture from mixing agar solutions to sterile environment plant division and growing on. I also learnt hardening off methods for tissue culture plants, methods for exportation, and methods for lengthening daylight.

The final contrast worth mentioning was our countries weed exchange. I found it interesting that while Australia has adopted many of South Africa's smaller often herbaceous or bulbous plant species now considered weeds, South Africa seems to be facing a similar problem with our larger tree species with *Eucalyptus*, *Melaleuca*, *Allocasuarina*, and *Acacia* species all causing significant problems as weeds.

All in all the trip was an unbelievably rewarding experience I won't forget. I sincerely thank all those within The International Plant Propagators Society that contributed directly or indirectly to my exchange. I hope to have the opportunity to return the favour in some way in the future.