

# Weed Notes



## Ragwort (*Senecio jacobaea*)

### What is Ragwort?

- Ragwort is a serious pasture weed.
- Ragwort is a declared weed under the Tasmanian *Weed Management Act 1999*. The importation, sale and distribution of ragwort are prohibited in Tasmania.

### How to identify Ragwort

- Ragwort lives for two years if left undisturbed. Most seed germination occurs in autumn, and the plant forms a rosette (in its first year a cluster of leaves close to the ground), and in its second year an erect plant up to 1.5 m in height with convoluted dark green leaves and bright yellow flowers. The flowers are formed at the end of small branchlets resulting in a characteristic flat-topped flower arrangement.
- When growing in pasture, ragwort often lives for more than 2 years due to damage to the plant from stock hooves, grazing and cutting. When plants are damaged, new shoots are produced from the original stem or from larger roots left in the ground. These damaged plants can produce large bushes of many flowering stems, and flower multiple times over several years.
- For help in identifying ragwort, search the Dennis Morris Weeds and Endemic Flora database at [www.dpipwe.tas.gov.au/weeds](http://www.dpipwe.tas.gov.au/weeds).
- If you are still in doubt about the weed you are dealing with, contact your Regional Weed Management Officer on 1300 368 550 for help.



**Ragwort plant**



**Ragwort Rosette**



**Close up of Ragwort flower**

### Ragwort in Tasmania

- Ragwort is widely distributed throughout the grazing areas of Tasmania, with the exception of the Midlands where it occurs only in small patches. Ragwort also occurs on the shores of several lakes on the Central Plateau, and along roadsides in many areas of the state. The heaviest infestations occur on poorly managed pastures.
- Ragwort is a serious pasture weed in Tasmania. Ragwort plants are extremely competitive, and competition from ragwort causes a significant reduction in pasture production. Ragwort is also poisonous to most types of livestock. Stock losses due to ragwort poisoning can occur where stock are forced to graze ragwort due to food shortages.

## What is the legal status of Ragwort in your area?

- The legal responsibilities of landholders and other stakeholders in dealing with Ragwort are laid out in the Ragwort Statutory Weed Management Plan.
- Use Table 1 (Zone A municipalities) and Table 2 (Zone B municipalities) in the Statutory Weed Management Plan to find out whether your area falls in an eradication or containment zone.

## Control of Ragwort

### *Do's and Don'ts of Ragwort control*

#### **Do's**

- Plan your control program, this will save time and money in the long-run;
- Ensure cultivation, harvesting and road-grading machinery used in an infested area is washed down to remove any ragwort seed;
- Maintain a dense and vigorous pasture to prevent ragwort establishing;
- Consider cropping a paddock infested with ragwort to reduce the infestation;
- Take careful note of **stock withholding periods** after spraying to avoid stock eating the treated ragwort;
- Seek a vendor declaration to identify weeds which may be present in purchased feed and grain;
- Use a dedicated feedout area to avoid spread of weeds that may come in purchased feed and grain.

#### **Don'ts**

- Don't introduce ragwort to ragwort free areas (e.g. by failing to wash down machinery and equipment between sites);
  - Don't start your control program without first planning your approach;
  - Don't rely on slashing to remove ragwort - plants will quickly resprout;
- Don't expose stock to dense ragwort infestations in case of poisoning.

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### **Spread of Ragwort**

- Spread of ragwort is by seed. The majority of seeds are deposited within 20 m of the parent plant but may be dispersed up to a kilometre or more by strong winds.
- Ragwort seed is readily carried in water and can survive immersion for a considerable period.
- Seeds can also be spread on the coats of animals, on farm machinery, logging equipment, trucks and other vehicles, and in contaminated hay.
- See the Washdown Guidelines for Weed and Disease Control at [www.dpipwe.tas.gov.au](http://www.dpipwe.tas.gov.au) for detailed information on how to wash-down equipment and personnel to reduce the chance of spreading Ragwort.

## **Avoid the introduction of Ragwort**

- Preventing the introduction of ragwort to ragwort free areas is the best means of control. Good hygiene practices are vital.
  - Farm machinery, logging equipment, trucks and other vehicles can carry ragwort seeds. Thorough cleaning of cultivation, harvesting and road-grading machinery which has been working in infested areas will greatly reduce the risk of spread into other areas.
  - See the Washdown Guidelines for Weed and Disease Control at [www.dpipwe.tas.gov.au](http://www.dpipwe.tas.gov.au) for detailed information on how to wash-down equipment and personnel to reduce the chance of spreading Ragwort.
  - Hay and crop seeds can contain ragwort seed if they have been sourced from infested paddocks.
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## **Physical removal**

- Cutting or slashing flowering ragwort stems with no other follow up is ineffective as the plants quickly recover and flower again within a few weeks.
  - Pulling or grubbing ragwort can be effective but only if the crown and larger roots are completely removed from the ground. Regrowth from small roots left in the ground can occur, although the regrowth from smaller roots tends to be weaker and take longer to re-establish.
  - Pulling is best carried out at the flowering stage, but this is only possible if the soil is reasonably loose.
  - Grubbing may be carried out at any stage of growth. Use a pick or fork to loosen the soil so that the plant can be removed with the roots intact. A mattock or hoe is not a suitable tool for grubbing since large roots or parts of the crown are likely to be cut off and left in the ground.
  - Ragwort plants should be collected and destroyed after pulling or grubbing. This avoids the possibility of stock eating the plants (which are more palatable when wilted). Flowers should always be removed and destroyed to remove the seed.
  - Ragwort material can be destroyed by deep burial (at least 1 m depth).
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## **Cultivation**

### **Pasture**

- Pasture improvement is an essential part of any control program. Maintenance of a dense vigorous pasture reduces the opportunity for ragwort to establish and spread.
- Degraded pasture lacking a high proportion of perennial ryegrass and clover (or other suitable grass/legume mix) may need to be ploughed and resown to provide effective competition with ragwort.
- Where ragwort is well established the area should be cropped for at least one year before resowing to pasture.

### **Cropping**

- Cropping a paddock infested with ragwort is an effective way of reducing the infestation. Repeated cultivation destroys established plants and exhausts seed reserves in the soil.
- A herbicide program in the crop will improve the control achieved during cropping. Suitable crops include cereals, peas, poppies, and forage crops.

## Trees

- In non-arable areas where pasture establishment is difficult (stony or rocky ground, steep hillsides and gullies), establishing trees such as radiata pine and eucalypts can provide an effective way of suppressing ragwort.
  - This is a long term control measure and will not control the ragwort until canopy closure and dense shading occurs. Interim control measures are essential.
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## Grazing

- Sheep will graze ragwort at both the rosette and the flowering stages.
  - Sheep grazing can reduce an infestation but will not destroy all plants and seed. Following grazing, ragwort plants may recover quickly and produce new shoots. Follow up measures are essential.
  - Continuous exposure of sheep to dense ragwort infestations should be avoided as poisoning may become a problem.
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## Biological control

- Biological control is the use of a living species, usually an insect, mite or disease, to control a weed.
  - Biological control will not eradicate ragwort, but can be used in conjunction with other control methods.
  - Biological control agents that have been released in Tasmania include the ragwort flea beetle, the stem and crown boring moth, and the ragwort plume moth.
  - For more information on biological control programs in Tasmania contact the Tasmanian Institute of Agricultural Research
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## Chemical control

- A number of herbicides are registered for use on Ragwort in Tasmania. See [Herbicides for Ragwort Control](#) for more information.
  - Ragwort herbicides may be applied by boom, spot spray or wiping equipment, or as granules, depending on the herbicide and the density and extent of the infestation.
  - Herbicides are most effective at the seedling or rosette stage and when the plants are actively growing. Autumn and spring are the usual seasons for herbicide control of ragwort.
  - Take careful note of the **stock withholding periods** following spraying. For dense infestations, it is best to exclude stock completely from the area until the treated plants are dead.
  - For smaller infestations, any stock allowed to graze the area should be carefully watched to make sure that ragwort is not being consumed.
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## For more information

- Visit the Department of Primary Industries, Parks, Water and Environment website at [www.dpipwe.tas.gov.au](http://www.dpipwe.tas.gov.au)
- Contact your Regional Weed Management Officer on 1300 368 550.

## Herbicide for Ragwort Control

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### **Disclaimer**

These herbicide recommendations are made subject to the product being registered for that purpose under relevant legislation. It is the user's responsibility to check that registration or an off-label permit covers the proposed use. Always read the herbicide label.

If in doubt, check with the Australian Pesticides and Veterinary Medicines Authority (APVMA) website at [www.apvma.gov.au](http://www.apvma.gov.au).

Only herbicides registered for use in pasture and non-cropping situations – or included under off-label provisions - are listed in the following table. For recommendations in specific crops consult an agronomist.

Care must be taken in using herbicides as non-target plants contacted may be harmed.

### **Wetting agents**

Most herbicides require a wetting agent for best results. Carefully consult the product label for specific directions regarding any adjuvants.

### **Waterways and wetlands**

Be careful! Many herbicides can cause damage to waterways and wetlands. Check the herbicide label directions carefully before use near waterways and wetlands. For more information see Rivercare: guideline for safe and effective herbicide use near water at [www.dpipwe.tas.gov.au](http://www.dpipwe.tas.gov.au)

### **Herbicide Brands and Concentrations**

Herbicides are referred to by the active chemical ingredient in the following table. The product trade names in this publication are supplied on the understanding that no preference between equivalent products is intended and that the inclusion of a product does not imply endorsement by DPIPWE over any other equivalent product from another manufacturer. Information on available brands containing the herbicide you require should be obtained from a reputable herbicide supplier or the APVMA website at [www.apvma.gov.au](http://www.apvma.gov.au).

There may be a number of products with the same active ingredient some with alternate formulations (concentration) registered for control of a weed eg: Glyphosate 360g/L, Glyphosate 450g/L may be registered for use on the same weed. Alternate formulations such as these will have a different application rate. ALWAYS check the label.

## Herbicide for Ragwort Control

### Boom spray application

Stage of Growth	Herbicide (active ingredient)	Example of commercial product (concentration of active ingredient)	Application rate of commercial product	Withholding period	Comments
Seedlings and small rosettes up to 50mm	MCPA sodium salt	MCPA 250	4L/ha	7 days	Apply to mature grass pastures. Consult your agronomist for tolerance levels for legumes should any be present.
Seedlings and small rosettes up to 50mm	MCPA amine	MCPA500 L (500g/L)	500mL – 1.0L/ha		Boom spray where weeds <b>only</b> are present. Use lower rate for seedlings, higher rate for rosettes to 50mm diameter. Spot spray in pasture situation. The use of MCPA is preferred to 2,4-D ester in situations where legumes are undersown in the crop.
Rosette	Dicamba	Kamba® 500 (500g/L)	4.0L/ha	7 days	Spray before the 3-5 true leaf stage. Do not apply to pastures with clover, Lucerne or medics.
	MCPA + Dicamba	Kamba® M (340 g/L MCPA+ 80g/L Dicamba)	2.8 - 4.0L/ha	7 days	Use higher rate on larger weeds
Rosette to cabbage stage	2, 4-D ester	LV Estercide® 600 (600 g/L)	3.7L/ha	7 days	The use of MCPA is preferred to 2,4-D ester in situations where legumes are undersown in the crop. <b>THIS PRODUCT MAY ONLY BE USED FROM 15 APRIL TO 15 SEPTEMBER UNLESS PERMITTED BY THE CHEMICAL REGISTRAR- DPIPWE.</b>
	Metsulfuron methyl	Brush-Off® (600g/kg)	15g/ha		Apply when actively growing. Will damage legumes in pastures. Soil-residual, hindering the re-establishment of legumes and pastures for up to 6 months. Always use a surfactant/wetting agent. See label for compatible products.

## Herbicide for Ragwort Control

### Boom spray application cont...

Stage of Growth	Herbicide (active ingredient)	Example of commercial product (concentration of active ingredient)	Application rate of commercial product	Withholding period	Comments
Rosette to shooting plant	Clopyralid	* Lontrel™ (300g/L)	1-2 Litres/ha	7 days	Apply in 200-250L of water/ha. Spray foliage when growth is active.  Consult APVMA Off-Label permit – PER11960 to determine rate appropriate to growth stage.

### Granular application

Stage of Growth	Herbicide (active ingredient)	Example of commercial product (concentration of active ingredient)	Application rate of commercial product	Withholding period	Comments
Rosettes – single and multi-crown plants	Picloram **	Tordon™ Granules (20g/kg)	2g	Nil	Apply to crushed centre of plant.

\*\* Note that Picloram remains active in the soil for extended periods and may leach into groundwater.

## Herbicide for Ragwort Control

### Spot spray application

Stage of Growth	Herbicide (active ingredient)	Example of commercial product (concentration of active ingredient)	Application rate of commercial product	Withholding period	Comments
Rosette to shooting plants	2,4-D ester	LV Estericide® 600 (600g/L)	37ml/10L water	7 days	<p>The use of MCPA is preferred to 2,4-D ester in situations where legumes are undersown in the crop.</p> <p>Some regrowth may be expected from large multi-crown plants and from shooting and flowering plants.</p> <p>Always use a surfactant/wetting agent. See label for compatible products.</p> <p><b>THIS PRODUCT MAY ONLY BE USED FROM 15 APRIL TO 15 SEPTEMBER UNLESS PERMITTED BY THE CHEMICAL REGISTRAR- DPIWE.</b></p>
Rosette	Dicamba	Kamba® 500 (500g/L)	280mL/100 spot application  60mL / 15Ltr knapsack	7 days	<p>Spray before the 3-5 true leaf stage.</p> <p>Do not apply to pastures with clover, Lucerne or medics.</p>
Rosette to cabbage stage	Metsulfuron methyl	Brush-Off® 600g/kg)	5g/100L spot application  0.5g/10L water	See label for plant back times	<p>Will damage legumes in pastures.</p> <p>Soil-residual, hindering the re-establishment of legumes and pastures for up to 6 months.</p> <p>Always use a surfactant/wetting agent. See label for compatible products.</p>
Rosette to flowering plants	Clopyralid	* Lontrel™ (300g/L)	2-4mL/L	7 days	<p>Consult APVMA Off-Label permit – PER11960 to determine rate appropriate to growth stage.</p> <p>Some regrowth may be expected from large multi-crown plants and from shooting and flowering plants.</p> <p>APVMA Off-Label permit – PER11960.</p>

## Herbicide for Ragwort Control

### Spot spray application cont..

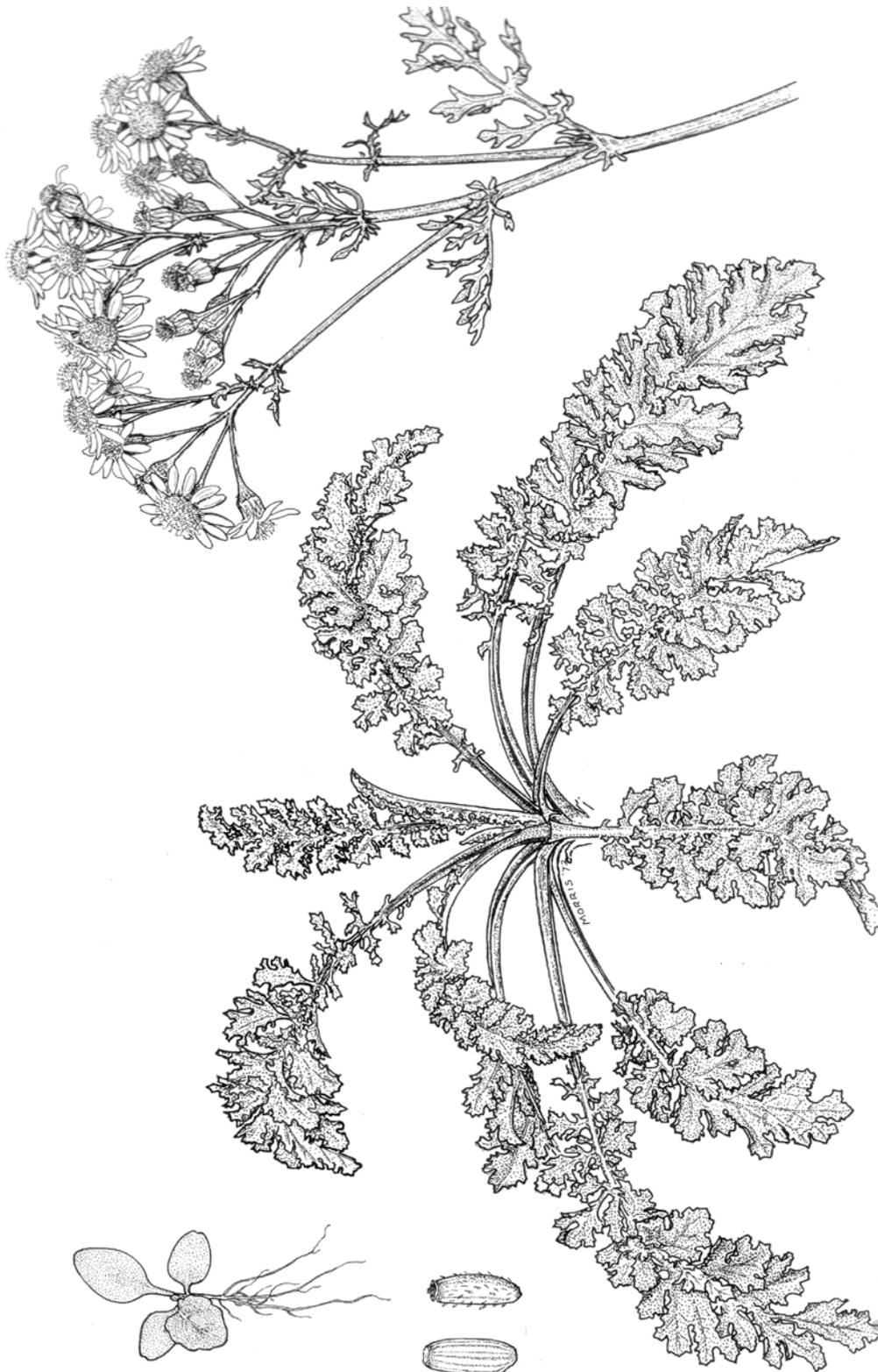
Stage of Growth	Herbicide (active ingredient)	Example of commercial product (concentration of active ingredient)	Application rate of commercial product	Withholding period	Comments
Flowering plants	Clopyralid + Diquat	* Lontrel™ (300g/L)  plus  Diquat 200® (200g/L)	6mL/L  plus  2-4mL/L	7 days	Consult APVMA Off-Label permit – PER11960 to determine rate appropriate to growth stage.  Apply to flowering plants before flower heads begin to brown off.  Some regrowth may be expected from large multi-crown plants and from shooting and flowering plants.  Addition of a surfactant is essential.  Clean water is essential when using diquat.

### Wiper application

Stage of Growth	Herbicide (active ingredient)	Example of commercial product (concentration of active ingredient)	Application rate of commercial product	Withholding period	Comments
Shooting – early flowering plants	Clopyralid	* Lontrel™ (300g/L)	1L to 2L of water	7 days	Plants need to be actively growing.  A differential is required between ragwort and clover.  APVMA Off-Label permit – PER11960.

\* These products are not registered for this use on Ragwort in Tasmania and will not be mentioned on product labels, however Permit Number – PER11960 issued by the Australian Pesticides & Veterinary Medicines Authority has been issued for this specific use. **If using this method and herbicide you will require a copy of this off-label permit.**

For further information on permit details visit the APVMA website at [www.apvma.gov.au](http://www.apvma.gov.au).



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