

AUSTRALIAN INSTITUTE OF HORTICULTURE

hortinsights



ISSUE 3 JUNE 1 2021



From The President

This edition brings insights and perspectives from our members about the always-exciting, dynamic horticulture industry of Australia and the world.

From the dangers of synthetic turf, to tips and advice for succeeding as a horticulturist, and some different uses of plants around the world, I am sure you will learn something new.

I am certainly looking forward to seeing many of you at our Noosa celebration in mid-June!

With best wishes

Michael Casey MAIH RH
National President
Australian Institute of Horticulture

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Running Hot: Synthetic Turf

By Lauren Danecek, AIH Horticulture Student of the Year 2020

This topic is getting political, and the environmental impacts are stacking up.

The integration of synthetic turf into both public and private spaces has, of late, become often political and has layers of complexity.

My assumptions were that green plastic carpet was a thing of the past. An environmental nightmare that leached into waterways, added to the ever-increasing horrors of microplastics, filled the surrounding air with volatile organic compounds (VOCs) and contributed to the urban heat island effect.

There are research and data sets available that highlight a variety of depressing issues: the original, recycled tyre, crumb-filled turf was not the greatest stuff, for us or the environment.

There are new synthetic turf alternatives around that utilise cork or sand as in-fill, but it's not still not 'grass' in the traditional sense. And so, many of the same concerns still apply, but the data from research is still being unearthed.

Considering many gardeners, horticulturists and landscapers are now taking climate change into consideration in their design and plantings to future-proof gardens, avoiding the above horrors should be at the top of the list when it comes to creating clean, cool and safe environments for our clients (and, our children's children). But it is still being laid, it's readily available and I've even seen it on residential council verges.

So, is it really that menacing?

As a student of sustainability and environmental science, anthropogenic activities lead our studies. 'Humans did A! Now we have to deal with B'.

The major environmental concerns surrounding the installation of synthetic turf include:

Leaching of Chemicals

Synthetic turf is often filled with recycled tyre crumb, that can leach chemicals into the surrounding environment, including polycyclic aromatic hydrocarbons (PAH's, generated by the incomplete combustion of organic materials like oil and petrol), VOCs and phthalates ('plasticisers' if you will, they keep things flexible and soft).

A Portuguese study released this year reviewed 40 chemicals in synthetic pitches and found continual leaching of PAHs into the surrounding environment (Celeiro et al. 2021).



A simple diagram from the Celeiro et al. (2021) study to demonstrate their review of how elements of the turf were leached into the waterways, reviewed by both sports field and comparable in-lab results.

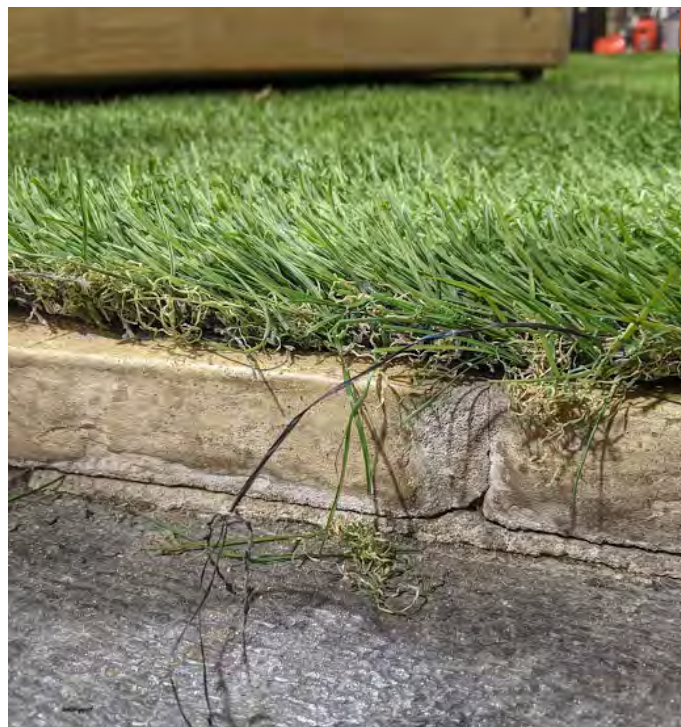
Microplastics

These are pieces of broken-down plastic that have degraded in the environment to less than 5mm in size. Less than 1mm (down to 1µm (0.0001mm)), we generally class as a “nanoplastic”.

The synthetic blades (usually polyethylene or polypropylene) and the infill crumb break down over time loosening their hold, the blades, and tiny particles now freely available to move through the ecosystem.

In a council-run field or professional playing field, they know about this and often (though, not always) have installed purpose-made ‘sieves’ in the drains to catch debris as the fields degrade over time through use and environmental factors.

However, for the neighbour who has run a roll to the gutter near the storm water drain, that catch is missing. The story then tells itself.



Low use, artificial turf fraying at the edges with loose plastic blades in a local garden centre. Image/ Lauren Danecek.

Adding to the Urban Heat Island Effect

The concept of the urban heat island (UHI) effect is localised warming created by anthropogenic means: our dark-coloured surfaces like roads, roofs and car parks, removal of greenery, car engines and air conditioners, to name a few things. Summer days are hotter, and the infrastructure holds heat so it doesn’t cool at night.

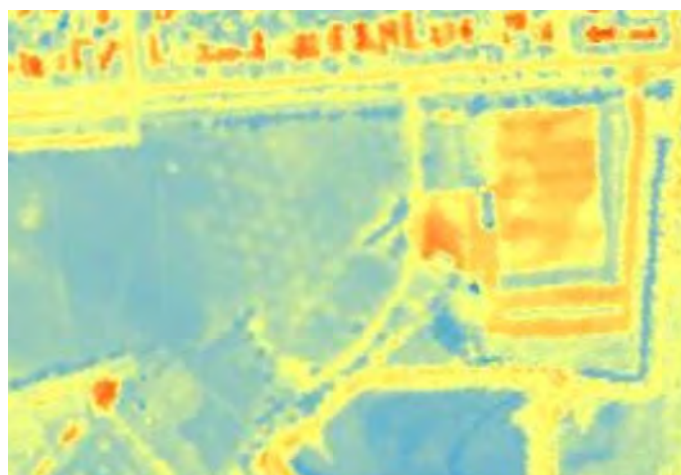
The science on heat associated concerns with synthetic turf is not good, as seen in an Australian study from Twomey et al. (2014).

Results clearly demonstrated that synthetic turf temperatures were significantly hotter (mean = 46.3°C) than irrigated natural grass (mean = 24.1°C).

Would it be safe to assume that the installation of this product can contribute to the UHI, warming our suburbs and decreasing thermal comfort?

Amusingly, that study calls for more data surrounding the ‘comfort’ of the athletes’ feet, but what else are we cooking at that temperature?

Which leads to a concern about the soil; our most precious commodity of all. Let us consider the solitary bees, insects and ‘microfauna’ that call the soil home.



West Beach Parks Football Centre in Adelaide, showing a clear temperature difference between natural grass and synthetic turf (Government of South Australia 2021).

They must be being solarised under this artificial blanket, yet there is no data to back my claim.

No studies that I can find detail what happens to the soil underneath, if the soil communities are functioning, and if there are reverberations beyond the artificial carpet.

Once you really get into the data, then you start to learn about other things that maybe you wouldn't normally consider, like that synthetic fields have their own microbial communities that are different to natural turf (Valeriani et al. 2019) and MRSA (methicillin-resistant bacteria) has the ability to hang out in infill and on turf fibres (Keller et al. 2020).

It's this kind of new data that will help those in management and policy-making positions create synthetic turf guidelines and frameworks for installation and where it should and should not be used.

There are huge knowledge gaps across all stakeholders: professional football teams, councils, horticulturists and landscapers, right down to the home gardener.

So much so that in NSW, planning minister Rob Stokes has commissioned a 'Synthetic Turf Study' (NSW Government 2021), to review synthetic turf options as replacements for natural grass.

That review is due to be published mid-2021, and there will be a lot of people keen to read it.

No matter the side you're on - natural or artificial - people want lush, good-looking, green turf.

Our goals are the same, there just doesn't seem to be the education about what to use when, we don't have the knowledge about alternatives, or the data and science to back it up (more importantly, solid science for the Australian landscape).

Synthetic turf looks great the first day it's laid, and then it declines to the end of its life, where it's rolled up and sent to landfill.

Natural grass can be regenerated, and something has to be said for that. Mother Nature usually does it best, after all.



References

- Celeiro, M, Armada, D, Ratola, N, Dagnac, T, de Boer, J & Llompart, M 2021, 'Evaluation of chemicals of environmental concern in crumb rubber and water leachates from several types of synthetic turf football pitches', *Chemosphere*, vol. 270, pp.128610, <<https://doi.org/10.1016/j.chemosphere.2020.128610>>.
- Government of South Australia 2021, Urban Heat and Tree Mapping Viewer, viewed 12 May 2021, <<http://spatialwebapps.environment.sa.gov.au/urbanheat/?viewer=urbanheat&runWorkflow=StartupResilientEast>>.
- Keller, M, Turco, RF, Bischoff Gray, M & Sigler, V 2020, 'The Fate of Methicillin-Resistant Staphylococcus aureus in a Synthetic Turf System', *Sports Health*, vol. 12, no. 3, pp. 263–270, <<https://doi.org/10.1177%2F1941738120909353>>.
- NSW Government 2021, Synthetic Turf Study, viewed 12 May 2021, <<https://www.planning.nsw.gov.au/Policy-and-Legislation/Open-space-and-parklands/Synthetic-Turf-Study>>.
- Twomey, D, Petrass, L, Harvey, J, Otago, L & LeRossignol, P 2014, 'Heat experienced on synthetic turf surfaces: An inevitable or preventable risk?', *Journal of Science and Medicine in Sport*, vol. 18, pp. E119-e120, <<https://doi.org/10.1016/j.jsams.2014.11.086>>.
- Valeriani, F, Margarucci, LM, Gianfranceschi, G, Ciccarelli, A, Tajani, F, Mucci, N, Ripani, M & Spica, VR 2019, 'Artificial-turf surfaces for sport and recreational activities: microbiota analysis and 16S sequencing signature of synthetic vs natural soccer fields', *Heliyon*, vol. 5, no. 8, pp. E02334, <<https://doi.org/10.1016/j.heliyon.2019.e02334>>.



Calling All Green Thumbs and Helping Hands

By Meredith Kirton MAIH RH

Have you ever pondered about gardening for the elderly? It's something that research has shown is beneficial not only for the people gardening, but also great for the wellbeing and enablement of the clients that receive the help.

Gardening for our most frail and vulnerable members of the community is what *Easy Care Gardening Inc.* is all about.

They've been doing it for over three decades in the Hornsby Shire, Ku-ring-gai Council, The City of Ryde and Hunters Hill Council.

These areas are often bordered by bush, so keeping environmental weeds like privet, lantana and camphor laurel under control has extra importance for our environment.

Their teams of volunteers comprise hundreds of regulars, but is supplemented with enormous effort by some corporate teams joining their crews.

The extra peoplepower allows them to tackle gardens that have become jungles, with many hands truly making light work.

Easy Care Gardening Inc. is SO proud of their volunteer community who have worked tirelessly throughout the COVID pandemic to help garden for their neighbours.

"We want to put our hands together and give them all a round of applause – and if we could, a big hug!" says Meredith Kirton MAIH RH, who is helping with some marketing for the charity.

This vital service helps over a thousand households stay living independently at home.

The friendly volunteers weed, rake, tidy and trim their way through mountains of unruly gardens, keeping environmental weeds in check and helping to make the gardens of our most vulnerable citizens safer places for them to enjoy their outdoors.

In the process they make friends, make a difference, and it's great for their health and wellbeing.



Group of volunteers. Image/ *Easy Care Gardening Inc.*

“The clients are really in need and you see... what a difference working as a team has made to their lives. They are so incredibly grateful...”

The organisation started over three decades ago, and one of Easy Care Gardening's newest members Tim Kenning says:

“I like helping out people who need us. As an arborist in a past life (working at Ku-ring-gai Council) I enjoy the healthy lifestyle gardening offers, as well as learning from the other volunteers and clients. We brighten the days of others, and there's a lot of satisfaction in that.”

The majority of clients who come to *Easy Care Gardening* feel that they are unable to cope at home as their garden is overgrown and paths have become slippery and dangerous.

The amazing volunteers chip away at the jungle, returning it to an area they can actually utilise safely.

In most cases they cannot afford expensive commercial rates for gardening so without this important service, these people are at risk of premature or unnecessary institutionalisation.

The qualified coordinators work with the team leaders to ensure that the work is carried out in a timely and proper manner, but it's SO much more than gardening.

“The clients are really in need and you see at the end of a short stint what a difference working as a team has made to their lives. They are so incredibly grateful,” says Larissa Hansen, Coordinator “

At the middle of the session we break and have a cuppa together with the client too, which is wonderful for them to have that social interaction.”

With National Volunteers Week just behind us, it's a timely reminder that you are all invited to put your hand up and help out – and **Easy Care Gardening** are calling on our professional community to get them dirty in the garden with them too.

Perhaps your staff would love to experience the joy of volunteering as a corporate ‘giving back’ day, or you just want to come along and help for a few hours a month – they can accommodate volunteers any way and anytime!



Larissa Hansen, *Easy Care Gardening* Coordinator and Costa Georgiadis MAIH RH. Image/ *Easy Care Gardening Inc.*



Judy Horton OAM MAIH. Image/ *Easy Care Gardening Inc.*



“I’m Lovin’ It!”: Disney World Florida Unveils Incredible Branded Greenwall Store

By David Thompson, Engagement Manager Australian Institute of Horticulture

McDonald’s has unveiled its brand new, energy-neutral flagship within the grounds of Disney World Florida, aiming to build the world’s first net-zero fast food restaurant.

The building features incredible greenwall plantings as well as outdoor gym equipment as McDonald’s continues to innovate and shift its perception in the market as a more sustainable, customer-friendly restaurant chain.

Installed by Seattle-based greenwall company Sempergreen USA, the building brings the famous arches to life with classic golds and greens of the foliage, spanning over 2000 sq.ft. of living greenwall plantings.



Image/ sempergreen.com



Image/ sempergreen.com

The designers used plants such as *Ruellia* and *Tradescantia* that are well-suited to Florida's warm, tropical climate, providing cooling and heat absorption that helps to reduce the need for electricity-based cooling systems.

The greenwalls are monitored and supplied with the right levels of nutrients and water through a web-based interface that keeps the plantings looking fresh and healthy.

The iconic single-pitched roof also hosts more than 1000 sq.ft. of solar panels that contribute to clean energy generation, producing 600,000 kilowatts annually.

These design features make the store a rich learning hub for applying next-generation integration of plants, hardware and software systems for low-carbon building design that enhances the experience of the store and contributes to positive perceptions of the McDonald's brand.

"These unprecedented times have only heightened the importance of innovation that fosters long-term security and sustainability," says Marion Gross, McDonald's North America chief supply chain officers.

"While health and safety in our restaurants is our top priority, we must also remain focused on creating positive change for our communities and the planet.



Image/ corporate.mcdonalds.com/

"This restaurant marks an important step in McDonald's journey to reduce our carbon footprint and identify meaningful solutions in the fight against climate change."

Last but not least, there are games at tables, where visitors - both young and old - can learn more about renewable energy.

Find out more about the innovative **Maccas Florida store**



Image/ sempergreen.com



Career Focus - Landscape Designer

By Gopika Sambantham, SFA Landscape Design

Contemplating about becoming a landscape designer? Then read on to find out more about the profession. If you are already in the landscape field as apprentice studying horticulture, construction or have a design background or someone who loves gardening, plants, and nature then this career path will fulfill your desire if you are committed. Also, if you believe you have artistic flair and interest then becoming a designer might be a career path worth pursuing.

Who is a Landscape Designer?

A Landscape Designer and Landscape Architect have similar roles. They both provide professional help to solve site-specific landscape problems, consider surrounding climatic conditions and progress local council approvals.

They assist in achieving a dream outdoor space that fits into client's lifestyle. Having knowledge of the local flora and fauna plays advantage to this role in this era of climate change.

Services Provided by Landscape Designers

A landscape designer is knowledgeable in design principles, the latest landscape products, plants, landscape styles, construction, council approvals and permit. They work with clients to achieve their vision for their garden/outdoor space.

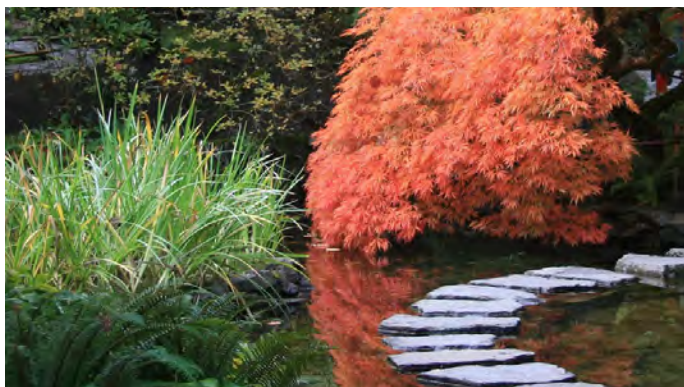
Landscape designers provide consultation services, design and documentation, plant selection and approvals of documentation applications for CDC (Complying Development Certificate), and DA (Development Application) for existing & new built homes and commercial spaces.

How Can They Help?

They serve the community by maximizing the client's budget and saving time in doing the right thing from the start of the project. In other words, Landscape Designers provide a blueprint for a client's vision of their outdoor space.



Image/ Gopika Sambantham



Career progression depends on being able to bring your creativity, unique design flair and exceptionally good knowledge about the industry.

How to Stand Out

To stand out from the competition, be extraordinarily good and knowledgeable in specific landscape style, for example, tropical gardens, contemporary gardens for residential designs and children's playgrounds, parks, and therapeutic gardening for commercial spaces.

If you are working for someone learn to upskill yourself in specific landscape style.

“Best of luck wherever you are at your life journey.”

As a professionally-trained Architect, I tend to turn to nature to get inspired for designs.

Gardening is my interest, so inclination towards designing outdoor space appeals to me more than any other design aspect.

As an Architect one day, I would love to design a space that balances outer and inner space impeccably, zero carbon footprint and a lifestyle changer.

Signing out - *A Real Dreamer*,

Gopika S

Employment Opportunities

Self-Employment If you have a passion for design and an interest in gardening but have to juggle parental and carers responsibilities then this career will suit you.

Horticultural Business Some nurseries offer design services to entice customers to buy more from them.

Landscape Contractors Who have license and take on big projects might need help with designing. This can be in-house or freelance opportunities.

Architectural Design Firms Big planning firms will need landscape architects/designers to prepare local council approval drawings, commercial landscaping, and design for affluent clients.

Urban and Town Planner Also seek landscape Architects/designers for streetscaping, playscape and civil landscaping.

Developers and Builders To prepare council drawings and individual client's residential landscaping.

Government A highly-experienced landscape architect/designer is sought out for government projects by local, state, and federal government.

Career Progress and Earnings

“All big things start with small beginnings”
(unknown quote)

Landscape designers who can obtain part time or full time employment should earn a professional salary. An established landscape designer/consultant may charge from anything low to particularly high for the design work.



Gopika Sambantham,
Landscape Designer,
SFA Landscape Design

Low maintenance garden design specialist. Provider of time saving and efficient landscape/garden design that promotes quality of life.

DESTINATION: HORTICULTURE



Image/ zoenren-osaka.jp

The Kei Truck Garden Contest: Tiny Trucks, Tiny Gardens

By David Thompson, Engagement Manager Australian Institute of Horticulture

The Kei Truck is well-known in Japan for its practicality, compact size and accessibility as an all-round farm vehicle.

To recognise the place of this iconic truck in the Japanese agricultural sector, the Japan Federation of Landscape Contractors convenes a beautiful showcase of tiny gardens curated in the flatbed trays of Kei trucks in Osaka.



Image/ zoenren-osaka.jp



Image/ zoenren-osaka.jp



Image/ zoenren-osaka.jp

The contest brings keen gardeners and landscape professionals together to design and build diverse small-space gardens that showcase their expertise, eye for design and a sense of tribute to classic Japanese horticulture.

The gardens created vary from the traditional Japanese design with pebbles, mosses and small-stature trees and shrubs, to brightly-coloured grottoes and gardens with bamboo or other materials that provide form and structure.

With horticultural tourism expected to grow in coming decades, it's just one more reason to visit Japan and savour its stunning range of horticultural destinations.



Image/ zoenren-osaka.jp



Image/ zoenren-osaka.jp



Image/ zoenren-osaka.jp

Shipping disasters can affect any business, even those far from the site of the accident

AIH Member Simon Holloway MAIH, Sales and Marketing Director of Vegepod, recounts the doubly-unfortunate experience of being adversely affected by not just one, but two major shipping crises.

AIH Corporate Sponsor Fitzpatrick's offer insurance products that help horticulturists manage risks and losses and the Institute encourages members to consider how globally-connected supply chains and shifts in supply or demand may affect their businesses.

“What are the chances!?”

Exactly one year ago lil' ole Vegepod had a container fall off the ship APL England in an “extremely rare event” off the coast of Newcastle.

Now lil' ole Vegepod has a container caught up in a “once in three lifetimes event” with the Evergreen debacle blocking the Suez Canal.

(The fact that Evergreen is disgracefully trying to use an obscure 400 year old maritime law to get all container owners to share culpability is outrageous).

So anyway, given our amazing relationship with the Law of Probability we have decided to go for the trifecta and organise a staff syndicate lottery ticket. If we win, we may change our tagline to “Vegepod - evergreen ...”

Marine Insurance

Provided by Daniel Holmes, Fitzpatrick & Co Insurance Brokers

Marine insurance helps protect your business from loss or damage to vessels and cargo as well as the delivery and storage of goods.

Who Should Consider It?

Marine insurance is important for businesses involved in shipping or receiving goods, operating watercraft commercially, repairing vessels, running a marina and more.

Marine insurance can provide valuable cover on both land and sea for:

- Freight forwarders
- Importers and exporters
- Marina owners
- Mining companies
- Primary producers
- Removalists
- Tourism operators
- Wholesalers

What Can It Cover?

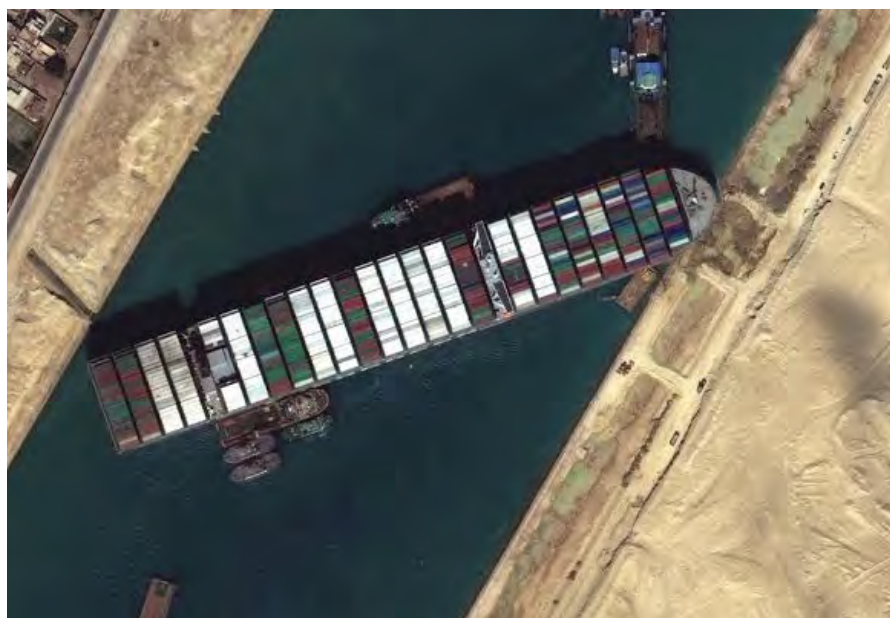
There are different types of marine-related insurance policies – the type you choose will vary based on your specific needs.

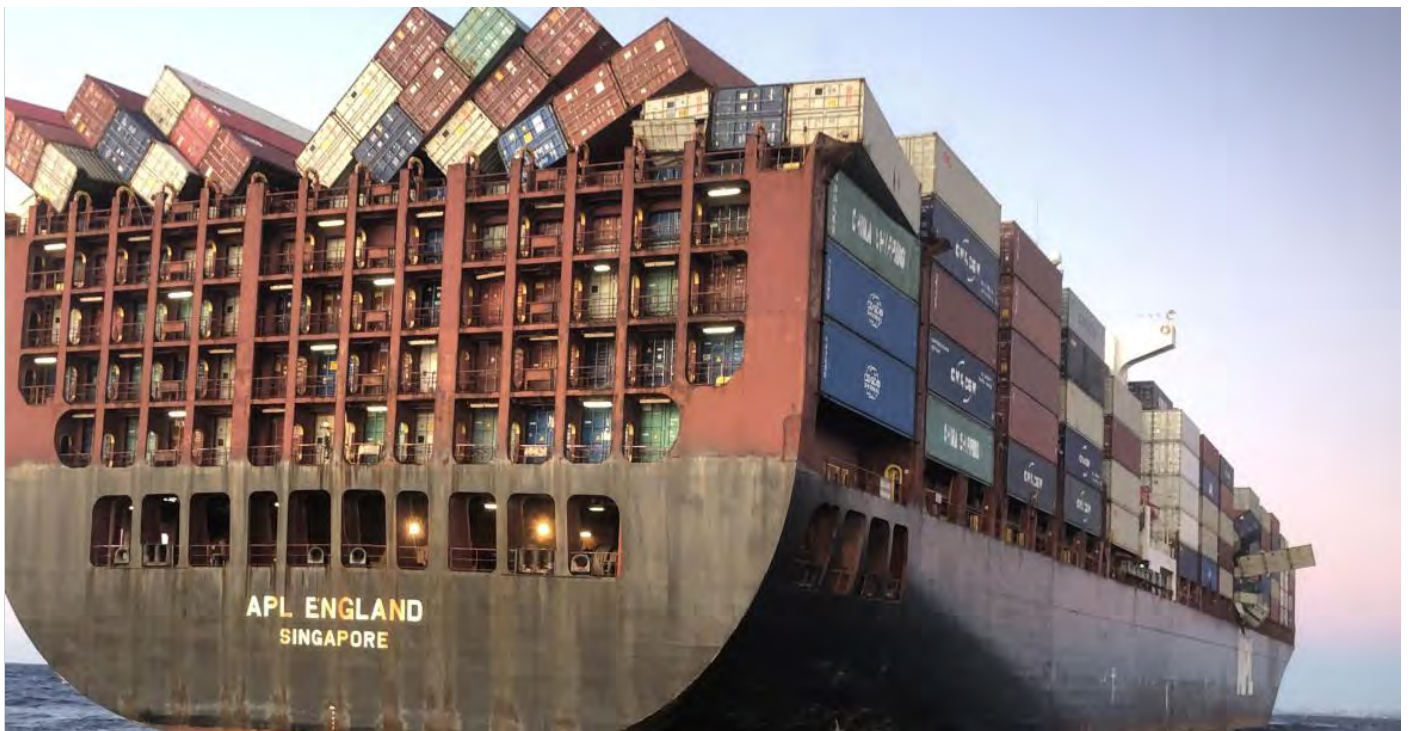
Depending on the type of policy you choose, marine insurance policies can cover:

- Goods transported by sea, air, rail or road from collection point to delivery
- Marina operators, yacht clubs, ship repairers, port authorities and other marine service providers against third-party injury and property damage
- Loss or liability for commercial vessel operators, such as charter or tourist boats, fishing vessels, tugs or barges
- Trucking or logistics companies who transport goods within Australia
- Pleasure crafts, such as yachts or cruisers for accidental damage, theft, sinking, property damage and even third-party injury for water skiers

What Isn't Covered

There are exclusions. There is also often a deductible or excess and limits on cover, so check with your insurance broker.





Claims Example

A small business purchases goods from overseas and retails these across Australia via their local shop and also from online sales.

A shipment of products worth \$20,000 was damaged by water while shipped from China to Australia; their Marine Cargo Insurance responded and reimbursed the purchase price plus freight costs.

3 weeks later, the store posted goods to a customer interstate valued at \$5,000 which was lost by the courier.

A claim was lodged with their Marine Cargo Insurer and the policy responded and reimbursed the insured the invoice value of the goods, so the Insured kept the margin of the sale.

For more claims examples or to obtain a Marine Cargo quotation, please contact **Fitzpatrick & Co** on 03 8544 1600.



Fitzpatrick & Co

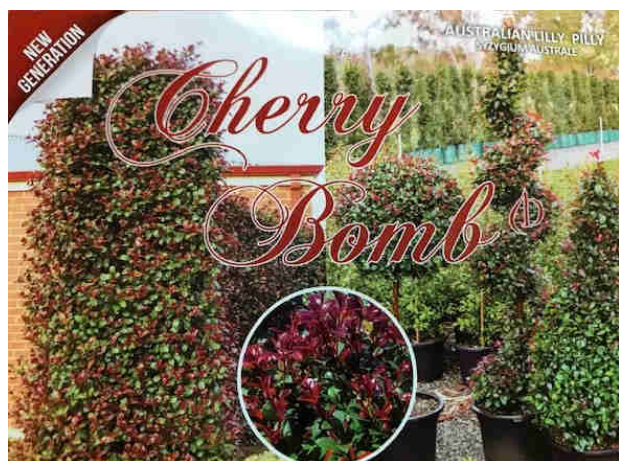
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H: up to 4m in 6 years

W: up to 1m

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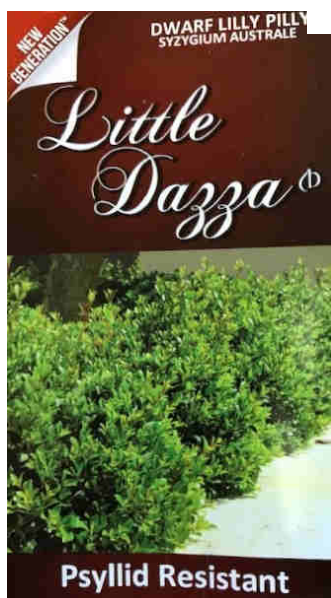


Plum Magic has been carefully selected for giving you intense colour and for creating small borders to larger privacy screens from 50cm to fence height.

H: up to 4m in 6 years

W: up to 1.5m

Available now in 200mm



Little Dazza is the perfect Syzygium for small to medium borders and a must have for Bonsai enthusiast

H: up to 1m

W: up to 1

Available now in 140mm only



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 600-800 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:

August 2021

Text and images due: 20th July 2021

Delivery: 1st August 2021

October 2021

Text and images due: 20th September 2021


Delivery: 1st October 2021

December 2021


Text and images due: 20th November 2021

Delivery: 1st December 2021

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Next Issue: 1st August 2021