



Landcare's Weeds of the North Coast

a guide to identification and control



Coffs Harbour
Regional
Landcare

Acknowledgements

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Coffs Harbour Regional Landcare Inc.

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Disclaimer

This booklet was prepared by the authors in consultation with regional Weeds Advisory Committees and other professionals, in good faith and on the basis of information available at the time. While all care was taken to ensure the accuracy of the information provided, the authors accept no responsibility for any claim, loss, damage or liability arising out of the use of this booklet.

Chemical herbicides: Always read the label and any permit pertaining to the specific application of a product before using chemical herbicides and strictly comply with the directions on the label and conditions of the permit. Users are not absolved from compliance with such directions by reason of any statement made or omitted in this publication.

Front cover: Common Lantana (*Lantana camara*), Glory Lily (*Gloriosa superba*) – Terry Inkson
Morning Glory (*Ipomea indica*), Tobacco Bush (*Solanum mauritianum*) – Pia Dollmann

Coffs Harbour Regional Landcare Inc (CHRL) is an incorporated, not-for-profit community organisation acting as the umbrella group for land-caring groups in the Coffs Harbour Local Government Area. CHRL assists individuals and groups involved in land, water, and vegetation management, and sustainable farming practices. CHRL provides support and assistance through access to funding programs, information and training, networking, and advocacy. CHRL promotes the principles of ecologically sustainable development, and seeks to foster cooperation between local landholders and land managers in the prevention and treatment of natural resource degradation and the uptake of sustainable land management practices.

coffsharbourlandcare.org.au

***This resource is dedicated to the late Pia Dollmann.** Pia's work has made significant contributions to conservation in the North Coast region and continues to do so.*

Coffs Harbour Regional Landcare recognises the unique, diverse and enduring cultures of the First Nations people in NSW and their strong, ongoing social, spiritual and cultural connection with their traditional lands and waters. **We acknowledge the Traditional Custodians of the land and pay respect to Elders past, present and emerging.**

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About this booklet

By definition, a weed is a plant growing in the wrong place. The selection of weeds described in this booklet has been made to provide information to farmers, volunteers and professionals who are working in environmental restoration in the coastal part of the North Coast region. It is not an attempt to comprehensively describe all weeds that occur in this region, but instead to concentrate on weeds that present a threat to local natural environments, and those that are an emergent threat.

Integrated Weed Management

This term describes activities and measures that combine/integrate to reduce the occurrence, re-occurrence and impact of weeds. These include the initial removal of the weed, the provision of an environment that encourages native and other desirable plants to take up the vacant space, biological controls, farm/site biosecurity, follow-up weed control and more. Good weed management always takes more than one action or approach to deal with a weed.

Use of herbicides

Only two types of active ingredients of herbicides are recommended in this booklet: Glyphosate and metsulfuron-methyl.

The product strength assumed for the recommended herbicides is 360g/L for glyphosate and 600g/kg for metsulfuron-methyl. Metsulfuron-methyl must always be applied with a non-ionic surfactant/wetting agent as recommended on the label.

Herbicides are either sprayed onto the foliage to the point of run-off, painted onto a cut or scrape within seconds, or injected into a wound within seconds.

For information about other herbicides and their applications, consult with your local Council Weed Officer or publications by the NSW Department of Primary Industries (DPI), including the *NSW Weed Control Handbook*, and the *NSW Weed Wise* website and mobile phone app. Both the handbook and *Weed Wise* contain detailed application rates and methods for herbicide use to control particular weeds.

Personal Protective Equipment (PPE) is very important when using herbicides. Gloves, long sleeves and pants as well as boots are the minimum required.

Weed control methods

Manual, mechanical and chemical weed control can complement each other. Chemical methods should only be employed where non-chemical methods are not effective, feasible or realistic.

In manual weed control, all sections of the plant capable of reproducing must be removed. This can include seed, tubers, parts of the stem and even leaves and it is plant specific.

Follow up is the key to successful restoration after the initial weed control and is essential.

Coffs Harbour Regional Landcare's weed control training videos are available online at www.coffsharbourlandcare.org.au/resources/video/

Herbicide application methods

Herbicides should only be applied to plants that are actively growing and have good foliage. Weak, dry or frosted plants will not absorb and translocate the herbicide well and the herbicide will have little or no effect.

Stem Scrape

(vines and some woody weeds)

- Scrape the bark off the vine stem for 15–30 cm to expose vascular tissue in strips.
- Don't ringbark the entire stem.
- Start at ground level and work up as high as you can reach.
- Create a staggered pattern with the scraped strips.
- Apply glyphosate with a brush onto the wounds immediately (within 10 seconds).
- Leave plant in place until completely dead and re-apply if necessary.

See www.sydneeweeds.org.au for demonstration.

Stem Inject

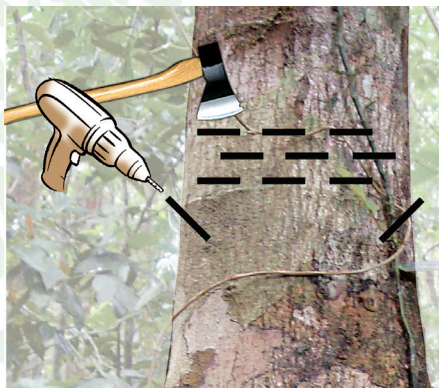
(larger woody weeds and trees)

- Cut horizontally into the cambium layer with a small axe or drill.
- Drill or cut at 45° to the ground to avoid herbicide dripping out again.
- Apply 1–2 ml of 100% glyphosate immediately into cuts or holes.
- Cut or drill at 10 cm intervals for a minimum of two rows around the entire stem below the first branch.
- Stagger the cuts/holes and don't create a continuous cut like a ringbark. Large trees or trees with multiple stems may require additional injection points for effective control.

Cut & Paint

(woody weeds, shrubs, some vines, small trees)

- Cut stem horizontally close to the ground and below the first branch.
- Apply 100% glyphosate with a brush or dropper bottle to the cambium layer (between bark and wood) immediately (within 10 seconds).



Foliar Spray

(shrubs, grasses and other ground covers)

- Most suited for certain shrubs, grasses and other ground covers.
- Glyphosate is a non-selective herbicide and will affect all plants it is sprayed on.
- Metsulfuron-methyl is selective for woody weeds and does not affect grasses and many other plants (see product label).
- When mixing herbicide with water, always use clean water as herbicide may break down and become inactive when in contact with soil particles/mud.
- Only prepare as much herbicide as you will use at the time.
- Spray foliage to the point of run-off, when every leaf is wet.

Consult with your local Council Weed Officer for details of equipment and follow the label.

Always wear suitable clothing and gloves to prevent herbicide contact with your skin.

Splatter Gun Method

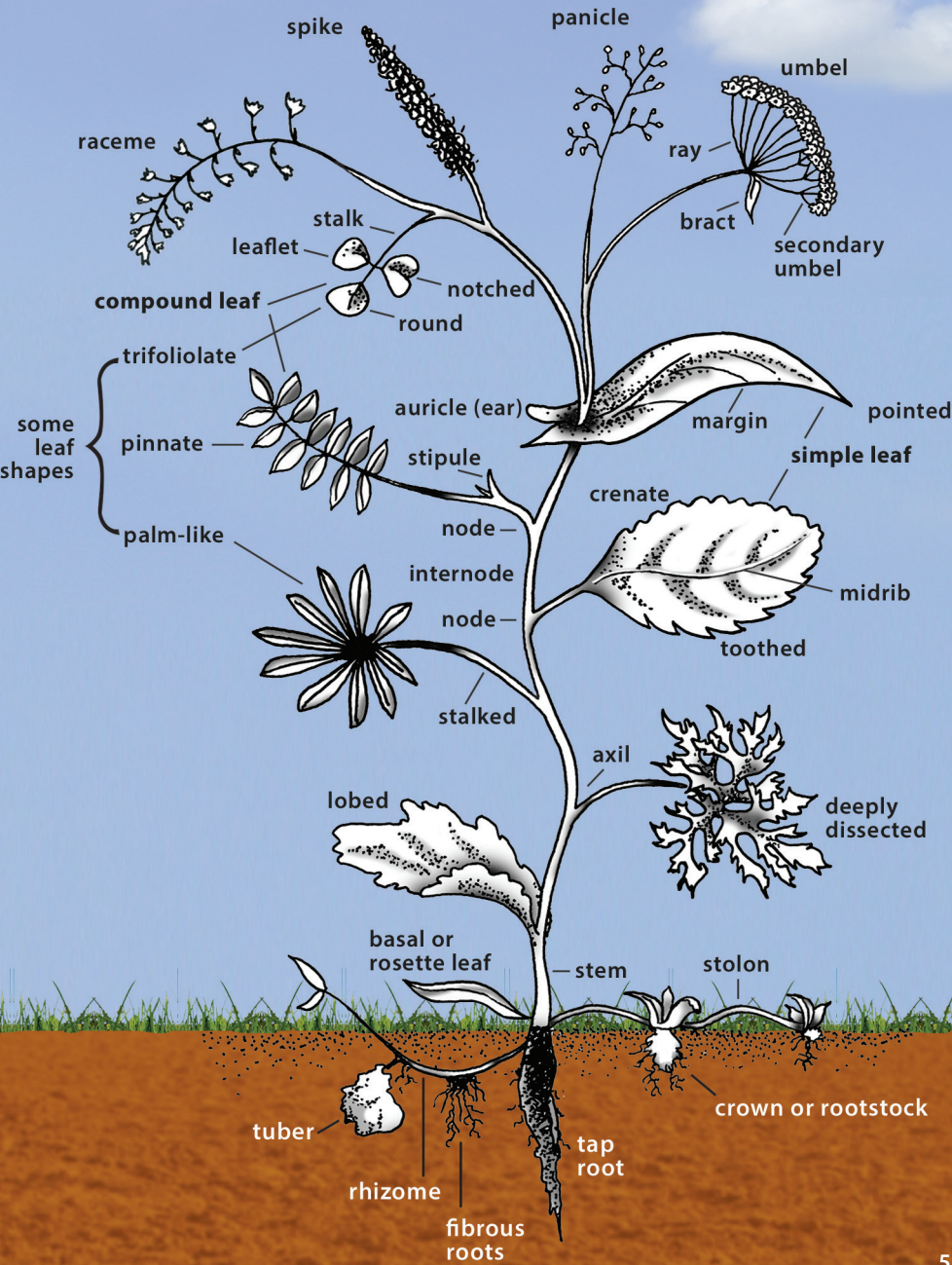
(for thickets of woody shrubs, particularly Lantana)

This method involves a high concentration of herbicide in the mix and a nozzle that produces a stream, not a spray.

- Angle the spray gun at 45 degrees and arc the stream of herbicide over the top of the bush and down the front face of the infestation.
- When treating dense walls of Lantana, apply one vertical spray line every two strides, with an occasional horizontal pass low across the front edge of the bushes to treat any low growth.
- Apply the recommended volume of herbicide (for glyphosate that is two squirt lines of 2 ml chemical mix per half meter of plant height – approximately 16 ml of mixed herbicide in total for a 2 m bush).
- Do not spray to the point of run-off as you would with conventional foliar spray techniques. Application of too much chemical at this concentration will put the plant into shock and inhibit herbicide uptake.
- A specialized nozzle that produces large droplets of herbicide mix must be used to achieve the desired low volume, high concentration application. A fine spray or mist will not be effective.

PLANT PARTS – TERMINOLOGY

Illustration adapted from: Efficient Weed Management, Protecting your investment in the land. (adapted from Healy 1982)



Weeds and your Biosecurity Duty

General Biosecurity Duty

Under the NSW *Biosecurity Act 2015*, every person has a responsibility to prevent, eliminate or minimise the biosecurity risk posed by weeds. This is known as your General Biosecurity Duty. The Act is implemented and enforced by the Local Control Authority (LCA) for the area, usually your local Council.

Priority Weeds

Plants that have been identified as posing a significant biosecurity risk in NSW or to the North Coast are known as priority weeds. The *North Coast Regional Strategic Weed Management Plan* lists regional priority weeds (available online). The *Biosecurity Act 2015* and *Biosecurity Regulation 2017* list state priority weeds. There are often laws against selling priority weeds. For the most up to date information, refer to the *NSW WeedWise* website or mobile app.

There are different management categories of priority weeds. Each category has specific requirements that must be met (see below). *The white text at the top of each weed profile page identifies if the weed falls under one of the top three management categories.*

PREVENT

'Report this weed'

These are the highest priority weeds. These species are not known to be present in NSW or the North Coast region. Prevent these weeds from arriving and establishing in the region. Call 1800 680 244 or your local Council Weed Officer if you think you have seen these weeds anywhere.

ERADIACATE

'Eradicate this weed'

These are the second-highest priority weeds. These species are either not present or present to a limited extent in NSW or the North Coast region. Eradicate this weed by permanently removing it or destroying all known infestations. Contact your local Council Weed Officer.

CONTAIN

'Contain this weed'

These are the third-highest priority weeds. These species have a limited distribution in NSW or the North Coast region. Contain this weed by preventing the ongoing spread of this species. Use the control information in the weed profile to proactively manage this weed.

ASSET PROTECTION

These are the lowest priority weeds (from a biosecurity perspective). These species are widespread and unlikely to be eradicated or contained within the broader regional context. Use the control information in the weed profile to prevent these weeds from impacting on key assets.

Weeds of National Significance - WoNS

Under the Australian Weeds Strategy, a number of introduced plants are identified as Weeds of National Significance (WoNS). These weeds are regarded as the most problematic weeds in Australia because of their invasiveness, potential for spread, and economic and environmental impacts. *The white text at the top of each weed profile page identifies if the weed is a Weed of National Significance.* National management strategies have been developed for these weed species and information is available at the Weeds Australia website, www.weeds.org.au

Environmental Weeds

Not all environmental weeds are declared priority weeds or Weeds of National Significance. They may or may not cause economic losses but they are invasive and they have a significant impact on natural ecosystems. Environmental weeds reduce plant diversity by occupying spaces and overwhelming existing native plants. This is particularly true for vine weeds which climb over and smother other plants.

They can cause habitat loss or alteration for native animals, suppress natural regeneration of indigenous plants, alter soil chemistry and increase soil erosion risk.

Garden escapees: 65% of our environmental weeds originated in and have escaped from home gardens.