

A Guide for Gardeners in Queensland Wet Tropics







The Nursery Industry - Protecting Our Environment



1) Contents



- 1. Contents
- 2. Acknowledgements
- 3. Introduction from the Ministers
- 4. Introduction
- 5. What is Grow Me Instead?
- 6. Establishing the criteria for Grow Me Instead
- 7. What you can do!
- 8. Controlling weeds
- 9. The invasive plants and their alternatives

Trees and Shrubs

Climbing and Ground Cover Plants

Berried Plants

Grasses

Bulbous Plants

Succulent Plants

Aquatic Plants

- 10. Invasive plant index
- 11. Further information and additional resources

2) Acknowledgements

- The 'Grow Me Instead' (GMI) project was first initiated by the Nursery and Garden Industry of NSW & ACT (NGINA) as a voluntary partnership with its member nurseries to encourage the removal from production and sale of plants known to be invasive in the natural environment.
- This Queensland Wet-Tropics Bioregion 'Grow Me Instead' booklet has been produced by NGIQ through funding from the Australian Government's Caring for our Country.





Australian Government NRM Team GPO Box 787 Canberra ACT 2601 Australia Ph 1 800 552008 (Toll Free) Web www.nrm.gov.au

- Special thanks go to Grow Me Instead project coordinator Barry Naylor (NGIQ) and project manager John McDonald (Nursery Industry Development Manager NGIQ).
- The Nursery and Garden Industry Queensland would like to acknowledge the
 people who generously contributed their time and expertise and who provided a
 wealth of information towards the production of this booklet. Special thanks go
 to the members of the two regional Grow Me Instead Committees in Mackay and
 Cairns that contributed to the Wet-Tropics GMI Booklet:

Dale Arvidsson Mackay Regional Botanic Gardens

Corey Bell Biosecurity Queensland

Ross Comben Kirisit Nursery

Erin Couper Dugine Native Plant Nursery
Elaine Duncan Anza Nursery and Garden Centre

Keith English Cairns Botanic Gardens
Stuart Fyfe Mackay Regional Council
Kathryn Galloway Plants Whitsunday

Neil Hughes Limberlost Nurseries Pty Ltd Bob Jago Cairns Regional Council

John Paul McFadden Australian Rainforest Foundation

Caroline Sandral Biosecurity Queensland

Travis Sydes Far North Queensland Regional Organisation of Councils

Ryan Taylor NGIQ

- The Nursery & Garden Industry Australia through it's National GMI Committee Delwyn Thomas (Project Manager), Robert Prince (Chief Executive Officer NGIA), Anthony Kachenko (National Environmental and Technical Policy Manager) and Robert Chin (NGIV).
- The Blue Mountains City Council for providing the section on controlling weeds.
 For further information and additional resources please contact (02) 4780 5000.
- The many people and organisations who contributed photographs used in this booklet



3) Introduction from the Ministers

The nursery and gardening industry has joined with the Australian Government in the fight against invasive garden plants. In championing this initiative, Nursery and Gardening Industry Australia (NGIA) is taking a significant step forward in tackling one of the nation's most serious environmental problems – the spread of weeds.

The Grow Me Instead campaign is a great industry-driven initiative providing relevant local information to nursery operators and gardeners about plants which are potential weeds in their area and less invasive plants for gardeners to use.

This cooperation between the horticulture and nursery industries, the Australian Government and weed management bodies will help ensure horticulturalists and gardeners receive the information they need to combat the spread of weeds.

It is estimated that weeds cost the Australian agricultural industry around \$4 billion a year. The real cost of weeds to the environment is difficult to calculate, however it is likely to be at least equal to the cost to agriculture.

Of the almost 3000 introduced plant species now known to be established in the Australian environment, 65% are 'escaped' garden plants. An important step in preventing the spread of weeds is public education to help change attitudes and behaviours that contribute to the weed problem.

The Government is committed to investing in initiatives that have real on-ground benefits for the environment and for industry. We commend this initiative to you.

The Hon Peter Garrett AM MP

Minister for the Environment, Water, Heritage and the Arts

The Hon Tony Burke MP

Minister for Agriculture, Fisheries and Forestry

4) Introduction

The Nursery and Garden Industry in Australia employs about 45,000 people in some 22,000 businesses across the country. For many years the Industry has been conscious of their environmental responsibilities and they have been proactive in furthering educational programs, including those concerning invasive garden plants. Garden escapes are not a new issue: weeds have been around since the first settlers brought along reminders of 'home' to help them settle into a new and strange land. How strange the Australian landscape must have seemed then, and how natural it would have been for the settlers to want only the tried and true familiar garden plants of the British Isles. Despite the difficulties of creating a garden in the Antipodes, it took many years for the average Australian to appreciate the native flora of this great land.

Then, there were the early 'acclimatisation societies' who thought it a good idea to introduce plants and animals from the old country and also to spread Australian native plants from state to state.

Although great damage to the environment has occurred as a result of these indiscriminate introductions, this has not been solely the fault of the horticultural industry: certainly other industries have contributed. Graziers have imported new grasses and fodder crops and there were 'accidental' imports that came about unwittingly through inappropriate packaging, movement of plant and machinery, as seed in fodder and in ships' ballast.

However, the weed issue and who is actually responsible should not become a 'blame game'. Together we must seek to repair what damage we can and to work together as a community to prevent similar damage occurring in the future.

The Nursery & Garden Industry is actively participating in lessening the availability of invasive plants in Australia by preventing their production and sale. The Industry has recently established a greater understanding and cooperation with both State and Federal Governments, culminating in this important 'Grow Me Instead' booklet.

Greater awareness and education of the home gardener is a major part of the answer to this problem. By using the information in the 'Grow Me Instead' booklet as a guide and consulting with your local garden centre or plant nursery, you can help to minimise garden escapes and create a better environmental future for following generations of gardeners.



5) What is Grow Me Instead?

The original 'Grow Me Instead' booklet developed by the Nursery & Garden Industry NSW & ACT (NGINA) has now been extended as a national program by the Nursery & Garden Industry Australia (NGIA), in partnership with the Federal Government, to reduce the numbers and impact of invasive plants in Australia.

'An environmentally invasive plant' is just another term for a weed. Quite simply, a weed is any plant that poses a threat to the environment, adversely impacts human or animal health, or causes crop or stock losses. For most gardeners, many of the characteristics we most desire in garden plants are the same as those that make them weedy: i.e. plants that are fast growing and disease resilient and those which reproduce easily by the distribution of seeds or plant parts.

A modern definition of a weed is "a plant that requires some form of action to reduce its effect on the economy, the environment, human health and amenity".

Many of the plants that are now considered to be 'environmental weeds' were introduced by early settlers, or by gardeners and farmers who had little or no knowledge of their future impact on the native environment. It is only in recent years that this threat has become apparent.

Weediness is not confined to introductions from overseas. Some Australian native plants introduced from other regions may impact adversely on the natural environment. Non-indigenous (i.e. not local) species may invade and displace species natural to that area or they may cross pollinate to produce new species which may in time alter regional biodiversity. Cootamundra Wattle (*Acacia baileyana*) is a good example of the former, while many eucalypts are known to interbreed.

Introduced species may sometimes be controlled in a foreign climate by various vectors such as small animals, insects, diseases or climatic conditions such as frost, thus reducing potential invasiveness.

To gardeners, farmers or botanists, the term 'weed' may mean different things. Pasture weeds reduce the productivity of agricultural land and may also have negative effects on human and animal health. Environmental weeds cause various problems in natural areas and ecosystems and the cost of control for both farmers and government is estimated at billions of dollars per annum.

The purpose of this Grow Me Instead booklet...

is to identify common garden plants that have now become environmental weeds in your local area, and to suggest better, alternative plants that benefit garden diversity while lessening their potential to become weeds of the future.

Apart from nurseries, garden centres or the resources of the local botanic gardens, valuable information may be provided by the Natural Resource Management Boards or you may wish to check out their websites. Here you will find lists of declared weeds for the local area and contact details should you need further information regarding invasive plant identification and approved methods of disposal.

It is important to reduce the spread of environmental weeds because...

better and more effective management of invasive plants will help to reduce the high cost of chemical control, and to reduce the amount of time and energy lost in management of weeds in productive land for food crops, grazing land, cut flowers and forestry. Weed management in public spaces and on natural heritage land is costly, laborious and at times seems overwhelming.

Invasive plants are defined and grouped as follows.

- 1. Noxious weeds are those legally declared as noxious plants by the various State or Territory Governments. The declaration of noxious weeds will vary from state to state and from region to region within a state. In general, most state legislation will say that declared noxious plants cannot be grown, sold or transported or transposed, and removal is required.
- 2. Weeds of National Significance ('WoNS') are some of the most significant weeds in Australia. All WoNS have been declared illegal for sale in each state of Australia.
- 3. Environmental weeds plants that are or have the potential to impact the natural environment by destroying habitat or over-running indigenous species and altering local biodiversity. Many of our worst environmental weeds are garden escapes.
- **4. Agricultural & Horticultural weeds -** are those plants that have a negative effect on crop or animal production. This may be through the infiltration of weed seed in grain crops, burrs in wool production or weeds which make animals sick or cause death. In the horticultural industry, weeds within cut flower, fruit and vegetable crops can harbour pests and diseases which reduce productivity.



6) Establishing the criteria for Grow Me Instead

It has been very important to establish a set of consistent criteria which could be adhered to across all regions and states.

A) The Invasive Plants

The Nursery & Garden Industry Queensland, in consultation with its members, State and Local Governments and a wide range of interested stakeholders has developed a list of 30 invasive garden plants. There are several weed lists in existence provided by a variety of environmental and conservation organisations that often include species which are problems only in their local area. As such, including all garden escapes in a national list was considered inappropriate. Therefore, the 'weediness' criteria for inclusion in 'Grow Me Instead' were determined as follows.

- 1. The plant must be shown to be invasive across more than one area or part of the bioregion.
- 2. It can be either an Australian native or imported (exotic) species.
- The plant must be shown to or have potential to damage the environment, human or animal health or create stock or crop losses.
- 4. The plant must be proven to have naturalised in bushland to the detriment of the natural environment.

This 'Grow Me Instead' list is not definitive for each area or region of Queensland. There may be other problem plants in your locality, most of these being included in lists prepared by your local government or other relevant organisation. In addition to the plants listed in 'Grow Me Instead', you should also be aware of your local problem plants.

B) The Alternatives

Not all of the alternatives would be suitable across the broad range of soils and climates of Queensland. Therefore, consideration of these differences and adaptation to your local area or region will be necessary.

For this booklet to be of benefit in helping you select 'good' garden plants, it should be used as a guide to plant selection. In addition to the listed alternatives, there will be many other plant selections available to you at your local nursery or garden centre. Together with their help, expertise and guidance, you needn't have any fear that your garden will become an environmental hazard in the future.

Selection criteria for the 'non-weedy plants' included:

- Must be recognised as non-invasive.
- Must be readily available to the gardening public.
- Must be reliable garden plants.

We have endeavoured to recommend at least one Australian native plant alternative for all of the invasive species listed in the booklet.

The role of the nursery industry

In more recent years, the Nursery & Garden Industry has been environmentally responsible by encouraging the production of non-invasive plants that do not require copious amounts of reticulated water, fertiliser or other chemicals to thrive in the garden.

The Nursery & Garden Industry in Australia instigates accreditation programs among its members, and it continually strives to establish standards of excellence in plant production in order to provide trustworthy products.

The Nursery & Garden Industry provides information not only through publications such as the 'Grow Me Instead' booklet, but also through its education programs. Many educational and self-help programs are also offered by local nursery or garden centres.

Your local nursery or garden centre can assist you by:

- · Helping with identification of suspected 'weedy' plants;
- · Providing information concerning local invasive plants;
- · Offering alternatives and environmentally friendly plants;
- Providing information concerning good weed management, disposal of unwanted plant material, further preventing the spread in your garden and neighbourhood.

On a broader scale the Nursery & Garden Industry can assist by:

- · Increasing public awareness through education programs;
- Promoting the sale of superior, alternative plants thereby reducing the number of invasive plants grown and sold;
- Working with government, with research organisations, the media and other key stakeholders to help reduce the distribution and sale of undesirable plants.



7) What you can do!

By checking the plants in your garden with the help of the 'Grow Me Instead' booklet you may identify plants you should replace, while at the same time find others you may enjoy growing more!

Your **local** nursery or garden centre plant specialists will have additional suggestions of plants proven to be successful in your area. Plants purchased in another region, no matter how lovely they are, may not always prove hardy in yours. Furthermore, by purchasing plants from another region you may unwittingly introduce another environmental weed!

It is also a good idea to consider your garden setting and to then make a list of the plants to fill your specific house and garden needs. For example, aspects of the house exposed to hot western sun will benefit from a deciduous tree to provide summer shade and will allow penetration of winter sun, while privacy from neighbours can be provided by carefully chosen hedging plants. Or you may simply want to create beds or borders of colourful flowers and dramatic foliages to enhance your home décor. All of these wishes and needs are valid and they will vary between gardeners.

Garden plants provide many useful purposes, and in time they will become an integral part of your environment, chosen to suit the architecture of both your home and your personal lifestyle. Good garden cultivation is your contribution to establishing a special microclimate and will help to protect and preserve the local environment.

In recent times, many new plant varieties have been introduced through modern production methods and the work of plant breeders, resulting in plants which are attractive and hardy but which are non-invasive. These may be plants which are sterile or rarely produce seed. Many new varieties have low water needs or are tolerant of the air pollution found in the urban environment. In this way the Nursery Industry is contributing to the elimination of damaging or invasive species.

Purchasing plants from markets and other sources such as 'car boot sales', as well as plant swapping and trading between friends may also result in inadvertent movement of declared or noxious weeds.

Are you creating a weed problem in your area?

Are your garden plants 'jumping the fence'? Garden escapes are said to be one of the main sources of environmental weeds. Homeowners have a responsibility to protect natural resources.

Here are some simple ways to enjoy gardening without creating problems outside the garden fence.

- Recognise and remove plants known to be 'weedy' and destroy them responsibly, according to local Natural Resource Management Board or council.
- Replace problem plants with non-invasive alternatives, as suggested by the 'Grow Me Instead' booklet or by your local nursery or garden centre. They will help identify any suspect invasive plants.
- When purchasing new plants for the garden read labels to establish good characteristics such as drought tolerance and non-weedy habit.
- Good gardening practices include removal of spent flowers that can set seed within your garden or spread to bushland.
- Do not dump green garden waste in neighbouring or public space as many plants can regenerate to become a nuisance.
- Do not dump spent cut flowers into the garden or on to adjoining property. Florists often use seed heads, vines and other plant parts that may establish in your garden.
- Never tip the water or plants from your aquarium into ponds, rivers or waterways. There are numerous, serious aquatic plants threatening rivers and waterways because of the thoughtless actions of some people.
- There are many good sources of information in regard to weeds and their control. See the back cover for a list.
- Think global act local. Consider plants local to your area. Your local council or shire will be able to provide a list of indigenous plants for your garden.
- Encourage friends and neighbours to become involved as custodians of their environment by following the same guidelines.



Native plants or imported species?

One of the most commonly asked questions at nurseries and garden centres is whether one should use native or exotic plants in the garden. There has long been discussion about this in gardening circles, and more recently the topic of using only locally indigenous or local area natives has become topical. The primary concern of most horticulturists is that gardeners should know the difference so that they may make informed choices.

Natives are, as the name suggests, those plants that occur naturally within Australia. Quite properly, they should be referred to as Australian native plants. Grevilleas, Eucalypts and Acacias are all examples. Of course, Australia is a big continent, so what is native to one area or region, may be very different to those found in another. Think for example, of native plants from the dry soils of Western Australia and compare them to the tropical rainforest plants native to Queensland – all Australian natives – but very different plants, with different growing requirements.

In recent years, plant breeders have hybridised many or been able to choose better or 'select' forms that have been sourced from plants growing naturally in the wild. Both hybrids and select forms will have improved characteristics to the parent species. It may be they flower more often or earlier in the season, they may produce better fruit, be disease resistant or they may have a longer life span.

Imported or so called 'exotic' plants are those originating elsewhere, not necessarily the 'exotic tropics' as some people may think.

Indigenous plants are plants that grow naturally in your local area. They are naturally occurring plants of the region and can be seen in local parklands, as remnant plants on roadsides or riverbanks and in local bushland.

Some Australian native plants become 'naturalised' or take over in an area where they would not normally occur such as Cootamundra Wattle (*Acacia baileyana*), Bluebell Creeper (*Billardiera heterophylla*) and Sweet Pittosporum (*Pittosporum undulatum*).

Of concern to some conservationists and indigenous plant enthusiasts is the possibility that some introductions may interbreed with local or indigenous plants, thus impacting on the local gene pool.

Most invasive plants are imported or introduced plants. One needs to be informed about these plant species which are the basis of the 'Grow Me Instead' program. However, it is fact that there are a far greater number of well behaved, imported garden plants that are not invasive.

Working on the known statistic that 27,000 plants have been imported into Australia and some 2,700 of these are listed as environmental weeds, it is estimated that approximately 10% of the imported plants in our gardens are invasive.

In modern horticulture, plants are bred, developed or selected for desirable traits such as hardiness, drought tolerance, long flowering season, larger flowers or fruits, their disease resistance and general appeal.

Of primary importance in selecting plant material for your garden is sourcing accurate information about the plant. We suggest that you ask for advice at your local nursery or garden centre.

Consult your local council or Natural Resource Management Board if still in doubt!

Australian native plants have greater appeal today than in the past; they generally grow better because of the improvements made in their selection.

Indigenous species should be grown from seed sourced locally to be of best benefit in your locality.

Australian gardens today have become an eclectic mix of both native and imported plants, and can be complimentary to one another. Choosing one or the other is not the question; ultimately it is the gardeners choice!

Any plant should be acceptable to the Australian gardener so long as it is non-invasive and does not require copious amounts of water, fertilisers and other chemicals to survive.

8) Controlling weeds

Using herbicides

Many of the weed control techniques suggested on this and the following pages involve the use of herbicides. Herbicides are poisons, and should be handled with the greatest respect. They can be absorbed very easily through the skin, by breathing the vapours, and by ingestion (eating or drinking).

By law, herbicides must be used strictly in accordance with the manufacturer's label. They should be kept well out of the reach of children, preferably secured in a locked cabinet. They should always be stored in the original labelled container.

USE OF HERBICIDE: SAFETY PRECAUTIONS

- Read the label before opening the container and follow the instructions.
- Wear protective clothing: long sleeves, long pants, sturdy shoes, gloves, eye protection.
- Always wear waterproof gloves. A respirator is advised when mixing or pouring the liquid.
- Do not eat, drink or smoke while using herbicide. Keep children and pets away.
- Wash skin and equipment afterwards. Wash contaminated clothing separately.



Bushcare Officers take no risks

 Clean up any spills with large amounts of water; shovel up contaminated soil, dispose of it at the tip.

Types of herbicide

There are two widely used herbicides licensed for use at home: Glyphosate, sold under various trade names, including Roundup® and Zero® (which have different concentrations), and Triclopyr, sold as Tree, Blackberry and Woody Weed Killer (etc.).

How herbicides work

Glyphosate is a systemic, non-selective herbicide. It inhibits the action of an enzyme, preventing the production of an amino acid essential to plant life and growth. It must be applied to green leaves, or directly to the plant's sapwood, which lies under the bark.

Triclopyr is a selective systemic herbicide for woody and broadleaf plants. It is a growth inhibitor which moves to the plant's roots, stops growth, and eventually leads to the death of the plant. Triclopyr can be applied to green leaves and to bark.

Herbicides, waterways and steep land

Some of the chemicals which are added to herbicides are not safe to use near waterways. They have the potential to seriously affect the quality of aquatic ecosystems. If you need to remove weeds, particularly trees, within 20 m of any kind of watercourse, even a drain that runs only when it is raining, you should seek advice and assistance from your local council's environmental management department or Natural Resource Management Board.

Control of woody weeds

CUT AND PAINT

Suitable for small to medium sized woody shrubs up to 10 cm in diameter (or larger if using a chain saw). See below for trees.

- Clear around the base of the plant.
- Cut the stem horizontally as close to the ground as possible, using secateurs, loppers, or a saw. Make sure there is no soil on the cut.
- Apply herbicide to the cut stem immediately. Squeeze, not squirt if using an applicator.
- Ensure there is no runoff of poison.
- Use as little herbicide as possible.



TIPS

- Make cuts horizontal to prevent herbicide from running off the stump. Sharp angled cuts are hazardous.
- Apply herbicide immediately after cutting within a few seconds, before plant cells close and translocation of herbicide ceases.
- If plants resprout, cut and paint the shoots after sufficient regrowth has occurred.
- Stem scraping can be very effective on certain woody weeds, e.g. Japanese Honeysuckle, Blackberry, vines and rhizomatous plants.

STEM INJECTION

A method for weedy trees and large shrubs

- Use a cordless drill (9 mm bit), hammer and chisel, or brace and bit.
- Below any branches, drill or chisel holes round the base of the tree, into the sapwood, angled down at 45°, and at 5 cm intervals.
- Make the holes about 40 mm deep.
- Within a few seconds of drilling each hole, fill it with herbicide.
- Use this method only when falling branches, as the tree dies, will not be a safety hazard.





HAND REMOVAL OF WEEDS

Suitable for seedlings, herbaceous weeds, many grass species.

- Before starting work, remove and bag seeds and fruit, and place in bin.
- If the weed has a tap root, push a narrow trowel or long knife deep into the ground beside the root. Loosen the soil. Work round the root and then work the plant out gently.
- Many plants which will not regrow from their roots (e.g. many grasses) can be crowned: see diagram to the right. Hold leaves and stems together, and use a knife to cut through all the roots below the 'crown'.



crowning

 Plants with bulbs, corms or tubers (e.g. Watsonia) may need deep digging to ensure complete removal. Bag bulbs, corms and tubers and send to the tip; do not compost.

STFM & I FAF WIPING

This method is suitable for plants with bulbs, tubers, corms or rhizomes, e.g. Watsonia.

- · Remove and bag any seed or fruit.
- Using a weed wiper, start at the base and wipe all the stems and/or leaves with a dilute mix of herbicide.
- If leaves have soil on them, wipers must be regularly washed out.



leaf wiping

Take great care when wiping: do not allow the herbicide to touch your skin or to run off into the soil, or to get on a non-target plant.

There are many control methods which are specific to certain weeds – e.g. large infestations where spraying, or covering to exclude light may be options. Contact your local nursery for up to date techniques.

WHEN TO TREAT WITH HERBICIDE

- Apply herbicide when the plant is actively growing.
- Do not apply herbicide when the plant is under stress: extreme heat or cold, drought, waterlogging, or disease.
- Choose early morning or late afternoon in summer.
- Do not apply when wet or windy weather is anticipated.
- Treat deciduous plants in late spring or summer, when in full leaf.

Control of ground covers, vines & scramblers

SCRAPE AND PAINT

This method is suitable for vines and scramblers with woody stems.

- Using a knife, and starting from the base, scrape 20 to 100 cm of leafy stem to expose the sapwood below the bark.
- Within seconds, apply herbicide to the scraped area.



TIPS

- Do not ringbark the stem: scrape about one third of the diameter.
- Stems larger than 1 cm in diameter can be scraped on both sides.
- Vine curtains can be cut at chest level, then again at about 30 cm. Scrape or cut and paint these stumps.
- Blackberry can be cut back to 1 m if there are plenty of leaves; then scrape and paint the cut stems.
- Pulling vines (especially twiners) out of trees and shrubs may do a lot of damage. They can be left hanging to die.

By Law

Herbicides must be used according to the label, or according to Australian Pesticides and Veterinary Medicines Authority (APVMA) permits. If the plant on which you wish to use the herbicide is not named on the label, contact APVMA for permit information (www.apvma.gov.au).

THE DIG OPTION

On previous pages you will find advice on using herbicides to control weedy plants: often this causes minimal disturbance and less germination of seedlings.

However, if you have the energy and want to minimise herbicide use, you can often take the dig option, making absolutely sure that you remove all the parts of the plant from which it can regrow.

TIPS

- Seedlings and small plants may be pulled by hand when the soil is moist.
- Try to stager weed removal. Large areas of exposed soil are an open invitation to weed invasion and erosion, carrying weed seed into the bush.
- Mulch bare soil, and stabilise it by planting bush-friendly plants into it as soon as possible.



Trees & Shrubs



An introduced exotic evergreen tree growing 10-15m with compound mid green foliage with a spreading rounded crown. Sweet smelling sprays of white flowers appear at the branch tips and are followed by plentiful ovoid fellow fruits. The plant has well recognised insecticidal and medicinal properties.

Photo: Colin Wilson

HOW IT SPREADS

- This tree produces a bounty of yellow fruit which can be spread by fruit eating animals and birds.
- Neem Tree is related to Melia species (Cedars) which also produce bountiful seedlings at their base.



A deciduous Australian native tree that can get to 30m in height. It has large bipinnate glossy green leaves on spreading pendant branches. Flowers are white and mauve and form in large sprays in spring. This tree is fast growing and can be variable in size depending on growing conditions.

Photo: Macbird Floraprint

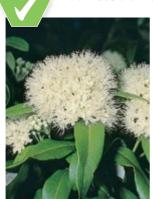
9) The invasive plants and their alternatives'



Large Australian native bushy tree growing 10-25m in height. It has beautiful bipinnate leaves to 30cm and is deciduous. Terminal panicles of cream flowers appear in Spring followed by flattened pods.

Photo: Dale Arvidssor

Lemon Scented Myrtle *Backhousia citriodora*



Medium sized tree to 12m with grey green foliage to 10cm in length. A key feature is crushed leaves are strongly lemon scented. A profusion of white-cream flowers appear in summer. An underused Australian native rainforest tree.

Photo: Macbird Floraprint

Other superior selections include;

- Xanthostemon chrysanthus Golden Penda
- Syzygium luehmannii Small-leafed Lilly Pilly
- Millettia pinnata Pongamia





This small, semi-deciduous tree grows 6-10m in height. A short trunk gives rise to vigorous spreading branches which hold large 2-lobed mid-green leaves. The tree is covered in beautiful purplish pink orchid like flowers during the warmer months. Long flattened seed pods follow and they can hang on the tree for several months.

Photo: Amanda McCa

HOW IT SPREADS

- This tree produces an extremely large amount of seed which is moved by wind and water.
- These seeds have a high rate of germination and should not be planted near sensitive natural areas.





This wonderful Bauhinia is considered a sterile form. It forms a tall densely foliaged tree to 10m. The flowers are large, to 15cm, dark pink to red with purplish streaks and slightly fragrant. A truly spectacular tree when in full bloom autumn through to winter.

Photo: Norwood



Taller growing than traditional crepe myrtle with long leathery leaves that turn copper red in Autumn and fall in winter. Absolutely spectacular in flower with large rose pink purple flowers 6-8cm across. This tree should be more widely grown.

Photo: Neil Fishe

Panama Flame Tree Brownea macrophylla



Lovely tropical tree from central America growing to 10m in height. New foliage emerges light pink but soon hardens to deep glossy green. Spectacular scarlet red orange flowers emerge on the tips as well as the trunk in spring and summer with clusters up to 20cm wide.

Photo: Steve Jackson

Other superior selections include;

- Lysiphyllum hookeri White Bauhinia
- Stenocarpus sinuatus Wheel Of Fire
- Harpullia pendula Tulipwood





Shrubby perennial growing to 60cm with dark green smooth edged foliage. Masses of rose pink flowers with dark red centre cover the plant throughout the warmer months. The plant produces an abundance of seeds which germinate readily. Can tolerate a wide range of growing conditions.

Photo: Sheldon Navie

HOW IT SPREADS

- The seeds can be spread by water (and wind over short distances). The seedlings can germinate along edges of gardens and even cracks in concrete.
- The plant can also be spread through dumping of garden waste.



Perennial evergreen shrub to 1m with long lance shaped leaves. There are also several dwarf cultivars. They are covered in bright clusters of tiny star shaped flowers in the warmer months. They come in a rainbow of flower colours including white, pink, red and purple.

Photo: Macbird Floraprint





Beautiful compact evergreen perennial shrub growing up to 1.5m. It has glossy green leaves and is covered in 2.5cm white star shaped flowers throughout the warmer months. A relatively new release well worth trying.

Photo: Colleen Way



Fantastic Australian native growing to about 1m in height. It has rounded greyish purple leaves and terminal spikes of white-pale purple flowers. This plant is also tolerant of salt spray.

Photo: Tim West

Other superior selections include;

- Ixora species and cultivars Ixoras
- Orthosiphon aristatus Cat's Whiskers





Evergreen tropical tree to 8m with dark green glossy leaves and reddish new growth. Small scented white flowers in Spring are followed by sweet ribbed orange-red fruit about 2cm in size. The fruit is used in cooking in some cultures.

Photo: Sheldon Navie

HOW IT SPREADS

- The fruit is extremely popular with birds which enable wide distribution in natural bushland.
- Seeds can also be spread by water and other small mammals.



Rounded medium shrub growing 2-5m with dark green leaves, pretty white flowers and small shiny red edible fruit to 2cm. The plant is slow growing at first and the fruit are considered to be very tasty.

Photo: Macbird Floraprint



Photo: Macbird Floraprint

This superb Australian native rainforest plant has glossy green foliage, a profusion of fluffy white flowers and small colourful berries. There are many different cultivars of this plant with a wide range of growth habits, foliage types and berry colours. Many make highly desirable hedges and screens. 'Elite', 'Bush Christmas' and 'Hinterland Gold' are three of many suitable selections.



Evergreen rainforest tree reaching 8-10m in cultivation. It has beautiful foliage often with red new growth. It has fluffy white flowers in spring followed by white to pink berries. There are many new cultivars offering a range of growth habits and foliage types.

Photo: Macbird Floraprin

Other superior selections include;

- Melicope rubra Little Euodia
- Syzygium luehmannii Small-leafed Lilly Pilly





Parrot's Beak Heliconia

This tropical plant from central America has large green leaves with a red edge. It usually remains around 1.2m but can become taller. It flowers all year and sets seed which aid in its distribution and it quickly colonises areas with adequate moisture.

This old style non hybrid Heliconia should be removed and appropriately disposed of.

HOW IT SPREADS

- This Heliconia produces viable seed which is spread by wind and water.
- This plant is also spread by pieces of rhizome which quickly



Beautiful hybrid Heliconia growing to 1.8m with pastel pink, cream and green hanging flowers. The foliage takes on a 'shredded' look.



An Australian native clumping plant growing to .75m. Leaves are long, light green and spade like. The summer flowers are yellow with the pink bracts forming a wonderful contrast. Although the plant does 'die down' through the winter months it is an excellent native ginger for the tropics.

Photo: Macbird Floraprin

Caribbean Heliconia Heliconia caribea 'Red' This beautiful the Caribbean to 2.5m in he green glossy be with spectacuthat can be owith brilliant research.

This beautiful Heliconia is from the Caribbean Islands and grows to 2.5m in height. It has dark green glossy banana-like leaves with spectacular inflorescence that can be over 1m in length with brilliant red spathes.

Photo: Utopia Palms and Cycads

Other superior selections include;

- Alpinia modesta Narrow Leaf Ginger
- Heliconia chartacea 'Super Sexy' Hybrid Heliconia





Mock Orange

Murraya paniculata (seedling grown form)

This compact rounded shrub with glossy green foliage grows to a height of 3-5m. The plant produces highly perfumed white flowers in terminal clusters in Spring, through to Autumn. The flowers are followed by small oval bright orange red berries which are highly attractive to birds.

This very popular garden plant has several forms. The seedling grown form, popular in the 1970's, is to be avoided as it is invasive. Gardens in older suburbs are likely to have this undesirable form and removal is recommended

HOW IT SPREADS

- The orange-red berries are highly desirable to birds whose droppings ensure this plant is widespread in bushland. Large colonies and thickets are created smothering natural vegetation and affecting ecosystems.
- Do not purchase Murraya from non-reputable suppliers as they are likely to be seedling grown forms.



Mock Orange

Murraya paniculata (cutting grown form)

Professional nursery growers and retailers now promote the use of a superior cutting grown selection which produces little or no berries. The growth habit is more naturally compact than the inferior and invasive seedling form. Ask your professional retailer for this cutting grown cultivar.



This superb Australian native rainforest plant has glossy green foliage, a profusion of fluffy white flowers and small colourful berries. There are many different cultivars of this plant with a wide range of growth habits, foliage types and berry colours. Many make highly desirable hedges and screens. 'Elite', 'Bush Christmas' and 'Hinterland Gold' are three of many suitable selections.

Photo: Macbird Floraprin

Native Mock Orange Murraya ovatifoliolata This Australian a height of 1-occurring in the of northern has rounded slower growing Murraya panic this selection cadifficult to find wish to try a nais well worth try

This Australian native grows to a height of 1-1.5m. Naturally occurring in the drier rainforests of northern Queensland, it has rounded foliage and is slower growing than the exotic *Murraya paniculata*. Although this selection can be a little more difficult to find, for those who wish to try a native alternative it is well worth trying.

Photo: Glenn Leipe

Other superior selections include;

- Pavetta australiensis Pavetta
- Syzygium 'Cascade' Cascade Lilly Pilly





An open shrub growing 2-3m in height. Leaves are mid green, glossy, finely toothed with wavy margins. Spring flowers are butter yellow and mildly perfumed. The flowers are followed by 8mm long black berries held on a fleshy red receptacle.

Photo: Sheldon Navie

HOW IT SPREADS

- The fruit are very attractive to birds and once eaten are distributed widely into natural bushland.
- Seeds germinate readily in sun or shade and are persistent and difficult to eradicate.



An Australian native that can reach 6-8m but is often less in cultivation. It has dark green glossy leaves and abundant rich red tubular flowers in summer. This fantastic plant should be more widely used.

Photo: Norwood



Many new selections of this ever popular garden favourite are now available. There are cultivars with a range of growth habits, from low border shrubs to 0.5m through to taller selections growing 1-2m in height. With a wide range of flower colours, including pink, orange, yellow and even white, there is sure to be one to suit every situation.

Photo: Macbird Floraprin

Arctic SnowWrightia antidysenterica 'Arctic Snow'



Beautiful compact evergreen perennial shrub growing up to 1.5m. It has glossy green leaves and is covered in 2.5cm white star shaped flowers throughout the warmer months. A relatively new release well worth trying.

Photo: Colleen Way

Other superior selections include;

- Gardenia jasminoides 'Ocean Pearl' Gardenia
- Melaleuca 'Rose Opal' (Syn. Callistemon 'Rose Opal') -Bottlebrush





Golden Bamboo

Phyllostachys aurea

Black Bamboo

Phyllostachys nigra



Growing to a height of 6m, with long slender canes and dense graceful foliage. These types of bamboo have a spreading habit and send their rhizomes (roots) underground, often sprouting some distance from the original plant.

Photo: Bamboo Downunder

HOW THEY SPREAD

- Both of these 'running bamboos' send their invasive rhizomes considerable distances from the original plant.
- They are incredibly difficult to control and are a serious invasive threat.



A most popular choice for those wanting a black stemmed bamboo. This clumping variety has dark brown to black canes with green to light brown stripes. It is quite tall reaching 12-15m in height.

Photo: Barry Naylor



A beautiful tree from tropical Asia with tall straight trunk to 15m and striking conicalcolumnar habit. The leaves are long, glossy and green and held in downward facing fashion forming a curtain like screen. This is an excellent choice when a tall narrow screen is desired.



Fantastic clumping perennial grass that forms an impenetrable screen. Growing to a height of 3.5m with arching stems and narrow leaves this is an excellent substitute for running bamboo as it is a clump forming plant.

Photo: Barry Naylor

Other superior selections include;

- Bambusa ventricosa Buddha's Belly Bamboo
- Bambusa textilis var. gracilis Slender Weavers Bamboo
- Bambusa vulgaris 'Wamin' Giant Buddha's Belly Bamboo





Evergreen tropical tree growing to 9m in height. Leaves are 15cm long and leathery with downy undersides and from a thick canopy. Clusters of white flowers are formed in Spring and are followed by large (10cm) yellow pear shaped fruit. The fruit is edible and often used to make jams.

Photo: Sheldon Navie

HOW IT SPREADS

- Birds ingest the seeds while feasting on the fleshy fruit enabling wide distribution
- These seeds are also moved by water



Lovely small tree growing 3-5m with glossy green leaves that turn reddish bronze in the winter. Pale heavily scented flowers are followed by 25mm urn shaped fruit that are green at first becoming brown through the winter.

Photo: Andrew Ford



Rounded medium shrub growing 2-5m with dark green leaves, pretty white flowers and small shiny red edible fruit to 2cm. The plant is slow growing at first and the fruit are considered to be very tasty.

Photo: Macbird Floraprin



Slow growing at first this small tree can reach 6-10 in height. Small white flowers are borne in clusters directly along the stems. Deep purple, thick skinned fruit appear later that resemble grapes, having a similar translucent pulp.

Photo: Macbird Floraprint

Other superior selections include;

- Pouteria campechiana Ross Sapote
- Solanum betaceum Tamarillo
- Psidium hybrids Grafted Guava Cultivars





This shade tolerant shrub grows to 5m. It has smooth squarish stems and large dark green leaves that can get to 20cm in length. The leaves have dominant yellow mid-rib and lateral veins. It bears spikes of tubular yellow and red flowers with dominant stamens.

Photo: Bob Jago

HOW IT SPREADS

- This plant reproduces vegetatively, with even a small piece of stem able to start a new plant.
- The plant is also prone to sending up suckers.



Erect rainforest shrub growing to 2m in height. It has interesting foliage with leaves that are long, glossy dark green and often have dominant veins or ribs. It bears superb panicles of tiny pink flowers backed by pink bracts making a very showy display.

Photo: Norwood



There is now an abundance of new cultivars of this garden favourite. Providing year round colour with a wide array of leaf shapes and growth habits this plant is equally at home in full sun or semi shaded position. An absolute must for the subtropical garden.

Photo: Macbird Floraprin



If sub-tropical colour and form is what you are after then this plant is an absolute must. There is an absolute myriad of colours and growth habits available through the many cultivars of this all time favourite. Flowers are less spectacular but for all round colour it is hard to go past these beauties.

Photo: Macbird Floraprint

Other superior selections include;

- Graptophyllum ilicifolium Holly Fuchsia
- Graptophyllum pictum Caricature Plant





This fast growing palm with smooth grey trunk can reach 20m in height. It has a crown of arching fronds with plume like dark green leaves. This palm does not 'self clean' and retains spent fronds against the trunk for many months. Flowers are inconspicuous however the fruit are bright orange-red and 25mm in diameter.

Photo: Macbird Floraprin

HOW IT SPREADS

- Birds, bats, rats and flying foxes are drawn to the attractive fruit and assist in seed dispersal.
- Garden dumping is also responsible for the wider distribution of this plant.



Tall slender and graceful palm growing to 15m. Large green fern like fronds with distinctive silver undersides emerge from the straight trunk. It has small cream flowers in clusters followed by an abundance of berries. Spent fronds are shed by this 'self cleaning' palm.

Photo: Lorna Rose



Spectacular palm from North Queensland and worldwide best seller. Large 2.5m long plumose fronds of dark green emerge from the slightly bottle shaped clean trunk. The fruit are reddish orange, plentiful and large (6cm). This is a self cleaning palm that sheds old foliage.

Photo: Norwood



Tall slender and graceful palm growing to 20m. Light grey trunk with prominent rings. Long deep green fronds to 3.5m form a dense thick crown. Inflorescences form below the crown shaft with white flowers later forming deep red berries.

Photo: Norwood

Other superior selections include;

- Ptychosperma elegans Solitaire Palm
- Livistona decipiens Cabbage Tree Palm
- Roystonea regia Cuban Royal Palm





Evergreen Asian rainforest tree with thick canopy of large dark green leaves. Fluffy cream white flowers are borne in axillary clusters in Spring. Purple-black berries follow that are 2cm long and plentiful. There is a single brown seed in each fruit.

Photo: Julie Roach

HOW IT SPREADS

- The seeds are both plentiful and loved by birds and flying foxes which aid the wide distribution of this invasive tree.
- The seed can be moved by water and the tree can even survive in standing water making it a serious threat to natural ecosystems.



This attractive Australian native tree can reach 15m but is often smaller in garden situations. It has extremely beautiful foliage with wavy margins and bright red-pink new growth which seem to be on the plant all year.

Photo: Barry Naylor

Johnson River Satinash *Syzygium erythrocalyx*



Rainforest tree that will reach 15m. It has extremely large glossy green leaves that can reach 30cm in length. New leaves are pink in colour. The flowers are borne on the trunk and branches and they are red with white stamens. It has very large dark red pear shaped fruit to 80mm.

Photo: Norwood





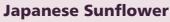
This superb Australian native rainforest plant has glossy green foliage, a profusion of fluffy white flowers and small colourful berries. There are many different cultivars of this plant with a wide range of growth habits, foliage types and berry colours. Many make highly desirable hedges and screens. 'Elite', 'Bush Christmas' and 'Hinterland Gold' are three of many suitable selections.

Photo: Macbird Floraprin

Other superior selections include;

- Waterhousea floribunda Weeping Lilly Pilly
- Xanthostemon chrysanthus Golden Penda





Tithonia diversifolia



A large perennial shrub grows to 4m. The large leaves are oblong and hairy with lobed margins. The large vivid yellow flowers resemble oversized daisies and appear in Summer and Autumn.

Photo: Sheldon Navie

HOW IT SPREADS

- The seed is dispersed by a range of animals, wind and water.
- Seed is also carried on clothing, on agricultural equipment and other vehicles.

Dwarf Golden Penda

Xanthostemon chrysanthus 'Fairhill Gold'



Compact growing form of the popular Australian native tree growing to 3m in cultivation. It naturally forms a dense screen of dark green glossy foliage and is covered with a profusion of large yellow flower heads in Spring and Autumn. This tree is bird attracting and is effective as either a specimen or screen tree

Photo: Macbird Floraprint



Many new selections of this ever popular garden favourite are now available. There are cultivars with a range of growth habits, from low border shrubs to 0.5m through to taller selections growing 1-2m in height. With a wide range of flower colours, including pink, orange, yellow and even white, there is sure to be one to suit every situation.

Photo: Macbird Floraprin



Evergreen shrub with twiggy habit can reach 2m but is best kept pruned to form a neat 1m shrub. It has reddish stems and oblong green foliage. It is covered in clusters of yellow flowers in spring through until autumn. This is an 'old favourite' but a solid garden performer.

Photo: Macbird Floraprint

Other superior selections include;

- Xerochrysum bracteata Everlasting Daisy
- Holmskioldia sanguinea 'Mandarin Sunrise' Chinese Hat Plant
- Hypericum patulum var. henryi St John's Wort





Tradescantia spathacea



Evergreen clumping plant to 0.5m. Fleshy lance shaped leaves to 30cm emerge from a short trunk. The leaves are glossy and green with distinctly purple undersides. There are small white flowers in boat shaped structure and seeds in a papery capsule.

Note: The 'Dwarf' form is not considered an invasive threat.

Photo: Macbird Floraprin

HOW IT SPREADS

- The plant produces seed which will germinate in favourable conditions.
- The plant will reproduce from pieces of stem and is spread through the dumping of garden waste.

Dwarf Variegated RhoeoTradescantia spathacea 'Dwarf Variega

Tradescantia spathacea 'Dwarf Variegated'



This evergreen tropical plant has rosettes of succulent dark greenish purple leaves, bearing striking pink and white stripes. Forming low growing clumps 30-50cm this plant makes an excellent foliage contrast and is a must for the tropical garden.

Photo: Macbird Floraprint



Perennial ginger type plant with glossy dark green leaves up to 30cm in length emerging from upright stems. Brilliant blue flowers appear in terminal clusters during autumn.

Photo: Norwood



Tough foliaged tropical plant with a wide array of foliage colours including green to maroon and even variegated with green and yellow stripes. Growth habits and flower colour also vary, including blue and white. While they appreciate protection from direct sunlight they need adequate light to maintain colour.

Photo: Macbird Floraprint

Other superior selections include;

- Chlorophytum amaniense 'Fireflash' Fire Flash
- Tradescantia spathacea 'Dwarf' Dwarf Rhoeo





This large deciduous tropical tree can reach a height of 30m. It has large mid green leaves on large hollow branches. There are male and female trees of this plant. The male produces clusters of long white flower spikes but the female produces spectacular pink-red flowers that make the plant popular. Inside the small nut like fruit are many thousands of brown winged seeds.

HOW IT SPREADS

- This tree produces an abundance of seed that is spread by wind and water.
- These seeds have a high rate of germination which makes this a serious invasive threat.



This beautiful tree is an absolute sight in full bloom. From the north Queensland rainforest, it will grow 10-15m in height. It has irregular dark green lobed leaves but it at flowering time this tree truly shines. In the

> flowers that attract bees and birds to their rich nectar.

> warmer months it is covered in orange-red waratah type



Handsome yet slow growing Australian rainforest tree growing to 20m but most often half that in cultivation. Glossy green foliage up to 30cm in length forming a dense crown. A truly spectacular plant when in flower; covered with 8cm orange red flowers resembling spokes of a wheel.

Photo: Macbird Floraprin



Another spectacular tree with lobed mid green leaves reaching 15m in height. In flower they are almost leafless, allowing the sprays of scarlet red bell shaped flowers to dominate the view, and they can be seen from some distance around. There are many grafted specimens now, producing a vast array of flower shapes and colours.

Photo: Macbird Floraprint

Other superior selections include;

- Lagerstroemia speciosa Queen's Crepe Myrtle
- Lophanthera lactescens Golden Chain



Climbing and Ground Cover Plants

This very useful group of plants was often used to cover unsightly objects and provide green barriers. Unfortunately we now know that the attributes that make them useful can also provide them with a means to grow outside their given area and invade nearby bushland. There are many alternative less invasive plants available. Please consider from the list opposite or ask your local garden centre for other alternatives.





This vigorous fast growing climber can reach 5m or more in height, especially with the assistance of adjacent trees. The woody cane like stems hold whirls of dark green glossy foliage that produces a milky latex sap when cut. In the warmer months it bears large, golden yellow trumpet flowers.

Photo: Macbird Floraprin

HOW IT SPREADS

- This plant can regenerate from dumped garden waste and invade rainforest and forest fringes.
- This plant should not be planted near sensitive natural areas.



While the glossy green foliage that covers this vigorous climber-rambler provides an effective groundcover there is little doubt the spectacular clusters of large mauve-purple flowers are its greatest asset.

Photo: Norwood



Vigorous climber to spreading shrub with dark green glossy pinnate leaves. Flowers are borne in terminal clusters in the warmer months and are pink with a dark carmine throat. There are several cultivars including 'Lady Di' that has cream flowers.

Photo: Macbird Floraprin

Roaring Meg Tecomanthe species 'Roaring Meg'



Vigourous twining Australian native climber with dark green glossy foliage. It has the most spectacular reddish magenta bell shaped flowers that occur in sprays several times a year. This plant can be hard to locate but is underused and well worth trying in your garden.

Photo: Macbird Floraprint

Other superior selections include;

- Petrea volubilis Purple Wreath
- · Mandevilla 'Sundial' Yellow Mandevilla



Purple Joyweed Alternanthera brasiliana

Syn. Alternanthera dentata



Popular hedging plant used for its contrasting dark purple foliage, forming a thick 0.3-0.6m bush. When left unpruned the plant can climb by leaning on the branches of adjacent shrubs and reach over 1m. It can also produce small 'off-white' flowers.

Photo: Sheldon Navie

HOW IT SPREADS

- The plant reproduces easily from small stem pieces in dumped garden waste.
- The seeds are also thought to assist in the spread of this plant, even germinating in cracks in concrete.

Burgundy Caricature Plant *Graptophyllum pictum*



While naturally growing to 1.5m this colourful tropical plant can be pruned to a neat hedge of 0.5-1.0m. This cultivar has burgundy, cream and green leaves and is very showy. It has terminal clusters of tubular reddish pink flowers but is mainly used for its vibrant foliage.

Photo: Barry Naylor



There is now an abundance of new cultivars of this garden favourite. Providing year round colour with a wide array of leaf shapes and growth habits this plant is equally at home in full sun or semi shaded position. An absolute must for the subtropical garden.

Photo: Macbird Floraprin



Many new selections of this ever popular garden favourite are now available. There are cultivars with a range of growth habits, from low border shrubs to 0.5m through to taller selections growing 1-2m in height. With a wide range of flower colours, including pink, orange, yellow and even white, there is sure to be one to suit every situation.

Photo: Macbird Floraprin

Other superior selections include;

- · Acalypha wilkesiana 'Firestorm'
- Melaleuca 'Great Balls of Fire' (Syn. Callistemon 'Great Balls of Fire')
- Arachis pintoi Ground Peanut





This scrambling or climbing shrub can grow up to 8m high. It has glossy dark green leaves and fragrant nectar filled white flowers that age to yellow. Summer flowers are followed by small shiny black berries in Autumn.

Photo: Macbird Floraprint

HOW IT SPREADS

- The seeds are dispersed by water and birds. The stems take root where they touch the ground.
- The plant is also often dumped on roadsides and bushland edges.
- Whilst once a common garden plant, this Honeysuckle is now a seriously invasive plant in many moist native bushland areas.



Vigorous climber to spreading shrub with dark green glossy pinnate leaves. Flowers are borne in terminal clusters in the warmer months and are pink with a dark carmine throat. There are several cultivars including 'Lady Di' that has cream flowers.

Photo: Macbird Floraprint



Vigourous Australian native twining plant. Flowers are tubular and creamy-white with purple or brownish markings and appear in spring and summer. Several new cultivars have been developed including 'Snowbells' with pure white flowers and 'Golden Showers' with yellow-bronze flowers.

Photo: Lorna Rose



Slender twining climber or trailing groundcover plant. It has dark green leaves and plentiful large buttercup yellow flowers in the warmer months. This plant is drought and frost resistant and tolerant of salt spray.

Photo: Lorna Rose

Other superior selections include;

- Mansoa alliacea Garlic Vine
- Trachelospermum jasminoides Star Jasmine





Generally regarded as an Australian native, this fern has become invasive outside its original range. Extremely tough fern spreading rapidly by underground rhizomes with erect slightly arched fishbone shaped fronds to 75cm. Tolerates dry conditions but prefers a warm position with moist soil.

Photo: Anthony Kachenko

HOW IT SPREADS

- Spores can be carried by either wind or water.
- Dumping of garden waste is a common method of spreading this plant. It only takes a small piece of this plant to regenerate, so ensure complete and effective disposal.



Fantastic native fern with attractive foliage, new fronds being bright pinkish red. Forms a great groundcover but prefers some protection from full sun. It is surprisingly drought tolerant and generally quite hardy.

Photo: Barry Naylor



Extremely hardy native fern tolerant of both frost and drought conditions. It prefers some protection from the full sun, foliage is mid green but new fronds are pink, providing an attractive contrast.



Glossy green fan shaped fronds emerge from dark brown stems to 30cm high forming a tuft. New foliage is pink. This fern prefers a moist situation and protection from full sun for best results

Other superior selections include;

- Asplenium australasicum Bird's Nest Fern
- Rumohra adiantiformis Leather Fern





A robust climbing vine with arrowhead shaped leaves when young that mature into deeply lobed glossy leaflets that can be up to 30cm in length. The vine stems root into either the ground where they touch or even the bark of supporting trees.

HOW IT SPREADS

- This plant is spread through dumping of garden waste.
- The plant can reproduce from very small pieces of stem.



Australian Wax Plant

Hoya australis var. australis

An evergreen vine that can grow to a height of 3m but happy to remain as a groundcover without something nearby to climb on. It has thick fleshy dark green leaves and it has spectacular white-pink flowers on compact heads in winter and spring.



Vigorous climber to spreading shrub with dark green glossy pinnate leaves. Flowers are borne in terminal clusters in the warmer months and are pink with a dark carmine throat. There are several cultivars including 'Lady Di' that has cream flowers.

Photo: Macbird Floraprin



One of the world's truly great landscape plants. With its glossy dark green deeply lobed foliage it provides a lush tropical effect. It creates a neat clump $1 \, \text{m} \times 1 \, \text{m}$, is suitable for mass planting and is at its best in full sun or a semi shaded position.

Photo: Barry Naylor

Other superior selections include;

- · Aristolochia acuminata Native Dutchman's Pipe
- Trachelospermum jasminoides Star Jasmine





Vigorous herbaceous perennial climber that can reach 3-4m. Deep green triangular leaves to 7cm form a thick cover. Flowers are borne in warmer months on single stalks, varying from fellow to bright orange, with a dark black throat. These are followed by small hairy seed capsule holding a few small seeds.

Photo: Lorna Rose

HOW IT SPREADS

- Whilst the plant does produce seeds the major source of spread is through dumping of garden waste.
- The plant also spreads by virtue of its vigorous vegetative habit.



Vigorous climber to spreading shrub with dark green glossy pinnate leaves. Flowers are borne in terminal clusters in the warmer months and are pink with a dark carmine throat. There are several cultivars including 'Lady Di' that has cream flowers.

Photo: Macbird Floraprint

Roaring Meg Tecomanthe species 'Roaring Meg' Vigourous twining Australian



native climber with dark green glossy foliage. It has the most spectacular reddish magenta bell shaped flowers that occur in sprays several times a year. This plant can be hard to locate but is underused and well worth trying in your garden.

Photo: Macbird Floraprin

Wonga Wonga Vine Pandorea pandorana



Vigourous Australian native twining plant. Flowers are tubular and creamy-white with purple or brownish markings and appear in spring and summer. Several new cultivars have been developed including 'Snowbells' with pure white flowers and 'Golden Showers' with yellow-bronze flowers.

Photo: Lorna Rose

Other superior selections include;

- Trachelospermum jasminoides Star Jasmine
- Hibbertia scandens Snake Vine
- Bauhinia corymbosa Climbing Bauhinia





Vigorous trailing evergreen perennial forming a dense mat up to 50cm thick. Succulent brittle stems with tightly held glossy green foliage. Small white flowers are produced intermittently throughout the year. This plant is highly invasive.

Photo: Sheldon Navie



Tradescantia zebrina



As above but with purple foliage that has distinct silver stripes running along each leaf. Very invasive.

Photo: Sheldon Navie

HOW THEY SPREAD

- These plants are spread vegetatively through dumping of garden waste, water movement and mowing.
- Reproduction can occur from the smallest piece of stem so effective disposal is paramount.



Rounded glossy leaves form a thick mat of foliage to 15cm high. Beautiful lilac and white violet flowers form on short stalks and cover the plant in the warmer months. This plant performs best with some protection from full sun.

Photo: Macbird Floraprint



Vigorous climber to spreading shrub with dark green glossy pinnate leaves. Flowers are borne in terminal clusters in the warmer months and are pink with a dark carmine throat. There are several cultivars including 'Lady Di' that has cream flowers.

Photo: Machird Floranrin



Slender twining climber or trailing groundcover plant. It has dark green leaves and plentiful large buttercup yellow flowers in the warmer months. This plant is drought and frost resistant and tolerant of salt spray.

Photo: Lorna Rose

Other superior selections include;

- Palisota elizabethae
- Ajuga australis Native Bugle



Berried Plants

Gardeners often choose trees and shrubs with showy persistent berries for winter colour in their gardens when flowers are scarce. Unfortunately these berries often attract birds and small mammals that unwittingly aid the spread of these unwanted plants into bushland and open spaces.





green. Clusters of white-pink flowers from at the branch tips. Fruit is green at first but matures through red and finally to a dark purplish black and contain a single seed.



Compact thick shrub growing to 1m with dark green thick glossy leaves with attractive wavy margins. Lateral sprays of small white-pink flowers emerge in warmer months followed by abundant green berries that mature to bright red in Autumn and Winter.

Evergreen shrub growing to 4m in height with elongated oval leaves that are leathery and hairless. Young foliage is reddish but matures to mid-

HOW THEY SPREAD

- Birds are attracted to the plentiful berries and distribute them
- Other fruit eating animals also ingest the berries and aid in dispersal.



This superb Australian native rainforest plant has glossy green foliage, a profusion of fluffy white flowers and small colourful berries. There are many different cultivars of this plant with a wide range of growth habits, foliage types and berry colours. Many make highly desirable hedges and screens. 'Elite', 'Bush Christmas', and 'Hinterland Gold' are are three of many suitable selections.

Photo: Macbird Floraprin

Cedar Bay Cherry
Eugenia reinwardtiana

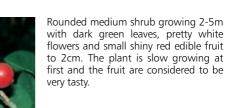


Photo: Macbird Floraprint





Beautiful small tree growing to 8m. Large glossy green leaves form on naturally well shaped branches. Bears terminal clusters of fragrant white flowers which are followed by greenish brown berries. This tree should be more widely used in the Sub-Tropics.

Photo: Macbird Floraprin

Other superior selections include;

- Pleomele angustifolium Native Dracaena
- Larsenaikia jardinei Shiny Leaved Larsenaikia
- Rhaphiolepis indica 'Intermedia' Indian Hawthorn



Photo: Macbird Floraprint

A dense shrub usually growing to 4-5m with pendulous branches bearing blue, white or purple flowers, followed by orange berries.

This very popular garden plant has had a renaissance in popularity with the introduction of several new forms in recent years. Whilst many are kept well pruned into effective hedges, particularly in local government areas and commercial premises others are left unkempt and form berries.

HOW IT SPREADS

- The berries are highly attractive to birds. If a plant is allowed to form berries, birds ingest them and distribute the plants widely in native bushland, creating thickets and upsetting the ecosystem.
- Do not allow existing plants to form berries. Either prune immediately after flowering or remove the plant entirely if regular maintenance is not practical.

Note: This plant is also considered poisonous.



Photo: Macbird Floraprint

This superb Australian native rainforest plant has glossy green foliage, a profusion of fluffy white flowers and small colourful berries. There are many different cultivars of this plant with a wide range of growth habits, foliage types and berry colours. Many make highly desirable hedges and screens. 'Elite', 'Bush Christmas' and 'Hinterland Gold' are three of many suitable selections.



Fantastic Australian native plant with interesting glossy holly like leaves reaching 2m in height. It has beautiful pink tubular flowers in the warmer months. This plant performs at its best with some protection from midday sun.

Photo: Macbird Floraprin



New cultivar of the ever popular Port Wine Magnolia performs well in the tropics. It has glossy green leaves and a bushy habit growing to 3m. It has fragrant white and maroon flowers in spring that smell like port wine!

Photo: Macbird Floraprint

Other superior selections include;

- Graptophyllum pictum Caricature Plant
- Ixora species and cultivars Ixoras



Grasses

Mainly chosen because of their various architecturally interesting forms and drought hardiness, yet many of them are considered invasive. Mislabelling with incorrect species names has been an occasional problem. To reduce further spread of invasive grasses, seek professional advice at your local garden centre, read all labels carefully and avoid purchasing from any other source. There are many native grasses commercially available from your local garden centre providing a safe alternative.



A perennial grass with narrow mid to dark green leaves forming a dense clump 60 to 90cm in height. Attractive flower spikes appear above the foliage in the warmer months, showing yellow, green and the distinctive purple colours.

This plants 'Australian native' origin is questioned by many and the natural range of the plant has been confused by extensive use in urban landscape plantings in recent years.

Photo: André Karwath

HOW IT SPREADS

 The seeds are not plentiful and viability is low however as there is conjecture regarding the distribution of this plant in Asia and Australia it is recommended we promote sterile hybrids or other well established native grasses.



Purple Fountain Grass

Pennisetum advena 'Rubrum'

This sterile hybrid is a showy and popular perennial ornamental grass. It grows rapidly forming dense clumps of burgundy coloured foliage up to 1.5m in height. Arching purple pink flower spikes appear above the foliage in summer.

Photo: Colourwise Nursery



Photo: Barry Naylo

Lomandra species and cultivars This widely used accent pla

This widely used accent plant has thick arching green foliage that emerges from a central crown. Suitable near waters edge or boggy areas but able to tolerate dry conditions as well, this is a most versatile alternative. Many new cultivars are now available with a range of foliage colours and growth habits.



Photo: Macbird Floraprin

Flax Lilies Dianella species and cultivars

Excellent Australian native selection with mid-dark green arching foliage and sprays of blue flowers followed by bright blue berries. There has been a proliferation of Dianella cultivars with a wide range of foliage colours and growth habits in recent years. Ask your retailer for the most reliable local selections.

Other superior selections include;

- Themeda triandra Kangaroo Grass
- Cymbopogon ambiguus Native Lemon Grass



Bulbous Plants

There are a number of bulbous plants that have become invasive, largely through the dumping of garden waste. Some of these plants are behaving aggressively whilst others are adventitiously taking advantage of the growing conditions to naturalise.

Many bulbous plants are becoming invasive in Queensland, with Glory Lily (Gloriosa superba) and Taiwan Lily (Lilium formosanum) amongst the worst. Seek sound advice before planting bulbs and similar plants. Whilst most have spectacular flowers consideration must be given to assessing their invasive potential.



This once popular water loving plant grows from knotted underground rhizomes to a height of 1-1.5m. Densely packed purple tinged green leaves emerge from the base with flower stalks holding small red flowers rising above the foliage throughout the warmer months. The small smooth black seeds are held in a spined capsule and germinate readily.

Photo: Sheldon Navie

HOW IT SPREADS

- This old fashioned *Canna* produces seed which when spread enable colonisation of natural areas.
- The dumping of garden waste containing rhizome or seed aids in the spread of this invasive plant.



Large green elephant ear leaves emerge from a thick base to a height of 1.5m. Greenish white spathiphyllum style appear on stalks in the warmer

Please note: all parts of this plant are considered poisonous if ingested.

months followed by red berries.



elephant Large ear leaves emerge on long stems to 1.8m. It is often variegated, with speckles of yellow on the leaves. It has bright yellow blooms in summer. This plant needs some protection from the sun and ample moisture.

Mat Rushes Lomandra species and cultivars



Photo: Barry Naylor

This widely used accent plant has thick arching green foliage that emerges from a central crown. Suitable near waters edge or boggy areas but able to tolerate dry conditions as well, this is a most versatile alternative. Many new cultivars are now available with a range of foliage colours and growth habits.

Other superior selections include;

- Canna indica 'Hybrids' Hybrid Canna Lilies
- Cordyline fruticosa (Syn. Cordyline terminalis) Cordylines
- Curcuma australasica Cape York Lily







Bright green leaves clasp 2m tall stems that emerge from underground rhizomes. The plant bears beautiful fragrant yellow and red flowers in dense spikes in late Summer-early Autumn. Red berries follow which hold black seeds that germinate freely.

Photo: Sheldon Navie

HOW IT SPREADS

- Many related Ginger like plants reproduce by rhizome spread only. This Ginger produces abundant seeds that are spread by birds and water.
- It quickly colonises the edge of rainforest and woodlands displacing native species.



Excellent native plant with mid green leaves on erect stems that emerge from the central rhizome. The plant has beautiful white and red 'ginger type' flowers in clusters on the tips of branches. There is a selection with purple undersides to the leaves which makes a superb foliage contrast.





An Australian native clumping plant growing to .75m. Leaves are long, light green and spade like. The summer flowers are yellow with the pink bracts forming a wonderful contrast. Although the plant does 'die down' through the winter months it is an excellent native plant for the tropics.

Photo: Macbird Floraprin



Clumping ginger with upright canes and interesting green and white foliage. It has a red flower cone which produces white flowers with gold markings in summer. This plant prefers a shady position for best results. It is rare and endangered and should be used more widely.

Photo: Yuruga Nursery

Other superior selections include;

- Dichorisandra thyrsiflora Blue Ginger
- Cordyline fruticosa (Syn. Cordyline terminalis) Cordylines
- Alpinia caerulea 'Purpurea' Red-backed Native Ginger



Succulent Plants

These have become very popular due to their drought hardy status and architectural appeal. Most succulents are non-invasive, however there are a number of succulents that can rapidly spread from dislodged plant parts, leaves or by seed. Be sure to read the plant label carefully and ask for advice about the non-invasive succulents at your local garden centre.



Photo: Doug Bickerton, SA Department for Environment & Heritage

Perennial succulent with thick grey green sword shaped leaves in rosettes growing to 2m high and often forming clumps that are several metres wide. The leaves have teeth along the margins and a very sharp spine at the tip. Yellow flowers form on a large spike which can rise over 5m in height.

HOW IT SPREADS

- This plant forms thick clusters as the main plant 'suckers' to produce many new plants.
- Plants that are dumped in garden waste readily take root and colonise natural areas.



Oboto: Machied Florageint

This spineless Agave has a thick stem and can reach 1.5m in height. A rosette of thick yet softly textured blue green leaves forms at the crown. Small 'pups' develop to the side of established stems allowing the plant to form thick clumps. This vegetative spread makes them somewhat easier to manage.



Extremely tough and hardy Bromeliad that makes an ideal specimen plant. It has reddish yellow foliage and is able to tolerate almost direct sunlight. It can reach 1.5m-2.0m in height. Striking flower spike with gold flowers with huge red bracts which last for many months.

Photo: Macbird Floraprin



Robust clumping plant with thick leathery leaves which will grow in heavy water laden soils, saline situations and even the seashore. In spring and summer it produces several stout flowering stems with large clusters of thinly petalled white lily type flowers.

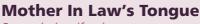
Photo: Lorna Rose

Other superior selections include;

- Zamia furfuracea Cardboard Palm
- Encephalartos ferox Zululand Cycad

Ask your local retailer for more superior selections





Sansevieria trifasciata



Dense clumping plant with succulent sword like foliage to 1m in height. Mottled upright grey green leaves with occasional pale cream flowers on spikes in Spring. Effective spreading habit, preferring moist and shaded areas.

Photo: Sheldon Navie

HOW IT SPREADS

- Often spread through the dumping of garden waste, this plant is difficult to eradicate once established.
- The variegated form of *Sansevieria* is a popular indoor plant. This use is acceptable; however it should not be planted in the garden or disposed of in dumped garden waste.



Thick ribbed deep green leaves emerge on short stalks from woody underground rhizomes. Leaves stand to around 60cm but often arch down. There are small bell shaped flowers that vary from white to dark purple that emerge at ground level. This is an extremely tough plant.

Photo: Barry Naylor



Excellent Australian native selection with mid-dark green arching foliage and sprays of blue flowers followed by bright blue berries. There has been a proliferation of Dianella cultivars with a wide range of foliage colours and growth habits in recent years. Ask your retailer for the most reliable local selections.

Photo: Macbird Floraprin



Beautiful Australian native bulbous plant with large rounded deeply veined leaves emerging on a 45cm petiole. The 5cm wide fragrant white flowers emerge on a tall flower spike in umbel like clusters of 15-20 flowers. A wonderful yet underused plant in the tropics.

Photo: Sheldon Navie

Other superior selections include;

- Billbergia brasiliensis Bromeliad
- Liriope 'Stripey White' Stripey White
- Microsorum punctatum Calves Tongue Fern

Ask your local retailer for more superior selections



Aquatic Plants

In recent years aquatic plants have become a major invader. The cost of removal and control runs into many millions of dollars. These aquatic plants include Salvinia (Salvinia molesta), Water Hyacinth (Eichornia crassipes) and Cabomba (Cabomba caroliniana). There are many alternative plants which are more suitable for home aquariums and garden ponds.



Underwater tuber-like rhizomes send out rounded leaves that float on the surface. This exotic and invasive Water Lily produces bright yellow flowers The plant needs a constant supply of water and quickly chokes dams, ponds or other still or slow moving bodies of water.

HOW IT SPREADS

- New plants are produced at the end of stolons and can become detached and float away to establish elsewhere.
- Plants are exchanged amongst friends and people who do not recognise the invasiveness of this species.



A floating perennial herb growing from a rhizome in the mud at the base of ponds. Leaves are broadly egg-shaped to circular with a split at the base to the point of the stalk attachment. The flowers are borne on long stalks up to 30cm above the water surface. They come in a range of colours including violet, blue and white.

Photo: Blue Lotus Farm



There is a wide array of hybrid Water lilies available providing many different flower colours. These hybrids are bred for their flower colour and size and many are not considered an invasive threat.

Photo: Macbird Floraprin



Slight bronzed green waterlily like leaves with heavily crenated edges and purplish-brown speckles. This is a robust native water plant and has dainty fringed yellow flowers.

Photo: Glenfield Wholesale Nursen

Note: When choosing water plants it is essential to seek advice from local experts. A plant that is suitable for one situation may be disastrous in another.



Gardeners' notes and checklists

Use this page to make notes, plant lists or questions to ask gardening experts.









10) Invasive Plant Index

Invasive plant name	Page number
Agave americana	72
Allamanda cathartica	48
Alternanthera dentata	50
Alternanthera brasiliana	50
Ardisia crenata	62
Ardisia elliptica	62
Arrowhead Vine	56
Azadirachta indica	18
Bauhinia monandra	20
Black Bamboo	32
Black-eyed Susan	58
Brazilian Cherry	24
Canna indica	68
Canna Lily	68
Catharanthus roseus	22
Century Plant	72
Cocos Palm	38
Coral Berry	62
Duranta erecta	64
Eugenia uniflora	24
Fishbone Fern	54
Fountain Grass	66
Golden Bamboo	32
Golden Trumpet Vine	48
Hedychium gardnerianum	70
Heliconia psittacorum	26
Japanese Honeysuckle	52
Japanese Sunflower	42
Java Plum	40
Kahili Ginger	70
Lonicera japonica	52
Mickey Mouse Plant	30
Mock Orange	28
Moses In The Cradle	44

Invasive plant name	Page number
Mother In Law's Tongue	74
Mulato Tree	46
Murraya paniculata	28
Neem Tree	18
Nephrolepis cordifolia	54
Nymphaea mexicana	76
Ochna serrulata	30
Orchid Tree	20
Parrot's Beak Heliconia	26
Pennisetum alopecuroides	66
Phyllostachys aurea	32
Phyllostachys nigra	32
Pink Periwinkle	22
Prickly Duranta	64
Psidium guajava	34
Purple Joyweed	50
Sanchezia	36
Sanchezia parvibracteata	36
Sansevieria trifasciata	74
Shoe-button Ardisia	62
Silver Inch Plant	60
Swamp Foxtail	66
Syagrus romanzoffiana	38
Syngonium podophyllum	56
Syzygium cumini	40
Thunbergia alata	58
Tithonia diversifolia	42
Tradescantia fluminensis	60
Tradescantia spathacea	44
Tradescantia zebrina	60
Triplaris species	46
Wandering Jew	60
Yellow Guava	34
Yellow Waterlily	76



11) Further information and additional resources

There are many areas of information regarding invasive plants and it can become overwhelming! Here are some useful sources of information to help you learn more about invasive plants.

1. Your local nursery or garden centre -

Most employ trained nursery professionals or qualified horticulturists who are knowledgeable in regard to all aspects of plant selection.

2. Your local council or shire -

Have information about plants considered invasive in your local area and some good indigenous alternatives.

3. State Government -

Queensland Primary Industries and Fisheries have useful information about invasive plants.
Visit www.dpi.gld.gov.au for more information.

4. Australian Government -

Weeds in Australia Website. An excellent website with a good range of information, references, lists, databases and pictures and other resources. Visit www.weeds.gov.au for more information.

5. Weeds Australia via the Australian Weeds Committee -

A national website resource created by the Australian Weeds Committee to promote access to key weed policies, regulations, current issues, national initiatives, research, extension, training and personnel. Visit www.weeds.org.au for more information.

6. Nursery & Garden Industry Queensland (NGIQ) -

PO Box 345 Salisbury Qld 4107 Australia Ph. +61 7 32777900 Fax. + 61 7 32777109 email: info@ngiq.asn.au web: www.ngiq.asn.au

7. Nursery & Garden Industry Australia -

The Nursery & Garden Industry Australia is the national peak body for the nursery and garden industries in Australia. Their website provides useful information on invasive plants. Visit www.ngia.com.au and www.lifeisagarden.com.au for more information.







GOOD ENVIRONMENTAL CHOICE Certified Product Lic No: PM-SP-WW16-08.

Printed waterless on recycled paper.
This product meets the requirements of the Australian
Ecolabel Program under standard AELA 20 - Printers and
Printed Matter. See for details http://geca.org.au



A Guide for Gardeners in Queensland Wet Tropics

