

# DAINTREE LIVING FACTSHEET

## WEED CONTROL

In the Daintree we have an increasing variety of invasive species that threaten the balanced health and welfare of our native rainforest animals and plants. Many of these weeds are easily identified although many are not.



Fortunately, most introduced weeds are relatively easy to work with. Simply **hand-pulling** weeds in small infestations is enough. Consistent hand-pulling can clear a property of weeds over a few years, provided the original infestation was small. For larger areas, two herbicides are typically sufficient: met-sulfuron methyl (MSM) and glyphosate solutions. Both of these are available under a variety of commercial labels. (In Australia, glyphosate is commonly sold under the commercial name "Roundup"). Note: Whatever form of weed control you decide to use, **follow-up is VERY important**. Weeds, particularly the invasive introduced species are masters of the quick come-back. Don't let them get the drop on you.

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### Related Factsheets

**Water Sources** *Water table and rainfall fluctuations; contamination and filtration; water conservation and recycling, Water system installation and maintenance issues for rain, stream/creek, and bore sources.*

**Gardening** *Rainforest garden challenges, soil nutrition, what to plant, fauna, water, and weeds.*

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## Herbicides

Sadly, no matter how "chemo-phobic" we might be, unless we have all the time in the world to pursue weeds (or have a very small infestation), we will have to resort to using herbicides. Luckily for this area there are only two herbicides to consider: met-sulfuron methyl (MSM) and glyphosate.

**Met-sulfuron methyl (MSM)** (e.g. *Brushkiller*® 600, *Associate*®, etc.) for reasons not fully understood is exquisitely potent against a wide variety of "broad-leaved" weeds. It is also probably the cheapest and **least toxic** herbicide on the market. MSM needs to be used with a wetting agent (i.e. a surfactant which is a substance which tends to reduce the surface tension of a liquid) such as *Econ-A-Wet 1000*. MSM is a **slow acting herbicide**; you may not see results for several weeks after spraying. However, it is also far less likely to damage native grasses and plants than your other choice, glyphosate. [See 18th Australasian Weeds Conference, pp 122 - 125 for more details.](#)

**Glyphosate** (e.g. *Roundup*®) is the commonest (and most grossly over-used) herbicide sold - and comes in a wide variety of liquid mixtures and names. It is generally used for grasses, Heliconia and a very few difficult weeds. Glyphosate is a "broad spectrum" herbicide, which kills almost everything so "collateral damage" is a major problem.

**When things go wrong** *"It's the dose that makes the poison"* so use glyphosate like a surgeon's scalpel, not like a spray paint! The image to the right shows a lawn that was infested with *pseudelephantopus* (resistant to MSM) and treated VERY carefully by "spotting" the weeds with glyphosate. However, glyphosate translocates (flows throughout the plant) and grass lawn tends to be made up of several large overlapping plants. As a result, inadvertent poisoning part of one grass plant poisons the whole grass plant leading to the big dead patches. Weeds in situations like this, really have to be hand pulled.



Regardless of your choice, it's best to expose weeds to herbicide for a minimum of one hour during warm and preferably sunny weather. Herbicides don't work well in cool overcast weather.

## Follow-up

Pics ... Highly degraded site of native grass covered with Arrow Vine (upper left). Site with recovering native grass (upper right) after spraying with MSM. Native grass with juvenile Arrow Vine leaf (lower right) – plants such as arrow vine have underground stems that can stay alive.



If you want to reduce your weed infestations, **FOLLOW-UP** is **essential**.

Just because you have controlled the weeds in your garden doesn't mean that the problem is over. There will be a seed store in the ground that will continue to germinate. Or, in removing one weed species another is allowed to thrive. Far too many well-intentioned weed control projects have resulted in even worse infestations through failure to follow-up.



The photos below illustrate what can happen if you neglect follow-up. The image on the lower left shows a local block when it was grazed by horses and regularly sprayed by us (Austrop) for weeds. The image on the lower right is the same property after a change of owners nine months later. This massive new growth of sickle pod, urena burr, and Singapore daisy now requires a major intervention.



## Locations

Weed infestations near watercourses are a major issue as seeds and bits of plant get washed out to the creeks in wet weather and infest the beaches. This is particularly true of plants like Singapore daisy and coconuts. Watercourses also deliver the weeds on your property to those properties downstream or even into intact rainforest. So clearing creek banks and drainage channels of weeds is vitally important in preventing the spread of weeds.

**That's why, if you live upstream, you have an additional responsibility to control weeds on your property.**

## Spraying

There are two standard styles of sprayers – 17 litre backpack (nominally 15L), and a 5 litre spray.



Two standard sprayers .. both made by SOLO. The big one is nominally 15 litres, the other 5 litres. Both have adjustable spray heads, which are vastly more useful than the fan-spray heads supplied (but will cost a couple of dollars more).



Unfortunately, while glyphosate is sold in a vast array of packages, many with sprayers attached, MSM is not and measuring the small amount of solid product required to fill a sprayer with the correct strength of solution is very daunting, as it is only 0.1 g/litre.

However, there is a simple solution – Get a standard conical medicine glass. Sufficient MSM granules for 15 litres is a bit less than 2.5 ml on the measure. It is a good idea to make sure that the granules are completely dispersed in water before adding them to the sprayer. Don't forget the wetting agent – Econowet or equivalent, 1ml/litre.

Do read the package information – and when you are finished wash the sprayer out with bleach – this is described in the leaflets provided with the herbicide.

# Legal Status

Some of these weeds have been listed as Weeds of National Significance (WONS) so if you have them on your property you will be required by Queensland state law to control them. If you identify them on road sides or elsewhere, *please contact* DSC Biosecurity Officer T : 40999444 E: [enquiries@douglas.qld.gov.au](mailto:enquiries@douglas.qld.gov.au)

<http://www.biosecurity.qld.gov.au/> Queensland **Biosecurity Act 2014** aims to improve the management of weeds. Its classification system of *declared weeds* focuses on plants that threaten agriculture rather than those that threaten native plants. Consequently, only some of the weeds included in the following list have been declared and classified.

## Declared weeds

- **Class 1** declared weeds have the potential to become a very serious pest in Queensland. *Please contact* DSC Biosecurity Officer T : 40999444 E: [enquiries@douglas.qld.gov.au](mailto:enquiries@douglas.qld.gov.au) *to report the presence of any Class 1 weeds.*

Please note that changes in plant declarations can occur at any time. For more details, see:

- **Declared plants of Queensland** (pdf, 0.4 MB; Current as of October 2013) or visit
- <http://www.biosecurity.qld.gov.au/> Queensland
- **Biosecurity Act 2014** (pdf, 2.1 MB; Current as of 1 July 2016) Queensland **Biosecurity Regulation 2016**  
[https://douglas.qld.gov.au/download/community\\_engagement/FINAL-VERSION-Biosecurity-Management-Plan-Douglas-Area.pdf](https://douglas.qld.gov.au/download/community_engagement/FINAL-VERSION-Biosecurity-Management-Plan-Douglas-Area.pdf)

**Environmental weeds.** – most of the weeds in this guide are environmental weeds –

# Identification

The images and descriptions that follow will help you to identify most of the common weeds found north of the Daintree River, but it is not complete. The family names listed will help you find related weeds on the web (but plant taxonomy is always changing – so renaming of plants is quite common and can be very confusing). We have used the current names – and that means that you should have no problems in getting further information should you need it

The panels show the plant, further information, and suggest control measures..

**Brilliantasia**

*Brilliantasia lamium*,  
family: Acanthaceae A  
small plant but one  
which can reproduce  
very quickly! Has  
beautiful blue flowers  
followed by seed pods.  
Hand pull, or use  
MSM Status: Class 2  
weed

**Red Spike**

*Odontonema tubaeforme* (Red Spike),  
family:  
Acanthaceae Infestation  
of this weed is now a  
common sight in the  
Daintree. A Brazilian  
import related to the  
widely-planted  
Sanchezia. Red Spike is  
shade tolerant and will  
spread rapidly. Use  
MSM Status: Class 2  
weed



### **Yellow Candle**

*Sanchezia spp* (Yellow Candles), family: Acanthaceae This South American garden weed was introduced especially for its big variegated leaves. Control: MSM. Note: Do NOT chop it up as every bit sprouts!



### **Blue Sky Vine**

*Thunbergia grandiflora* (Blue Sky Vine), family: Acanthaceae The blue sky vine has large blue flowers and distinctive 'choko-like' leaves. It can produce enormous underground tubers, which make control very difficult. The seeds are dispersed by "exploding" seed pods, and the resultant plants smother native vegetation. Status: Class 2 weed. Use MSM (spray the leaves - it will take a few applications) or imazapyr (Unimaz) for juvenile plants. Contact the Douglas Shire Council Weed Control for help.  
[https://www.daf.qld.gov.au/\\_\\_data/assets/pdf\\_file/0007/77326/IPA-Thunbergia-PP23.pdf](https://www.daf.qld.gov.au/__data/assets/pdf_file/0007/77326/IPA-Thunbergia-PP23.pdf)



**Giant Elephant's Ear**

*Colocasia gigantea*  
(Giant Elephant's Ear), family: Araceae Native to southeastern Asia and the Indian subcontinent, these perennial plants can have leaves that are large to very large, 20 - 150 cm (7.9 - 59.1 in) long, with a sagittate shape (upper image). Juvenile Elephant's ear with Arrow Vine near a drainage line (lower image)." Control: MSM, remove from waterways



**Dumb Cane** *Dieffenbachia*

(Dumb Cane), family: Araceae DO NOT get the juice in your mouth or on sensitive skin. And DO NOT let children play with the stems. The common name, "dumb cane" refers to the effect of raphides (fine needles of calcium oxalate), which can cause a temporary inability to speak. Control: MSM or pull roots, bag and burn



### **Arrow/Hippie Vine**

*Syngonium podophyllum*  
(Arrow / Hippie Vine), family: Araceae This vine from Central America is arguably our most worrying invasive of the rainforests north of the Daintree as it is dispersed by birds and can establish in undisturbed forest. There are two known varieties in the area; one with shovel-shaped juvenile leaves, the other with arrowhead-shaped juvenile leaves. It develops quite an extensive network of underground stems which means that it can hide for years and pop up again.

Adult-shaped leaf form (top), shovel-shaped juvenile leaf form (bottom left), and arrow shaped juvenile leaf form (bottom right)." Control: "MSM, pull roots, bag and burn. **The shovel-shaped juvenile leaf variety** is highly sensitive to MSM, and the **arrow head version** less so, but with persistence it can be controlled.



**Billygoat Weed**

*Ageratum conyzoides*  
(Billygoat Weed), family:  
Asteraceae These  
plants look a bit like  
Praxelis but are hairy and  
aromatic like this  
one. Control: MSM or  
pull them – as they are  
quite shallow-rooted.



**Cobbler's Pegs**

*Bidens pilosa* (Cobbler's Pegs),  
family: Asteraceae A very new  
weed to the area and very  
common "down south". Don't let  
it establish here! It is shallow  
rooted with very distinctive  
leaves and white or yellow  
flowers. It produces masses of  
long black seeds with hooked  
spines ("cobbler's pegs") that  
stick to fabric and animal  
fur Control: MSM or pull plants.  
DO NOT let it flower!



***Pseudelephantopus spicatus***  
**(False Elephant Weed), family:**  
**Asteraceae damage. DO NOT**  
**let it flower! An introduced**  
**species originally from**  
**tropical America and has**  
**"cobbler's peg" – like seeds.**  
**This weed has fibrous roots**  
**and is VERY difficult to**  
**poison. Control: Pull seedling**  
**roots and/or use a digging**  
**fork to loosen roots. If you**  
**must, treat area with**  
**glyphosate but expect**  
**collateral damage.**



### **Tobacco Weed**

*Elephantopus mollis* (Tobacco Weed), family: Asteraceae A worrying new entry to the Daintree that is native to the tropical Americas. It has cobbler's peg-like seeds that stick in clothing, and plants can grow to meter high before seeding. This agricultural weed is vigorous and aggressive in many wet tropical and subtropical countries. It smothers pasture land with its seedlings and is a major threat to north Queensland's beef and dairy industries. Status: Class 2 weed. Control: MSM, or pull plants, which are shallow-rooted



*Eleutheranthera ruderalis*, family: Asteraceae A common crowding weed of gardens. shallow-rooted, and easy to pull out. A single plant can spread over many square meters. MSM sensitive Control: MSM, pull plant



*Praxelis clematidea*, family: Asteraceae A common crowding weed of roadsides, distinctive toothed leaves and purpleish flowers. DO NOT allow to flower as it produces masses of fine wind-dispersed seeds. Control:MSM or pulling in small infestations.



### **Singapore Daisy**

*Sphagneticola trilobata* (Singapore Daisy), family: Asteraceae Introduced as a ground cover, this weed is becoming the "scourge of the north" The plant can spread by as much as a meter a week in good weather and soil fertility conditions. Control:MSM. Hand pulling only works where there are new infestations or in sandy soil. **Take care not to leave bits behind in the soil. DO NOT use glyphosate (Roundup)!** The lower image illustrates what happens if you do. The herbicide kills competing native grass and although the daisy drops its leaves, the stems remain green and viable. Consequently, the native grass will be destroyed (removing the competition!) but the daisy will recover. DO NOT mow. Although this plant produces very few seeds it sprouts from stem nodes which are spread by mowing. Environmental weed control may be required by local Council.



### **Japanese Hawkweed**

*Youngia japonica* (Japanese Hawkweed), family: Asteraceae A relatively new weed to the area which is only too happy to fill the space left when other garden weeds are eliminated. Control: MSM. DO NOT let it flower as it produces masses of fine, wind-dispersed seeds!



### **Cinderella Weed**

*Synedrella nodiflora*. Cinderella weed, family: Asteraceae Common fast growing, wirey, and deep rooted weed of roadsides and gardens. Tiny yellow flowers in leaf axils. Control: Pull, or use MSM.



### **African Tulip Tree**

*Spathodea campanulata* (African Tulip Tree), family: Bignoniaceae An introduced ornamental tree it is very invasive and its seeds are dispersed by the seed pods bursting. It also spreads from root suckers. In Cairns there has been a partial extermination campaign. Control Class 3 MSM kills juveniles. For mature plants, "drill and fill" stems with 10% glyphosate (may work) or ringbark (best).



### **Sickle Pod**

*Senna obtusifolia* (Sickle Pod), family: Caesalpinaceae The presence of this weed usually indicates that horses have spent time on the property. Leaves have a very distinctive and unpleasant smell. Status: Class 2 Control: MSM, pull roots and burn. Do not allow to seed; seeds can last up to 30 years.



### Captain Cook's Vine

*Merremia peltata*, family: Convolvulaceae Probably one of the worst *native* weeds is Captain Cook's Vine or *Merremia peltata*. This is the native big-leafed member of the morning glory family. It is found smothering trees along the roadside or where man-made (or cyclone) damage has allowed it to grow unmolested. In an intact forest it is a natural component of the vegetation. It also will run long runners into buildings. The lower image shows trees covered with Captain Cook's Vine. The vine stops tree growth and can ultimately kill the trees. Control: Cut stems at base and apply 10% glyphosate to lower cut stems. The stems are blotchy-dark in colour, are very soft and flexible, and exude a white sap when cut



### Fire Vine

*Tetracera nordtiana* family: Dilleniaceae Related to the red beech, *Dillenia alata* tree (with big yellow flowers) that grows on the dunes, the native Fire Vine runs rampant in exposed areas, and can be a major invasive – especially of revegetation. Its leaves have serrated edges and stems are very tough, pale and stripey in appearance. Leaves and young stems are sand-papery to the touch and will cause a burning sensation. Control: Cut stems and apply 10% glyphosate at the cut base of the plant.



***Ipomea indica* (Blue Morning Glory), family: Convolvulaceae** Introduced from Europe. Very active climber, which has very distinctive soft white flexible stems that are easy to recognize. Control: MSM, pull stems which are shallow-rooted.  
[https://www.daf.qld.gov.au/\\_data/assets/pdf\\_file/0009/69174/IPA-Ipomoea-Indica-Risk-Assessment.pdf](https://www.daf.qld.gov.au/_data/assets/pdf_file/0009/69174/IPA-Ipomoea-Indica-Risk-Assessment.pdf).



**Euphorbia**

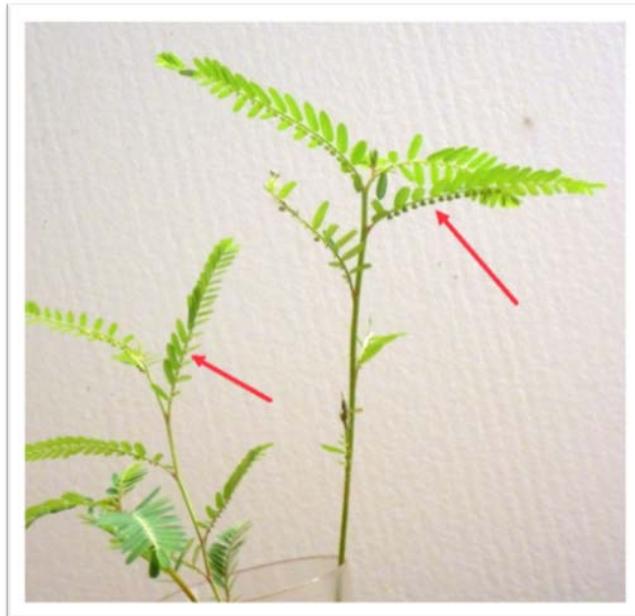
*Euphorbia heterophylla*

family: Euphorbiaceae A small weed version of the Poinsettia, but with no red leaves. Control: MSM or pull up.



**Phyllanthus**

(*Phyllanthus* sp., family Phyllanthaceae A new invasive, looks like sensitive plant but the leaves don't collapse and it has no thorns. It appears to be allelopathic (stops other plants from germinating). Control - no chemical control yet - but pull as soon as you see them.



**Heliconia**

*Heliconia psittacorum* family: Heliconiaceae Introduced as a commercial cut flower, this plant thrives in wet ground. It is pollinated and dispersed in Costa Rica by hummingbirds, here by sunbirds. Control: Cut stems at base and apply 10% glyphosate.



**Horehound** *Hyptis suaveolens* Family Lamiaceae (mints). Has a quite strong, somewhat minty smell. This is a recent invasive here. Control: Use MSM or pull the plant. It produces lots of seeds – if you let it.



**Pepper Pot Weed**

*Hyptis capitata* (Knob / Pepper Pot Weed), Family Lamiaceae (mints).: Control: MSM. Cut the tops off or bag to contain the seeds, then pull the main root out of the ground. Seed heads are full of tiny black seeds that are easy to shake out.



**Arrowleaf Sida**

*Sida rhombifolia* (f Malvaceae)

A member of the hibiscus family, this is a perennial or sometimes annual plant and is native to the New World tropics and subtropics. Other common names include rhombus-leaved sida, Paddy's Lucerne, jelly leaf, Cuban jute, Queensland hemp, and Indian hemp (although *S. rhombifolia* is not related to either jute or hemp). Control: MSM and pull roots, especially seedlings



**Urena Burr**

*Urena lobata* (Urena Burr, pink burr), family: Malvaceae Related to hibiscus. A similar-looking, but unrelated burr is the *Triumfetta rhomboidea* which has yellow flowers. Control: MSM or pull roots, bag and burn especially if there are ripe (brown) burrs.



*Tristemma mauritianum* (f Melastomaceae) Related to the native *Lassiandra melastoma affine*, this is a new roadside weed which is dispersed by birds. DO NOT confuse it with the shrub Melastoma (native lassiandra). Unlike Melastoma which has big purple flowers, as seen in this image, *Tristemma* has red leaf petioles and a small whitish flower. *Tristemma* also never gets larger than about 250mm high and is fleshy Control: MSM or pull roots.



**Sensitive Plant**

*Mimosa pudica* (f  
Mimosaceae)

A prickly rampant weed (from S america) , which has been in the Daintree area for over 100 years.

Control: MSM, pull as soon as the pink-purple flowers appear. Use good gardening gloves as some of the plants are quite big. When pulling, grab it where it emerges from the ground. You may be amazed at how big the plant is! Do pull the juveniles!

**Centro**

*Centrosema molle* (Centro),  
family: Papilionaceae First introduced as a nitrogenising legume, it has become a major climbing weed for disturbed areas. The purple pea flowers make it easy to spot. The seeds are long – lasting. Control: MSM, pull roots and be sure not to leave any nodes.



**Tropical Kudzu**

*Pueria phaseloides*  
(f Papillionaceae)

Closely related to true Kudzu, "the weed that ate the South" (USA). This plant can completely overtake disturbed land.

Control: MSM, pull roots (it's fairly shallow-rooted).



**Pepper Elder**

*Peperomia* (f Piperaceae)

A nursery weed – of damp places. Produces lots of seeds and is very weakly rooted.

Control: pull and bag plant.  
Large infestations, MSM



*Mitracarpus hirtus*, family: Rubiaceae Introduced from South America, this common crowding weed is found in gardens and on roadsides. Control: MSM.



**Devil's Thorn**

*Solanum torvum* (f Solanaceae)

These bird-dispersed weeds can get to the size of large shrubs and have sharp thorns.

Control: Cut stem, chop, bag and burn. Treat cut stems with 10% glyphosate.



**Pagoda Plant**

*Clerodentrum paniculatum*  
(f Lamiaceae)

Also known as "hanuman kireetam", this very pretty weed is native to tropical Asia and Papuasias

Control: Cut stem and apply 10% glyphosate.



Snake Weed / Purple Top  
*Stachytarphetta* (multiple species)

(f Verbenaceae)

Control: Cut stems, pull roots or treat with MSM.  
Bag to avoid dropped seeds.



*Lantana camara*

family: Verbenaceae.  
Serious weed further south and in the Tablelands, but here seems to be out-competed.. Status: Class 3 weed. Control: MSM, pull roots (usually shallow rooted here).



**Torch Ginger**

*Zingiber spectabile*  
(f Zingerberaceae)

Also known as Ginger Flower, Red Ginger Lily, Torch Lily, Wild Ginger. The flower buds, and especially the ripe seed pods, are packed with small black seeds. The pink flowers are used in decorative arrangements and various parts of the flower are an important ingredient in a variety of Asian dishes.

Control: MSM or cut stems and treat with 10% glyphosate.



**Costus**

*Costus speciosus*  
(f Costaceae)

Has a distinctive curved growth pattern and is bird-dispersed.

Control: MSM or pull out plants and seedlings.

**Para Grass**

*Brachiaria* spp (multiple species) (Possibly now called *Urochloa*) (Para Grass), family: Poaceae An allelopathic plant, this weed stops the germination of other species' seeds. Where you see fields of a monoculture of low grass, it's Brachiaria. There are patches in Cape Tribulation dating from the 1970s which still have no native revegetation. Control: Flatten and treat area with glyphosate. DO NOT mow or burn. It makes wonderful mulch!



**Guinea Grass** *Panicum maximum* (Guinea Grass) (now *Megathyrsus maximum*), family: Poaceae Also known as Green Panic grass, this weed is a large perennial bunch grass that is native to Africa, Palestine, and Yemen. It has been introduced in the tropics around the world. Control: Pull, flatten, and treat area with glyphosate (75 ml / 15 liter water). DO NOT mow!



**Navua Sedge** *Cyperus aromaticus* (Navua Sedge), family: Cyperaceae Introduced from Africa, this weed has become a major invasive grass-like plant. Control: Pull, flatten and treat area with glyphosate. Note that large infestations are exceedingly difficult to control and can require several episodes of spraying to achieve control. 'wicking' with 10% glyphosate can be used where it grows on lawns (**CARE!**). A new herbicide, Sempra (also Kemptra) – is relatively specific for sedges, however, it seems to require warm weather to be effective.



**Electric / Peacock Fern**

*Selaginella willdenovii* (Electric / Peacock Fern), family: Selaginellaceae This invasive fern can create large infestations. Don't confuse it with the native *Selaginella*, which is all pale green. Control: Pull and bag the plants and treat any broken stems with 10% glyphosate.



**Fishbone Fern**

*Nephrolepis* (f Lomariopsidaceae) There are a number of native species of this fern as well as many introduced from Asia. However, only the introduced species snap if you try to bend the stem. Control: MSM