SYNERGY

20,000 DANCING FEET

If you've been to Adelaide, there's a good chance you've spent some time beneath the trees of the Botanic Garden, or the Botanic Park which sits across from it. Whether you were enjoying the cool shade of the gums and ferns of the Australian Forest, or the dappled shade on the sweeps of lawn in the Park, there's no doubt that it's the trees that make these places what they are and that helping them to thrive is critical to the success of these spaces. Achieving this is not a walk in the park – so to speak. This is South Australia, after all…


Once each year, Adelaide's Botanic Park welcomes world music lovers onto its wooded lawns. The necessary recovery is managed by a skilled team from the Adelaide Botanic Garden. (Photo Tony Lewis)

Karen Smith is one of five Adelaide Botanic Garden curators, and – as you'd expect – together with her team, she's responsible for the routine maintenance of her section of the Gardens. With years of expertise behind her (a specialist degree in plant physiology, time at the Waite Arboretum and Brisbane's Roma Street Parkland among other career moments), she always has an eye out for ways to help future-proof the landscapes in her care – as much as that is possible given these are living, dynamic systems.

As for the types of landscapes and plant collections she's responsible for, it's currently a diverse package. "We manage the Classgrounds where, in 40 different beds, various botanical plant families are set out in a rough sequence to illustrate the evolution of plants. Nearest the gate we have the Ginkgo which is very old in evolutionary terms, while at the other end of the garden are the daisies with their highly evolved structure." Also on the team's patch is the Mediterranean plantings that flank the Rill, the Australian Forest filled with species from New South Wales and Queensland, and the contents of astonishing architectural feature that is the Bicentennial Conservatory. Oh and then there's the Botanic Park which sits opposite on Plane Tree Drive which the team also manages.

Given the Botanic Park's 34 hectares it's no wonder an aboriculturalist and turf maintenance person are dedicated to her team. But as she explains, it's not just the size of the area or the number of trees which makes maintaining the Park a challenge. "Up until ten years ago, WOMADelaide was a biannual event over two days, but that has since shifted to a long weekend every year." This much loved world music festival has been a part of Adelaide since 1992, and it now welcomes 20,000 people to a responsible event which minimises its waste and offsets carbon generated by artists travel through greening programs to ben-efit the state. But until recently nothing seemed to ease the effects of all those dancing feet.

This glorious landscape is able to be enjoyed year round, thanks to some thoughtful and proactive horticultural management.
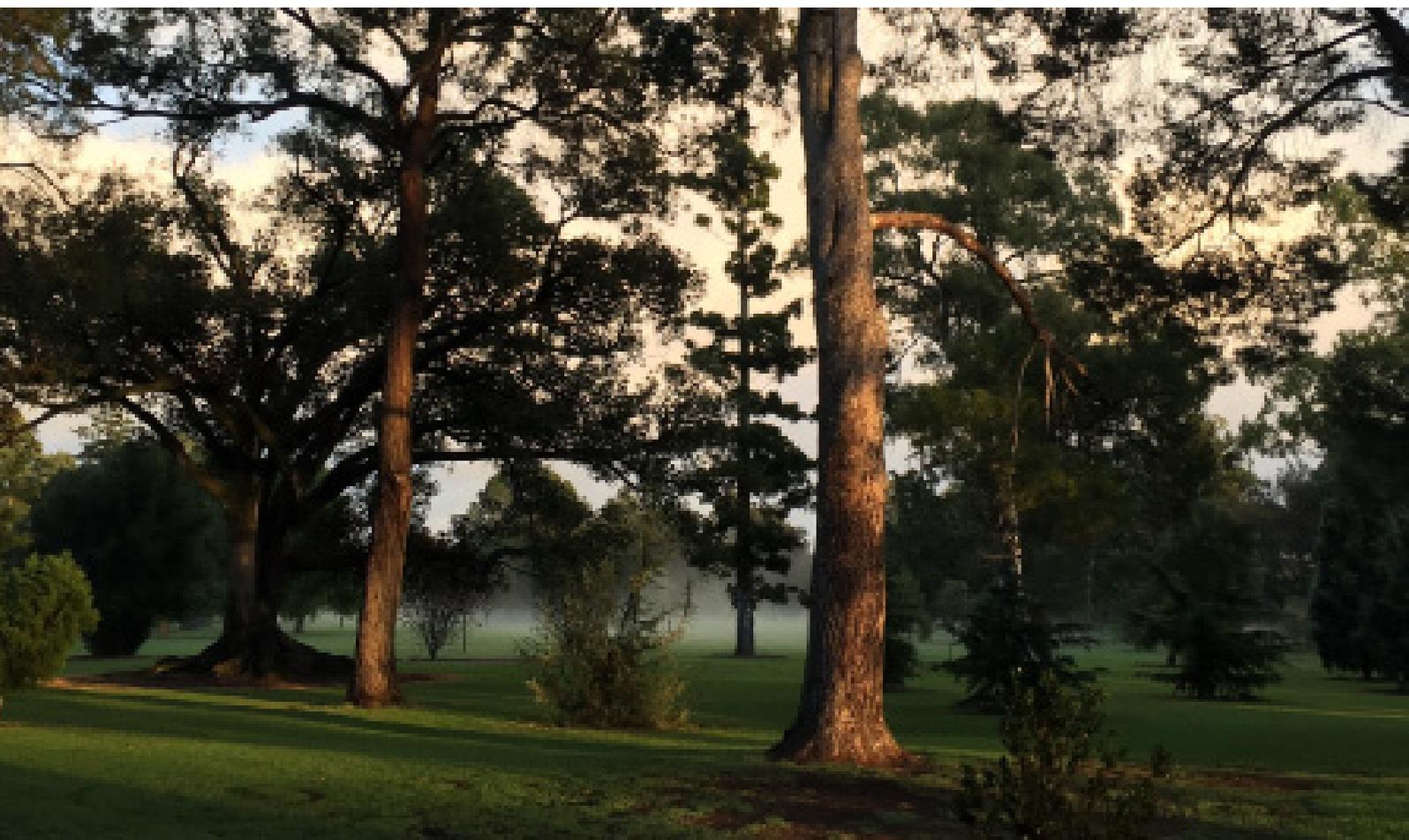
"We couldn't water the site for three weeks around the event, and when we did, the water would just pool. Previously we cored areas of the lawn, but given the number and position of the trees, access was difficult." And then Karen spotted the earthquaker – a sports turf rejuvenation tool. The blades hit the dry compacted surface at an angle, penetrate just deep enough to grab, twist and shatter the soil without damaging tree roots. Afterwards, water infiltration is much improved. "This is the third season we've hired it and the recovery rate has proved its worth."

Karen also added two more management tweaks to the program. The turf goes into WOMAD quite long, and this seems to give it a head start when the recovery program begins. And any new trees that are planted post the event (there are always some trees which are damaged and need replacing) go into the ground with the recommended dose of TerraCottem. "I discovered TerraCottem about eight years ago. Prior to that, when we planted any new trees, they just sat there. So when I planted some as a test, from the same stock, with the only difference being the TerraCottem and saw the difference, it was unbelievable. I am the biggest promoter and now every tree is planted with it. In the Australian Forest stock from the Atherton Tablelands is shoved into the reality of Adelaide's climate and the survival rate is up 20 to 30 per cent. The TerraCottem is my insurance given the cost of the transportation."

Karen is about to embark on what she calls senior tree treatment; dosing mature trees with a special mix of TerraCottem via a series of bores set around the drip line. "We're interested in treating trees which we wouldn't want to lose either because of the difficulty in trying to source a replacement, or because they may have a cultural connection with visitors." A Fraxinus ornus and Ceiba aesculifolia are good examples of two specimens which could do with a health boost given they are surrounded by WOMAD patrons each hear.

And for all the Wollemi pine orphans Karen seems to be presented with each year – "They've outgrown their pots and are terribly pot bound" – they are planted out with to Karen's specifications and thrive.

The same skill-set and expertise that keeps Botanic Park thriving year round also manages a section of the Adelaide Botanic Garden which includes the Bicentennial Conservatory and its collection.

THE TC ADVANTAGE

TC Advantage is a package deal. It's about supplying TerraCottem (more about that in a minute), along with all the training, technical specification and compliance needed to turn a tricky project into a genuine long-term success. So when anyone has a turf, street tree, revegetation or whatever project to tackle, bringing in the TC Advantage expertise means you get: advice on which TerraCottem product to specify; training so that it's applied for maximum benefit; and monitoring to ensure compliance within the project's specs.

As for TerraCottem, it's a brilliant soil conditioning treatment because it works on various fronts at the same time...

To start with, it uses two main mechanisms to encourage substantial root development – polymers and root growth precursors. The polymers are a little like water-holding crystals except that TerraCottem's hydroabsorbent polymers have been carefully selected and well researched. This means that instead of just one polymer with a narrow water-holding and water-releasing ability, there is a group of them providing the same function over a wide range, for years. To put it crudely, more water can be stored and released under a broader variety of conditions. (To put it precisely for specification purposes: TerraCottem has an absorption capacity of a minimum of 4500 g $H2O$/100 g in distilled water using Method of Analysis CEN EN 13041, with a minimum of 90% of the water contained in the polymers being plant available.)

As for the root growth precursors, by definition a precursor is a chemical compound which leads to another. The precursors found in TerraCottem do exactly this, and for a very good reason. If you put growth hormones into soil, they rapidly biodegrade. But if you put precursors into the root zone, the plants get a kick-start by synthesising their own growth hormones. And this conducive environment – for optimum cell division and elongation – stays like this for 12 months.

Then there is a nicely varied collection of plant nutrients – soluble mineral fertilisers, in a format suited to the early growth phase of a plant; slow-release fertilisers, designed to offer a constant source of food over many months; and synthesised organic fertilisers which focus on the soil, stimulating microbiological activity and general soil health. Add this all together and the result is fast and furious root establishment. This means greater accessibility to water, fewer losses, and, given the reciprocal dynamic between roots and canopy, noticeably vigorous growth. In the longer term, the soil conditioning power of TerraCottem means that plantings are buffered from stress. It's great stuff.