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MEDIA RELEASE

Living turf and greenlife can play active role in bushfire management

Homeowners and business owners looking to protect their property from fires this bushfire season should consider the benefits of having natural turf and fire-wise greenlife around their property according to recent research conducted by GHD and CSIRO and commissioned by Hort Innovation for Turf Australia.

The study found that samples of three of the most common types of grass in Australian households: buffalo, couch and kikuyu are all highly resistant to ignition by embers, with even dead turf under severe moisture stress proving difficult to ignite in ignition experiments conducted at the CSIRO's Pyrotron facility in Canberra.

The study saw repeated attempts to light the three species of grass under typical bushfire season conditions. Various wind speeds were tested as were different levels leaf-blade moisture, achieved through naturally drying the turf, and even oven-drying to test extreme low moisture conditions. Leaf-blade moisture is expressed in "Oven Dried Weight" (ODW) which refers to the amount of water in the sample as a percentage of its oven-dried weight.

After 221 ignition attempts in the Pyrotron facility only 14% of the samples were able to sustain ignition, all of those successful ignitions occurring in dead grass with less than 20% leaf-blade moisture. No live samples sustained ignition.

Paul de Mar, Natural resources and bushfire management consultant with GHD said the findings are clear and unequivocal.

"These findings tell us that watered and mowed live turf lawns are not combustible under natural conditions associated with bushfires. Even lawns that are drought-stressed but provided with just enough watering to keep them alive, are highly unlikely to ignite and sustain fire spread. Essentially, for a lawn to ignite and sustain fire spread it needs to be dead and subject to extremely low moisture content" he said.

"The findings also reinforce what has been known anecdotally for some time.

"It is common in post-bushfire impacted areas to observe green, or partially green lawns remaining largely undamaged by fire surrounding either unburnt houses, or burnt houses where airborne ember attack has directly impacted the house but the surrounding lawn remains unburnt.

"Similarly, it backs up the long-held operational knowledge of firefighters; that lawns are useful both to mitigate fire spread, and for providing defendable space near houses. Lawns and walkways are a form of firebreak, which interrupt the path of surface fire spread – they can't stop airborne embers, but they can provide defendable space from where such embers can be safely put out."

The use of fire-retardant trees in bushfire prone areas is also beneficial and if placed in appropriate locations can assist in reducing bushfire risk to homes, in particular by blocking some of the ember attack.

Trees with the best fire-retardant properties are those with soft or fleshy leaves, with a high moisture content, tightly held non-fibrous barks, and low in volatile oils. Common native garden trees like the Lilly Pilly (and other rainforest plants), native frangipani, native figs, saltbushes, butterbush or kurrajong trees all have fire retardant properties. Common introduced garden plants such as camelias, rhododendrons, frangipani, hibiscus and many fruit trees, as well as common hedging plants such as photinia and viburnum are also suitable. Succulents are particularly good and suitable in garden beds with pebble mulch. However, trees and shrubs with dense foliage that retain lots of dry or waxy leaves, needles, twigs or other readily flammable material, have loose flaky or fibrous bark, or which have dense, fine foliage with a low moisture content should be avoided in bush fire zones.

The nursery industry is investing in natural disaster management through its current project *Nursery industry natural disaster risk mitigation and recovery plan* (NY18008), which is using insights from production nurseries to develop



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checklists, risk maps and business continuity templates that will assist nurseries as well as their customers in the preparedness, recovery and resilience of natural disasters and severe weather events.

The findings of the project will help assist both production nurseries and consumers of greenlife achieve the best environmental outcomes for the production and management of plants.

The environmental and health benefits of plants, trees and turf are increasingly on the agenda of local governments looking to improve community greenspaces. These research projects highlight the benefit that living greenspaces, when curated appropriately, can both resist fire and restore landscapes in bushfire affected zones.

According to Paul de Mar, it's important to remember that firewise landscaping and plant selection will reduce bushfire risk best in combination with other important actions like removing combustible materials, dead plants and leaf litter from around your home and from your roof and gutters, maintaining your home in an ember-tight condition, and preparing a Bushfire Survival Plan.

"There are other things to consider when developing a bushfire plan - whether it be for a home or business, including selection of fire resistant building and landscaping materials, and evacuation planning.

"However, the role of greenlife and turf in fire-wise design creating defensible space cannot be understated."

For more information on GHD's research findings and CSIRO's Pyrotron experiments check out this [fact sheet](#) or [click here](#) to access the full report on the Hort Innovation website.

For more information about the nursery industry's investment in natural disaster risk mitigation check out this [Nursery Paper](#)

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The 'Industry extension and development of Conveying the benefits of living turf – a bushfire retardant (TU17008) project is funded by Hort Innovation using turf research and development levy and funds from the Australian Government.

The 'Nursery industry natural disaster risk mitigation and recovery plan (NY18008) project is funded by Hort Innovation using nursery research and development levy and funds from the Australian Government.