

AUSTRALIAN INSTITUTE OF HORTICULTURE

hortinsights



ISSUE 3 SEPTEMBER 1 2020



From The Editor

Welcome to our spring edition of HortInsights!

In this feature-packed issue, we'll take you armchair-travelling to Far North Queensland's tropical stunners, and to the astonishing gardens of Kew. You can take a trip to Canberra and catch up on landscape trends in the ACT.

We've had fun compiling these stories and hope you have as much fun reading them.

Thanks for being a member of the AIH!

Regards

David Thompson
Engagement Manager
Australian Institute of Horticulture



Gold Sponsors



Fitzpatrick & Co
Insurance Brokers
An Aviso Group Partner

What's inside?

01 From The Editor

02 Horticulture Through The COVID-19
Pandemic

04 I've Always Wondered: Is Rain Better
Than Tap Water For Plants?

06 AIH And Horticulture Education

08 Far North Queensland Gardens – A
Horticultural Respite – All In Our Own
Backyard

12 Member Spotlight: Meet Trevor Fuller
MAIH RH0133

14 Destination: Horticulture – The Iconic
Classic “Kew Gardens”

16 The Mole Truth And Nothing But The
Truth

19 Australia's Real Seasonal Calendar

21 Why Your Business Needs An Extreme
Weather Action Plan



Horticulture Through The COVID-19 Pandemic

By David Thompson, Engagement Manager Australian Institute of Horticulture

Australians have turned to outdoor greenspaces in droves over the last few months as the world is gripped by a pandemic of historic proportions. The indoor has become a place of containment and restriction, while our parks, gardens and green landscapes have offered the kind of COVID-19-safe space that we can turn to in relative safety.

The media reports that visitations to parks has dramatically increased, with the NSW Planning Department figures showing a 46% increase in people's use of outdoor spaces since the arrival of the pandemic.

In addition, the horticulture industry has fared reasonably well as outdoor installations have been able to continue with effective physical distancing practices.

Professional horticulturists know that success in tough times comes down to providing value, continuously learning and drawing on a network of similar professionals to find the right support.

Helping horticulturists achieve these goals is the mission of the Australian Institute of Horticulture.

Helping Horticulturists Thrive

The restrictions have, however, forced all of us in horticulture to reconsider how we get business done. In an industry that values the outdoors and its opportunities for working together and meeting in-person,

horticulture has had to adapt to the new normal of wider distances and separation.

At the Australian Institute of Horticulture, we have always relied on web conferencing and virtual meeting technologies as our council and member network is spread throughout Australia.

In so many ways, we have found the changes very beneficial as the use of Zoom teleconferencing and webinars has actually helped us increase the accessibility of our events and webinars compared to the traditional get-together events we have held.

The Institute has been able to strengthen its focus on value for its professional horticulturist members, with strong attendance at our business development and technical webinars over the last few months.

The Institute brings information, updates and knowledge to its members to keep them ahead of the game as the industry evolves and develops.

Building A Professional Identity And Mindset

As Australians do find solace and turn to their gardens and landscapes, the demand for good-quality, professional horticultural advice and services will remain strong.

Professionals that thrive tend to have several things in common: a commitment to positioning themselves as the best and most-trusted in the industry, living up to those values and associating themselves with other trusted professionals.

The horticulture industry is not large, and word of mouth remains a vitally-important method of finding opportunities and success. That's where the Institute's professional memberships are valued by horticulturists as a demonstrable marker of quality and commitment to the industry.

The Australian Institute of Horticulture invites professionals and enthusiasts to commit to growing the professional approach that keeps Australians turning towards healthy, vibrant and well-planned green spaces.



A. Hoen & Co., 1917, U.S. Department of Agriculture

During World War I and World War II, gardening took on a distinctly martial air.

Citizens were encouraged to grow their own backyard produce (dubbed "war gardens" in WWI and "victory gardens" in WWII). "It gave everyone a sense of contributing to the war effort, sometimes in the most minuscule ways," says Dr. Paul Ruffin, Distinguished Professor of English at Texas State University, who has written about victory gardens.

Source: modernfarmer.com



I've Always Wondered: Is Rain Better Than Tap Water For Plants?

By Dr Ian Wright and Dr Jason Reynolds – Western Sydney University

You might have noticed how bright green your plants look after rain. Or you may have been watering your garden this summer, over many hot days and weeks. So, which water is best for your plants? The stuff that falls out of the sky or the water that comes out of the tap?



Dr Karl
@DoctorKarl

Following

Is it true that "rainfall from the sky" is more beneficial to "grass/crops" than "water from the tap"?

And if so, why?

You might be surprised to find that rain, especially during a thunderstorm, has special qualities that can give your plants a boost.

Lightning Can Be A Tonic

This summer, much of the east coast of Australia has been affected by a series of intense summer thunder storms.

A rare combination of events saw thunderstorms stretch from North Queensland to Tasmania. Tropical cyclone Penny also caused very heavy rain in far north Queensland.

Although winds and hail can damage a garden, rain during thunder storms can be particularly special for plants. That's because lightning helps add nitrogen to your garden.

It's About The Nitrogen

Australian soils are notoriously poor in nutrients and nitrogen is no exception. Plants crave nitrogen for a range of reasons, in particular to produce chlorophyll, the green photosynthetic pigment. If plants are deficient in nitrogen, they might look yellowish.

If the nitrogen levels are very low for extended periods of time plants might be stunted, get sick or die.

Nitrogen makes up about 78% of the atmosphere but plants cannot access it directly from the sky as it takes too much energy to turn it into a form they can actually use.

Instead, plants can get their nitrogen from other sources, in processes scientists broadly refer to as nitrogen fixation.

Nitrogen can come from added fertilisers, the decomposition of organic matter in the soil, and organisms that can break down atmospheric nitrogen into something usable.



Plants can also get their nitrogen from high-energy processes in the atmosphere, like solar radiation and lightning, which is where summer storms come in.

The enormous heat and pressure that lightning generates provides enough energy to break down and convert atmospheric nitrogen into a number of reactive nitrogen species. When mixed with oxygen and water in the atmosphere the resulting rainfall will contain greater levels of nitrates and ammonium.

For over a billion lightning flashes around the globe each year, 2 billion kilograms of reactive nitrogen is produced.

The total amount of nitrogen in rainfall varies depending on where you live and the season. A coastal region that is subject to industrial activity may have greater nitrogen deposition.

Once the rain drops reach the ground they deposit ammonium and nitrates that can be used by plants, whilst bacteria and fungi in the soil can further transform the available nitrogen in a process known as nitrification.

So, if you have had wet summer thunderstorms roll over your property, not only will your plants have had a good watering, they will have had a top up of nitrogen.

How About Other Factors?

Comparing tap water, that is supplied as treated drinking water, with rainwater that falls outside of summer storms can be tricky.

That's because some tap water is more alkaline

(a higher pH) or saltier (have a higher ionic strength) than others.

Prolonged watering with water that has a higher levels of chloride (and to a lesser extent, fluoride) can also stop the plant from taking up available nitrate.

Plants can also be harmed by the surprisingly high levels of sodium in some drinking water supplies.

Processed drinking water is almost always a poor source of nitrate. There is a very good reason for this. Water authorities all seek to minimise the nitrate content of drinking water, because high concentrations can be dangerous for babies and trigger blue baby syndrome.

Most gardeners want a slightly acidic pH because it makes nutrients more available for plants and is better for overall soil health.

Here, rainwater might be your friend (pH 5.6). Tap water is more alkaline (between pH 6-8.5) depending on where your drinking water is sourced.

So certain tap waters can work against you and your plants.

In A Nutshell:

So what kind of water should you use on your plants, if you have the choice? Here's the order, in best to worst:

- rainwater following a thunderstorm,
- clean rainwater,
- river water,
- low-ionic tap water,
- high-ionic tap water, and
- bore water (can be salty).

There are also other reasons why plants sometimes look greener after rain. It can also be from the rain washing dust from plants. This is quite plausible given the dust storms in recent weeks.

This article is republished from The Conversation under a Creative Commons license.



AIH Members learning about tree stock and quality at Botanica Nurseries NSW.

AIH and Horticulture Education

By Graham Fletcher AIH Ambassador Member

Graham Fletcher – AIH Ambassador Member, horticulture teacher and tertiary education lecturer.

This is the first of a short series of articles about the role of AIH in furthering education for its members. In this first article, I explain the current situation with horticulture education.

Background

AIH members have the Horticulture Certificate 3, Trade Certificate 3, or equivalent as their minimum entry qualification.

These qualifications have changed substantially over the last couple of decades, primarily as a result of the changed circumstances in TAFE. TAFE Certificate 3 is the focus of this article.

What Is Certificate 3?

Certificate 3 is part of a national standard framework for post-school education – the Australian Qualifications Framework (AQF).

In summary, the framework identifies the criteria and expectations for 10 progressive levels: level 3 is trade and vocational training, including horticulture; level 5 is diploma; level 7 is undergraduate degree.

What Is The National Education System?

The AQF is administered by the Tertiary Education Quality and Standards Agency (TEQSA) – the national agency that oversees all post-school education in Australia .

As well as administering the AQF, TEQSA also determines most aspects of education for each AQF level, particularly the standards for teaching and administration.

As well, the Australian Skills Quality Authority (ASQA) is the national agency that specifically addresses vocational education and training (VET) .

ASQA has a particular focus on curriculum development and job-ready graduates.

At Certificate 3 level, the emphasis is on practical skills. ASQA's own system of standard educational requirements for registered training organisations includes validation of assessments, both pre and post-delivery.

On top of these requirements, Australia also has a system for ensuring that students from overseas are able to apply for visas for study at only those educational organisations recognised by the federal authorities.

This system is the **Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS)** .

Nationally accredited educational organisations or courses have a unique CRICOS number that shows compliance with the National Code which, amongst other things, ensures compliance with the requirements of the national authorities – TEQSA and ASQA.

The national system has been implemented gradually over the last three decades at least and was assumed initially to be a system to ensure acceptance of qualifications between states.

Over that time, other influences have probably added to its development, including the Bologna Process which introduced the post-school education standards for all countries in the European Union .

The Department of Education, Skills and Employment (DESE) is the federal department responsible for overseeing national education and the national agencies .

DESE indicated in a discussion paper in June 2020 that their focus for funding and support post-COVID-19 will be on job-ready graduates.

There is emphasis in the paper on universities with little detail about VET courses, except that Certificate 3 courses and above are included in this overall strategy.

Apprenticeships are mentioned, but it is not known if any other aspect of horticulture will be a targeted area in that strategy.

How Does All This Relate To TAFE?

The TAFE system is state-based and state funded.

As the national education system developed, state governments have progressively reduced their financial support for TAFE.

This increased financial need in TAFE for full-fee-paying international students further aligns TAFE with the national system.

Although there are few international students studying horticulture, colleges relying on these students' fees have needed to reduce costs for all of their courses.

TAFE teachers have doggedly endeavoured to provide the best quality education, but the financial reality is that colleges need to save costs wherever they can. This has meant changes like:

- Reducing the choices for students, particularly in the options provided in smaller colleges where qualifications are often banded;
- Moving to on-line training with standard delivery and little on-line support;
- Reducing practical skills-based classes since they are more expensive to run than theory classes – smaller student to staff ratio for safety, and the cost of resources; and
- Increased need for additional support staff to support students with special needs and learning difficulties in the larger classes.

COVID-19 has worsened the situation with the long-term effects of closed international borders, and major changes needed to reduce costs further.

What Impact Does This Have On AIH?

In the next article, I will set out ideas for AIH members to assist with the on-going education of horticulture certificate holders and for the current AIH members.

ACRONYMS

AIH	Australian Institute of Horticulture
AQF	Australian Qualifications Framework
ASQA	Australian Skills Quality Authority
CRICOS	Commonwealth Register of Institutions and Courses for Overseas Students
DESE	National Department of Education, Skills and Employment
TAFE	Technical and Further Education
TEQSA	Tertiary Education Quality and Standards Agency
VET	Vocational Education and Training

References:

<https://www.aqf.edu.au/aqf-levels>
<https://www.teqsa.gov.au/>
<https://www.teqsa.gov.au/higher-education-standards-framework-2015>
<https://www.asqa.gov.au/standards>
<https://www.asqa.gov.au/rto/responsibilities>
<https://cricos.education.gov.au/>
<https://www.teqsa.gov.au/national-code-practice>
https://ec.europa.eu/education/policies/about-education-policies_en
Two federal departments merged in Feb 2020 to form the Department of Education, Skills and Employment <https://www.dese.gov.au/>
Job-ready Graduates Higher Education Reform Package, 2020
<https://www.dese.gov.au/job-ready>



Medinilla conservatory

By Annette Irish FAIH RH0008 (Photos: Annette Irish)

Far North Queensland Gardens – A Horticultural Respite – All In Our Own Backyard

Once a year a horticultural respite trip is part of most avid gardener's timetable.

2020 Headlines COVID-19 Overseas, Australian garden events, most Interstate travel and Open gardens - Cancelled or constrained

“Woe is me who loves to mix my travels with horticulture and garden tourism”.

Itinerary

Michael Ferrero international plant hunter, friend and local born Port Douglas horticulturist organised 9 private gardens, 5 nurseries, Flecker Botanic Gardens, Munro Martin Park, special Italian delis, Rusty's food market and seaside park walks.

Accommodation

Horticulturally themed **Lilypad Inn**, owner Matt Mitchley, MAIH RH

DILEMMA

**-Where to visit? When to travel?
-Where's the best weather in Australia in July?
-Where can you travel with a few hours of flying?**

ANSWER: ... All in our own backyard! Far North Queensland!



What Can You See That Compares With Any international Or Australian Gardens?

South To The Cassowary Coast And Gordonvale Districts

Pat Pensini's magnificent gardens at **Sundown**. Vandaceous Orchid garden reminiscent of SE Asia, swathes of aroids, orchids, *Begonias*, *Philodendrons*, palms, Crotons, rare flowering shrubs, flowering *Tecomanthe* plus *Amherstia* in flower with their pendulous fire engine red blooms. The list of species is extensive.



Left: Croton Right: Amherstia

On to a **Mirriwinni** garden poised over tumbling waters of granite boulder Pugh Creek, Chris sells Heliconia flowers from her huge collector's gardens... pity it was between seasons.

Overnight in **Babinda** Quarters, formally the historic nurse's home and local landmark, '**The Quarters**' is a restored Art Deco guesthouse.

No garden tour is complete without a visit to a quirky garden that excites the senses.

At **Babinda**, Colleen presents an intriguing Bawdy, Bold and Beautiful 'Belgique' tribute garden adorned with cheeky ornamentation.

Bev and Lyle Squires' **Little Mulgrave River** garden is a collection of 80 Mangosteen,

50 Rambutans, rare palms and fabulous tropical plants. **Bev's Mulgrave Gardens** is plant eye candy! Swathes of Cordylines, palms, Crotons, ferns, aroids, vertical wall, pavilion with ponds ... makes a lovely venue for 'weddings, parties ... anything'.

At **Deeral** don't miss a visit to **Tropicolor Nursery** owned by Robyn and Snow Ganley. Robyn's reputation goes before her as one of Australia's leading breeders of Crotons and *Cordylines* and a visit does not disappoint.

West to **Atherton Tablelands**.

Picture opportunity in a **Mareeba** front garden, a huge *Combretum falcatum*, Central African native, then onto Mareeba Garden Centre to see what the locals grow.



Food time - **Dino's Deli** Mareeba to shop for Italian antipasto, then picnic lunch in the historic town **Yungaburra**. Be stunned by street planting of the most beautiful *Tibouchina mutabilis* 'Illusion'. The large flowers fade through five colours - white with deep lilac edge, purple to lilac to pinks at one time.



Onward to **Lakeside Garden Centre** and **Old Kulara Nursery** for purchases of *Combretum* and a dwarf Ylang Ylang tree.

Carnations, Sweet William, Corn Flowers, *Amaranthus*, *Chrysanthemum* and *Heliconias* for the local flower market.

At **Malanda** a large perennial garden displays rarer *Alstroemeria* plus roses, *Gerberas*, *Salvias*,

Time to head north past Mossman Gorge into **Wyanbeel**.

Surrounded by the southern **Daintree National Park** are 2 acreage gardens of Wynne and Bruce Robinson and Liz and Mark Schoenwruick with collections of fruiting and flowering plants.

Sat by Whyanbeel Creek the vistas from the gardens include towering plateaus, peaks and rugged slopes of the Main Coast Range.

Wynne and Liz have aroid collections and tropicals for sale.

Back in Cairns visit to the Conservatory, **Flecker Botanic Gardens** is a must. A photographer's kaleidoscope of cycads, dwarf palms, orchids, ferns, Begonias, aroids etc.

Top off your visit with a Caramel malted milkshake in the **Café Botanica** .



Begonias at Flecker Gardens

Into Equatorial Exotics? ... Visit the **Redlynch Nursery** owned by Arden and Chris, world renowned plant hunters.

The extensive bush houses tempt you so take notes or you will forget what species you loved the most. An *Erythrina* collection challenges you to re-evaluate these stunning trees.

The Redlynch garden of Gary and Jen Tenni boasts beautiful scented, flowering trees. The gardens, designed by Anton Van der Schans, have many rare species on the terraced property and a number of ponds and arbours.

Melsonrock Nursery, run by Sekti, they provide a *plant candy shop* experience to satiate your lust after visiting all the beautiful gardens.

Finally, if parks are of interest **Munro Martin Park** is part of the new cultural hub of Cairns.

Its towering sweeping arbours of climbers, local heroes' walk, amphitheatre and open stage area provides a cool community zone in central Cairns.

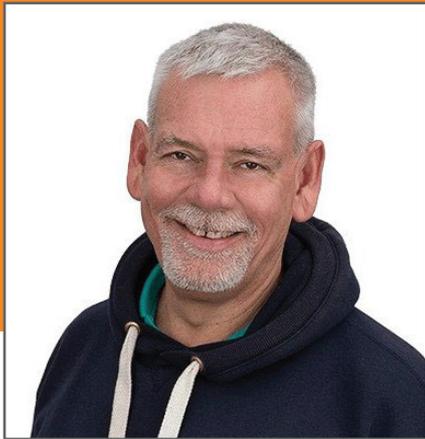
... All in our own backyard.

Eight days in FNQ enjoying just a spattering of what the tropics has to offer reinforced it as a world leading landscape of astonishing beauty and biodiversity.

Basking in glorious sunshine and light tropical breezes, FNQ guarantees horticultural experiences as good as any other regions' gardens and

... All in our own Australian backyard.

Annette Irish FAIH RH is a Fellow of the Australian Institute of Horticulture and former President.



Hi Trevor! Tell us about how you came to be in horticulture in Canberra and what brought to this point in your career?

I've been the owner of **Dimension Gardenscape** for nearly fifteen years and we are based near Queanbeyan, on the NSW/ACT border.

My horticultural career started out as many do – as an apprentice greenkeeper at a bowling club, crafting lawns so short you wonder how they would survive. Then I was allowed to raise the mower blades slightly when I worked at Parliament House, famous for its expansive lawns. That was about the time I became interested in irrigation techniques and landscape maintenance with interests in plants and horticulture.

I think this experience opened my eyes to life beyond turf – the diversity and vast potential of horticulture as a whole discipline. I decided to open my own business and haven't looked back – the creative opportunities as a business owner are really wonderful. While I enjoyed working in a horticultural team at the Parliament House, there's something about delivering your own vision – it's a real feeling of creation and it's more than just the income.

Your business Dimension Gardenscape offers a diverse range of services - what are your sources of inspiration and ideas?

We're inspired by the opportunities we see in our clients' landscapes, and it's essential to take a flexible, creative and adaptable approach to being able to see the potential in a site.

I like to believe that people are looking to us to offer a solution that brings out the soul of their landscape, and that means we think broadly and inclusively about what is possible.

If you think about the big life purchases people make – it's the house, then car then landscapes and gardens. If you have a client building their forever garden, that's probably a once-in-a-lifetime investment for them. So we look at the site and its lines and bring our knowledge across construction, landscape, plants and horticulture together with our own inspirational touches to 'paint the canvas'.

I believe that there is a lot to argue for having a masterplan, that we are part of, that sets out the strategy and the vision for that landscape and that helps us to understand where we can fit into that plan. We're always learning and testing new ideas as a team, and again that ability to be creative is something we really value in our business, much more than I could as an employee.

What suggestions and advice can you offer young horticultural professionals making their mark in Australian horticulture?

There's always room for learning. No matter how far you go down a career in horticulture, people are seeing new ideas from around the world and the big drivers of water efficiency and rising heat are becoming issues that people want to address in their landscapes.

For young people going into a career, horticulture remains a great choice. It is an industry where you can feel the difference you are making, and not every industry offers that. For young and upcoming horticultural professionals, some things remain the same.

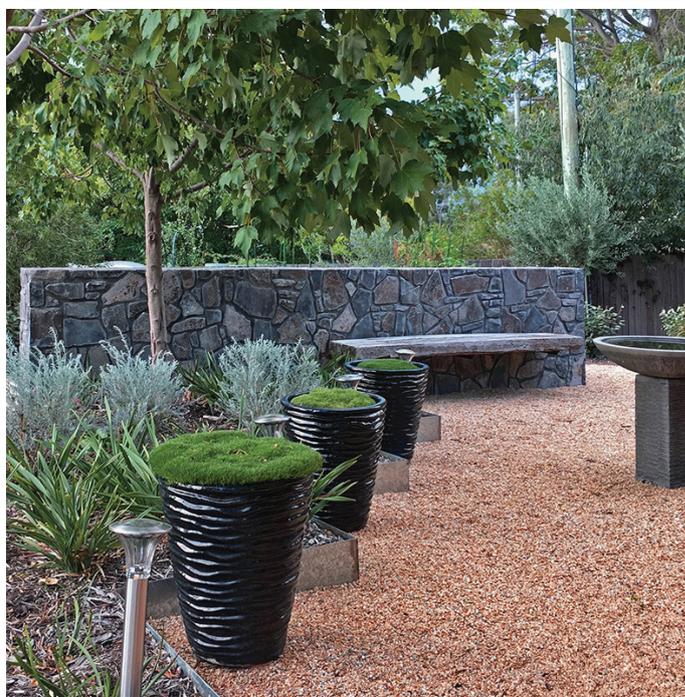
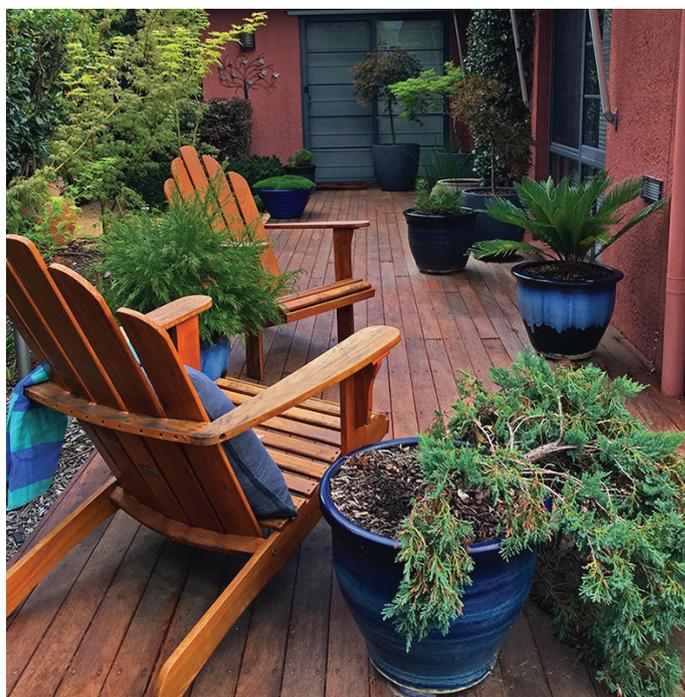
Your plant knowledge is crucial – you have to get to know your plants, they are the characters in your book, or the paints on your palette. Plant knowledge is really important in creating effective landscapes because you need to know what will work in terms of the site and the climate but also the character of a plant when it matures – its ability to create form and amenity on space now and in a decade or two.

I think it's important if young professionals are open to the experience of their colleagues too – that combines energy and creativity with the wisdom of experience; that works well as a combination. Being able to understand how construction works, how a business works and how we really create something valuable for our clients – these are important early learnings too.

What trends and ideas do you think will be important in the next 2-5 years for horticulture in your region?

The big influences are what you would expect – landscapes that collect, retain and use water sensibly are really becoming important. Canberra can be fiercely hot and dry as well as cold so landscapes that can thrive in those conditions are what clients are aiming to achieve.

There's also a growing trend of portable gardens, with people moving between properties, they want solutions that enable them to take their treasured plants with them. This means large pots with style and form are important.



We are also seeing a lot of interest in vertical landscapes – greenwalls, uprights and climbers, and trellised landscapes that make the most of vertical space.

By combining use of decorative and portable plantings with water-tolerant natives and exotics, we can get a really good result in Canberra landscapes.

Trevor Fuller MAIH RH is the owner and director of Dimension Gardenscape and a Registered Horticulturist member of the Australian Institute of Horticulture. Photos: Dimension Gardenscape.

Visit dimensiongardenscape.com.au to find out more about landscaping services in Canberra.



The Iconic Classic “Kew Gardens”

By David Thompson, Engagement Manager Australian Institute of Horticulture

Kew Gardens is world-famous as the premier destination for horticulture, with a history stretching back centuries and a collection that is absolutely priceless.

Kew Gardens is, like many historic venues, under real pressure as visitor numbers dwindle in the UK under the pressure of COVID-19.

That’s why offering virtual tours can bring you to amazing places like Kew Gardens without leaving home.

Our Destination: Horticulture series aims to take you to beautiful places that are otherwise off-limits for some time.

See Virtual Tour



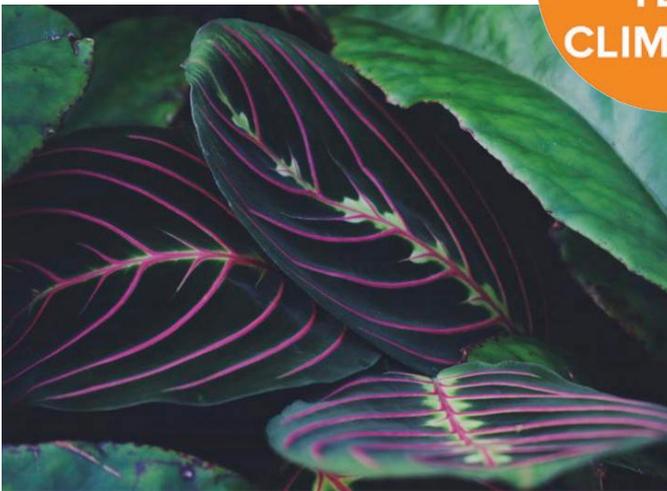
TOUR THE TEMPERATE HOUSE

Temperate House

Visit the incredible glasshouse that houses tropical specimens in cool-climate London. The Temperate House, opened in 1862, and is a showhouse for the largest plants in Kew Royal Botanic Gardens.



WALK THROUGH TEN CLIMATES



Princess of Wales Conservatory

In the Princess of Wales Conservatory, you can wander from the tropics to the desert.

WHERE THE TREES ARE BORN

Arboretum Nursery

Trees start their life here in the brand new state-of-the-art Arboretum Nursery.





The Mole Truth And Nothing But The Truth

By Andrew Price FAIH RH0004

A common theme of advice has been given to me over the years by the gardeners, Horticulturists and Botanists whose work I admire is the very old adage “Fertilise your plants little but often”.

When I was younger and filled with misdirected youthful vigour, a client of mine was unhappy with the health of her roses and knowing I had exhausted all avenues that I could think of at the time she directed me to call a well-known rose nursery for expert advice.

Having had my Horticulture qualifications for longer than a decade at the time I had to admit I was missing the mark and had to get better. So I swallowed my pride, steeled myself to be open to direction and not be defensive or argumentative and nervously made the call.

I must have called at a bad time, as I described what I was doing to help get the plant back to health so not to sound like a complete horticultural failure of a gardener. I was told what I needed to do was ‘Feed the Plants’. The conversation ended shortly thereafter.

I hung up the phone thinking, do roses like rare or medium cooked NY Steak?

This interaction intensified my resolve to ‘Get Good’ at the application of nutrients countered by the medical Hippocratic Oath of ‘DO NO HARM’.

I didn’t study then practice horticulture to make the plants in my care unhealthy nor did I want to contribute to the environmental problems associated by the misapplication of fertiliser.

Anyone who knows me well will attest to the fact that this subject is a personal near psychopathic obsession, so much so that my family and friends nicknamed my first nursery ‘The Meth Lab’. An apprentice of mine at the time was assisting me in making a batch of fertiliser when his girlfriend called, he said he couldn’t talk because he was Breaking Bad.

It has taken me awhile to acknowledge the biggest truth in horticulture that light is the ultimate fertiliser, plants convert photons/light (PAR - Photosynthetically Active Radiation) into carbohydrates then generously secrete about 50% of it to their root tips to feed the billions of specific microorganisms that support that specific plant.

Nutrients only assist in this chain of events and plants are exceptional at compensating or adapting to available resources.

That being said there is a big difference between cultivation and nature, the smart money is in the grey area between the two.

If you wish to cultivate a plant out of its habitat you must supply the nutrients that the species

needs otherwise the result will not be one that makes your account manager or more importantly your clients happy.

This brings me to the point of this article which is how much and often should I dose nutrients and what nutrients? The Australian band You Am I penned a pertinent song called *How Much is Enough*, not a song about fertiliser but a great song nonetheless.

How soil pH affects availability of plant nutrients

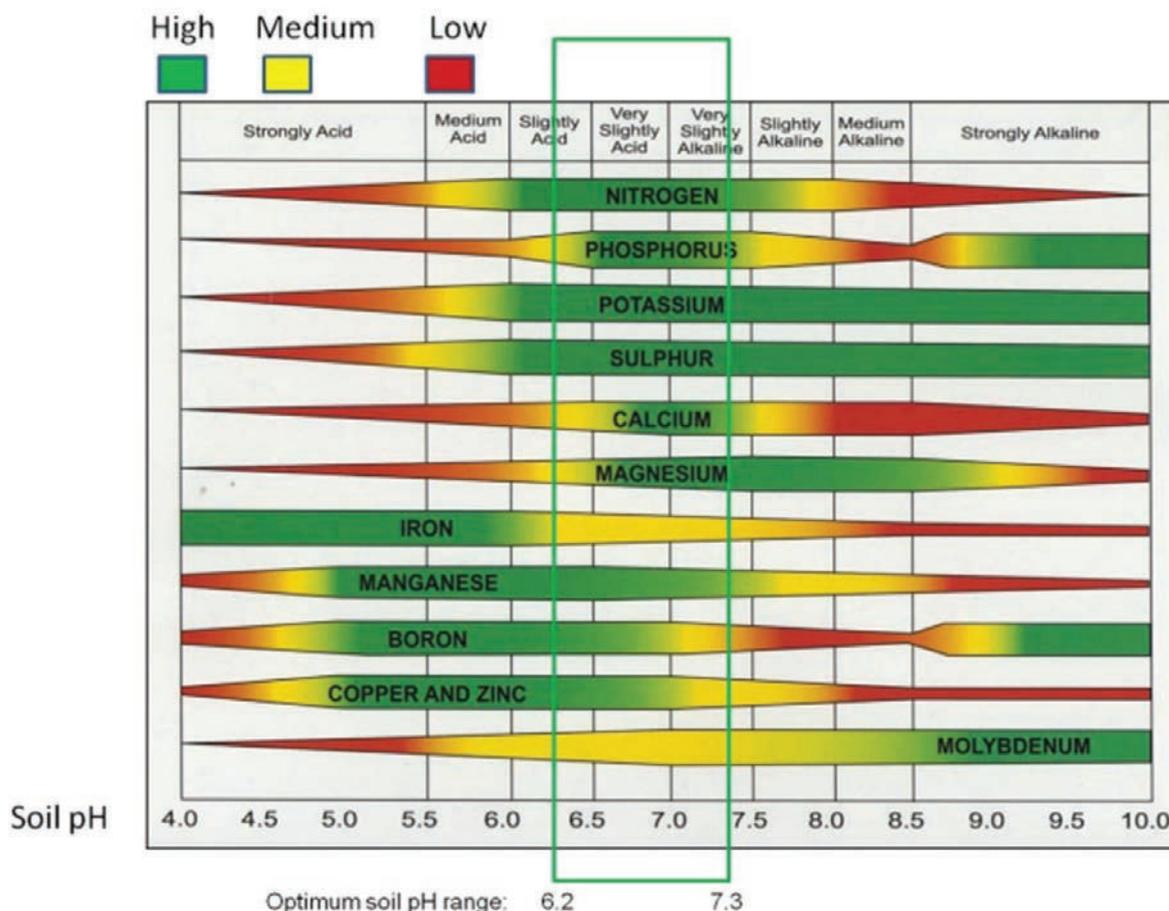


Image Source: Planet Permaculture

Molar Mass is not referring to a calorically-challenged spook but in this case to the concentration of elements in a compound. Synthetic or organic compounds are what we use on a daily basis.

To get the ball rolling I've selected an interesting compound that gets used often - Epsom Salts or Magnesium Sulphate to the chemically-educated amongst us.

Referring to our trusty periodic table of elements Magnesium has the molar mass of 24.31 while Sulphur is 32.07 with Oxygen at 16 x4.

When these three elements are combined to make a compound the atoms balance together to give us the equation of $MgSO_4$ with a combined molar mass of 120.38 grams per mole.

It must be noted that usual Epsom Salts that gets used in the household is a hydrated compound - heptahydrate $MgSO_4 \cdot 7H_2O$, but of course you know that!

Ok to get the Mg wheel hitting the road and getting those Chloroplasts to green up, how concentrated is 1 Mole of Epsom salts in 1 litre of water in Parts Per Million (PPM) or as I like to say how many cents or dollars in a million Dollars?

Now hold onto your hat based on the above weight of 1 Mole of 120.38 grams if you added this to 1 litre of water you would have a reading of 120,380 PPM. This is obviously way too high for plants or anything else unless you are on Mars.

1 gram of any salt compound in 1 litre of water will give you a reading of 1,000 PPM. It's worth noting that Mg in seawater is around 1200 PPM, this should give us pause to think about getting heavy handed when applying any fertiliser.

1 gram of pure salt dissolved in 10 litres of water is a good starting point when looking at fertilising on a regular basis. This will give you a reading of 100 PPM, still pretty high but effective if you're using the required salt compound.

The philosophies held close to my heart are 'Don't Chase the Numbers' and 'Does Nature agree?'

A game of observation I play when looking at anything in my care is the What's different today game, this forces me to notice things that might get overlooked.

These are some curveballs to consider in fertilising:

Power of pH - check and balance your solution to somewhere between 6.5 - 7, consider wood vinegar on alkaline readings, PyroAg is my go to. Deficiencies can be caused by a pH shift that makes that element unavailable or inaccessible to the plant.

Liebig's Law of the minimum - Growth is determined by the least available nutrient not the most abundant. Plants need at least 17 elements but could be as high as 28.

Mulder's chart - nutrients affect nutrients in either a synergistic or antagonistic way, e.g. too much Mg will affect K and vice versa.

Mulder's Chart

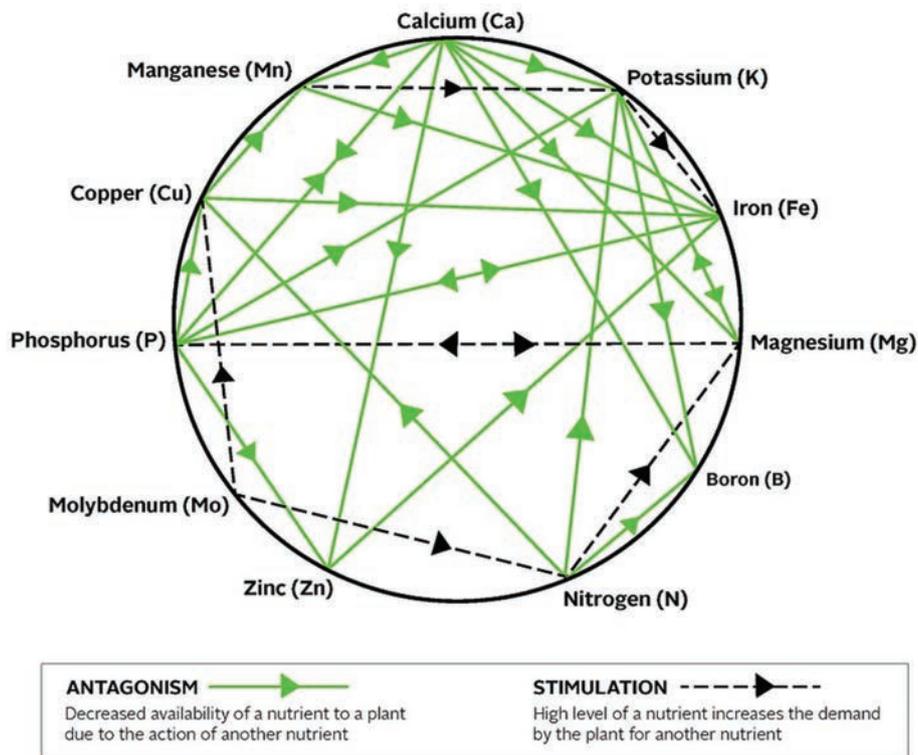


Image Source: NutriAg

Brewed Fertiliser is a great way to magnify a fertiliser so you get a much better result for less input because you are cultivating the beneficial microbes that the plants need.

Time to get back to work cultivating that beloved

grey zone between nature and cultivation
-Happy Spring!

Andrew Price FAIH RH is a Registered Horticulturist and Fellow of the Australian Institute of Horticulture and Principal of Jungle Horticulture based in Sydney.



Australia's Real Seasonal Calendar

By David Thompson, Engagement Manager Australian Institute of Horticulture

In 2014, AIH Horticulturist Member Dr Tim Entwisle MAIH released his book 'Sprinter and Sprummer' and recommended that Australia's imported four-season calendar does not really reflect the nature of Australia's seasons.

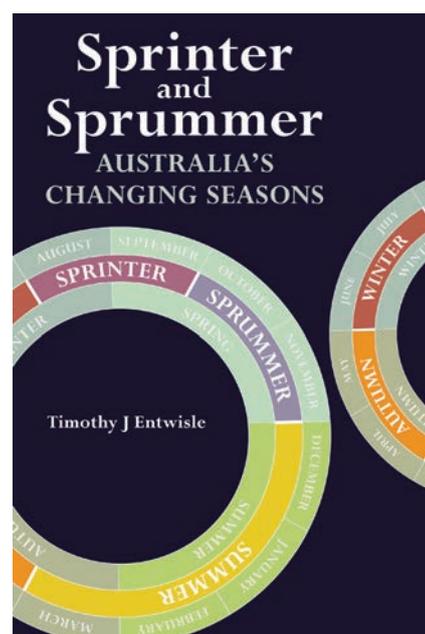
In fact, like our indigenous descendants, a more accurate calendar of the seasons in Australia would contain six seasons.

In his book, Tim mentions that there is only one record of Aboriginal seasonality that uses four seasons – almost all Aboriginal seasons have six and sometimes seven to reflect the changing habits of plants, animals and climate that they witnessed over thousands of years.

For southern Australia, Tim suggests that annual calendar should look like:

Sprinter (August and September), the early Australian spring, starts my seasonal year. It's when the bushland and our gardens burst into flower. It's also when that quintessential Australian plant, the wattle, is in peak flowering across Australia.

Sprummer (October and November) is the changeable season, bringing a second wave of flowering.



Summer (December to March) should be four months long, extending beyond February, when there are still plenty of fine warm days.

Autumn (April and May) barely registers in Sydney, but further south we get good autumn colour on exotic trees, as well as peak fungal fruiting.

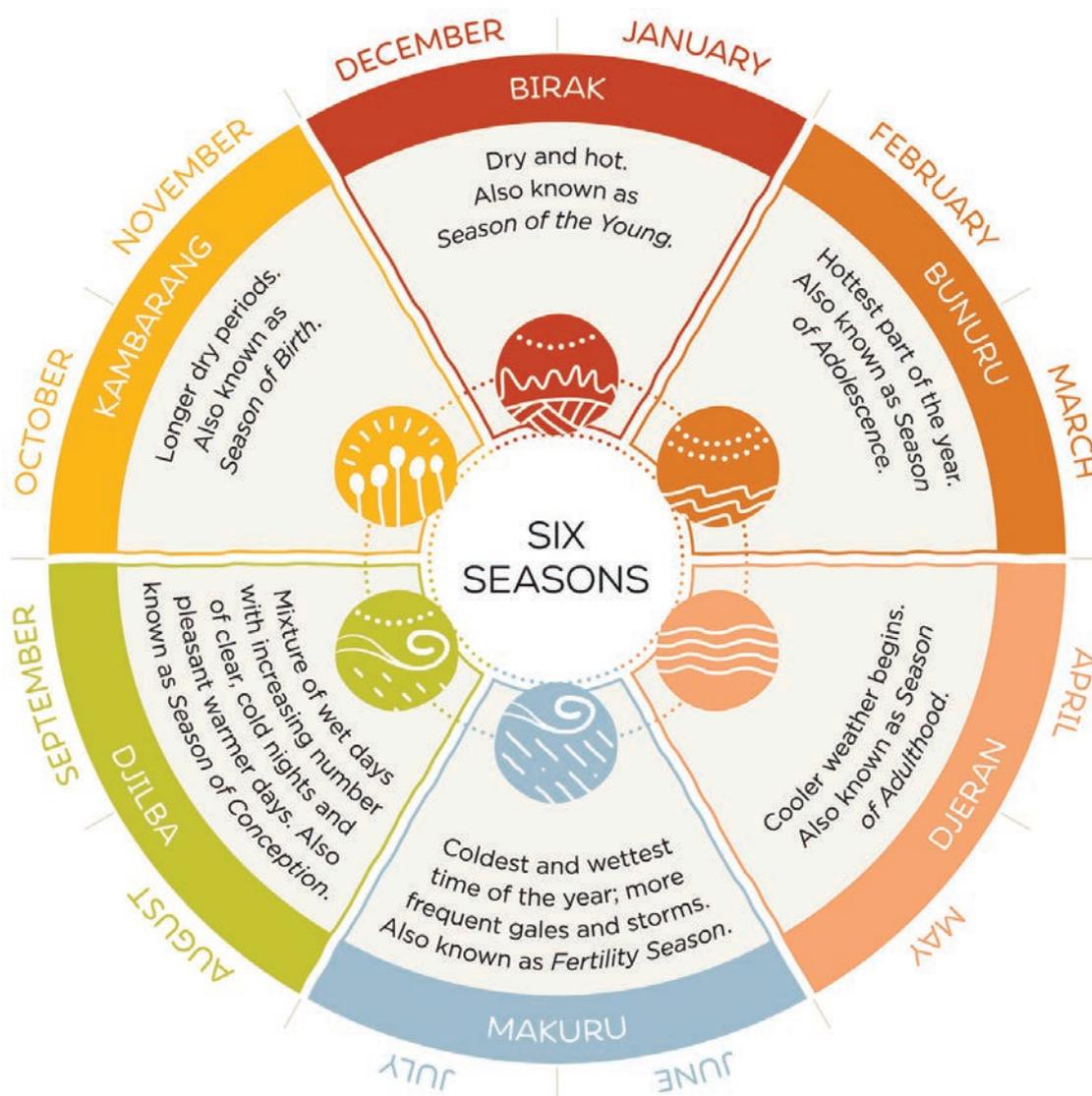
Winter (June and July) is a short burst of cold weather and a time when the plant world is preparing for the sprinter ahead.

Most of us know how long Aussie summers feel – and that’s where Tim suggests the summer should actually run from December to March because it often remains hot and dry to late March or later, and thus a shorter autumn.

One of the lasting memories of our AIH Perth Conference was the place of the six-season

Noongar calendar that the first people of what is now Perth lived by.

There was majesty and story in the connections between the local fauna and flora of the region that enabled local people to thrive for thousands of years marked by the annual cycles of growth, rest and renewal of plants and animals.



Six Seasons of the Aboriginal (Noongar) Calendar. Image Source: Australia’s South West

What is Tim’s reaction to this idea six years later?

“Overall the responses have been overwhelmingly positive,” he says.

“Not that people are necessarily rushing out to demand the seasons change, but they are enjoying thinking about things in a new way and thinking about the country we live in more carefully.”

Dr Tim Entwisle MAIH runs Royal Botanic Gardens in Melbourne and has also worked at the world-famous Botanic Gardens in Kew, England, and as Director of Sydney’s Royal Botanic Gardens (an AIH Corporate Sponsor Member).



Why Your Business Needs An Extreme Weather Action Plan

Provided by Daniel Holmes Fitzpatrick & Co Insurance Brokers

Extreme weather conditions are increasing around the world, and Australia is no exception. Experts predict this summer will, again, be one of the hottest on record, with severe bushfires, storms and floods all set to increase.

In the absence of the vast resources of larger organisations, there is an urgent need for small businesses to have specific plans in place.

Preparing your property and fully understanding the risks in the event of extreme weather events, in both regional and urban areas, such as storms, fire and cyclones is vital. However you also need an overall strategy to protect your business and its assets to ensure its survival.

Building A Support Network

After Cyclone Larry hit Queensland in 2006, a National Climate Change Adaptation Research Facility report found businesses and individuals with strong community ties recovered better, as they relied less on overburdened government systems and their workers were less inclined to leave the area.

“Individuals, households and groups who have strong social networks are able to draw on shared material and social resources to sustain

them during and through the aftermath of a cyclone,” the report said.

In both urban and rural settings, banding together during a crisis can be mutually beneficial. Having a plan for how small businesses can help each other can be the key to survival.

After the northern NSW town of Murwillumbah was ravaged by flood in 2017, locals led the recovery effort and a database of hundreds of volunteers was created to help those in need.

“Constantly we’re expecting governments and services to fix things for us,” organiser Carmen Stewart told the ABC.

“I’m interested in what happens when a community is engaged first, then bringing government and services in as a partner, not as the leaders.

Be Prepared

Complacency and a failure to adapt to the increased likelihood of extreme weather is a real danger for small businesses.

Research conducted by James Cook University revealed 90 per cent of cyclone-related insurance claims could be avoided through proper preparation.

Ensure you have formulated an emergency action plan for your business in the event of extreme weather, such as flooding. Educate your employees so they understand the risks and know how to react.

There are other vital proactive measures you can take. Regular maintenance on your property ensures it is as well placed as possible to handle and recover from extreme weather events.

Contracting an expert to assess the structural integrity of your dwelling ensures any weak or degrading materials particularly vulnerable to damage can be repaired.

Clearing your property of refuse, such as fallen branches and bushes can help to ensure any damage severe storms can cause is limited. This includes securing outdoor items and garaging vehicles and machinery.

“An ASIC report into extreme weather found that “possibly as many as 80 per cent” of properties in Australia were underinsured by 10 per cent or more”

Don't Risk Being Underinsured

An ASIC report into extreme weather found that “possibly as many as 80 per cent” of properties in Australia were underinsured by 10 per cent or more.

Sydney's 1999 hailstorm dropped around 500,000 tonnes of hailstones over the city and caused \$2.3 billion worth of damage, more than 25 per cent of which was uninsured.

During Brisbane's 2011 flooding, photos of David Moore's destroyed waterside restaurant Drift became emblematic of the widespread devastation.

Moore's repair cost was \$4 million. Without insurance and eligible only for minimal compensation, he went into liquidation.

Uninsured or underinsured small businesses are unlikely to survive the catastrophic losses that extreme weather can bring, because the majority don't have the large financial assets needed to recover, according to Steadfast's Broker Technical Manager Michael White.

“There are a number of different aspects to underinsurance,” White says.

1. “Businesses do not have insurance at all (e.g. they own a building but do not insure it).
2. “They insure the physical assets but they don't take business interruption insurance. This is very common – the client can see that their physical assets may be damaged but they don't understand there could be financial consequences of that.
3. “They take out a policy and the sum insured is inadequate, e.g. they insure for \$500,000 but the actual replacement cost is \$1 million – if there is a total loss, the client gets \$500,000; if there is a partial loss the amount payable is written down to reflect the underinsurance.”

A Harvard Business Review study analysing the impact of 2012's Hurricane Sandy found small businesses were affected badly by extreme weather for a number of reasons.

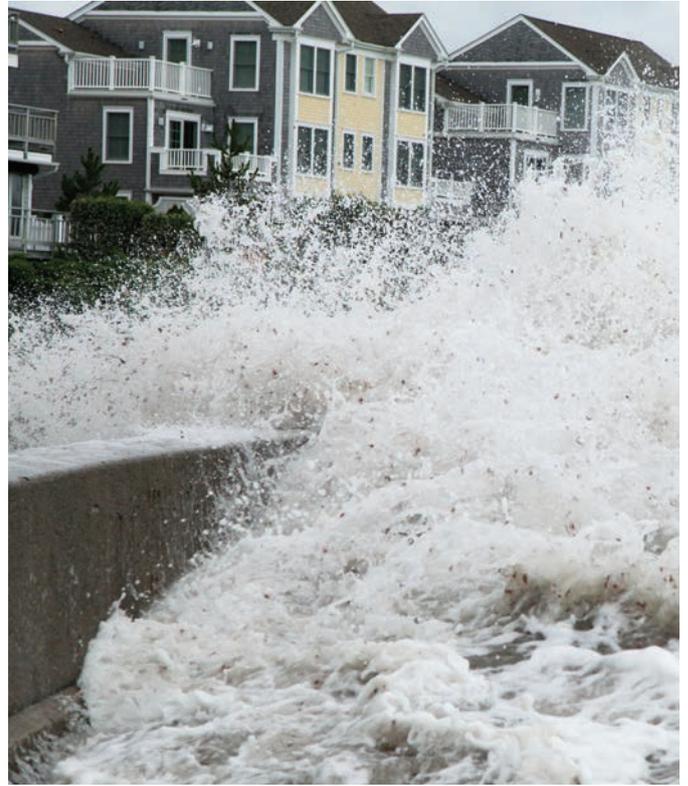


“Firms may be especially unlikely to prepare for infrequent events such as major hurricanes since they are exposed to so many risks that occur with a higher likelihood,” wrote Benjamin Collier, Assistant Professor Risk, Insurance & Healthcare Management.

But Collier is adamant small businesses need to understand extreme weather and natural disasters will likely become increasingly common.

“A risk that seemed too rare to actively manage a decade ago may look very different now,” he wrote.

Businesses should consult their brokers to help ensure they are not uninsured or under-insured. For expert advice on the best insurance solutions for your business, talk to one of our brokers.



Fitzpatrick & Co
Insurance Brokers
An Aviso Group Partner

Acacia 'Limelight'[®] Grafted Standard

LUSH DECORATIVE FOLIAGE

Origin: Mt Gambier, Australia

Species: *Acacia cognata* 'Limelight'

Protection Status: PBR protected



Full sun



Part shade



Height Approx. 1.5m



Spread to 1m

Features:

- Unique standard form with natural dome shape habit
- Decorative fresh lime green foliage
- Year round ornamental value
- Dry tolerant
- Easy to grow the minimal maintenance
- New age Australian native

Suggested Uses:

- Create a distinctive formal touch to the garden
- Either side of entranceways and driveways
- Large containers or garden beds
- Adaptable for use in native, exotic or oriental style gardens

Water Requirements:

Low. Once established, quite dry tolerant requiring only occasional deep watering during extended periods of heat.

Care:

Plant in most soil types that are well draining. For optimum results feed in spring with a fertiliser formulated for natives. Support the plant with a stake until established.



LICENSING • MARKETING • DISTRIBUTION

PO Box 54, Dodges Ferry, Tasmania 7173 Australia

Phone: 61 (0) 3 6265 9050 Fax: 61 (0) 3 6265 9919

Email: info@pma.com.au

www.pma.com.au

Write for AIH

We welcome contributions to HortInsights from professionals, members and students in the horticulture industries.

Writing for the Institute offers an excellent way to share your views, knowledge and expertise with a passionate audience and you can be attributed CPD points

While we are unable to pay for content submissions, our editorial promise is that if your submission is accepted for publishing, we will endeavor to repurpose it widely, for our website, social media or other public media channels.

These Guidelines Will Help You Provide The Right Format To Be Published:

- Articles should be a maximum of 500-600 words. A more concise article with a definite aim and strong take-home messages will help our audience use your expert information well.
- Please provide sources and references if you cite or refer to others' information in your article.
- Please provide 1-2 quality images. Photographs must be large enough to be used in a range of publications with a file size of between 1 and 5 MB (megabytes).

We reserve the right to make editorial, grammatical and stylistic changes to text and images.

HortInsights is published six times per year.

Dates and deadlines:

December 2020

Text and images due: 20th November 2020.
Delivery: 1st December 2020.

February 2021

Text and images due: 20th January 2021
Delivery: 1st February 2021

April 2021

Text and images due: 20th March 2021
Delivery: 1st April 2021

June 2021

Text and images due: 20th May 2021
Delivery: 1st June 2021

hortinsights

 aih.org.au

 members@aih.org.au

 (02) 8001 6198

Next Issue: 1st December 2020
