

CAUTION

KEEP OUT OR REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Rygel

ClearUp Glyphosate 450 Herbicide

Active Constituent: 450g/L GLYPHOSATE present as the ISOPROPYLAMINE SALT

Rygel ClearUp Glyphosate 450 Herbicide is a non-selective herbicide that will kill most emerged weeds and plants.

APVMA Approval No: 58291/0804

Pack Size: 10L, 20L, 200L, 1000L

GENERAL INSTRUCTIONS

Product Description

Rygel ClearUp Glyphosate 450 Herbicide is a non-selective herbicide that will kill most emerged weeds and plants. It provides no residual weed control and may therefore be used before sowing of any crop but not prior to transplanting tomato seedlings.

If required, Rygel ClearUp Glyphosate 450 Herbicide can be mixed with certain other herbicides to achieve both knockdown and residual weed control (see Tank Mixtures).

Rygel ClearUp Glyphosate 450 Herbicide is absorbed by foliage and green stems and moves into the root system. Weeds should be actively growing when treated. Do not treat weeds under poor growing or dormant conditions (such as occur in drought, waterlogging, disease, insect damage or following frosts), as reduced weed control may result.

Reduced results may also occur when treating weeds heavily covered with dust or silt. Prior herbicide application may also induce stress in weeds.

For annual weeds, it may be 3 to 7 days before the effects of the treatment become apparent; for perennial weeds, it may be as much as 2 to 3 weeks or more if cool or cloudy.

Rygel ClearUp Glyphosate 450 Herbicide is a non-volatile liquid that mixes readily with water. Just mix with the required volume of water, add a non-ionic wetting agent, and spray.

Rainfall occurring up to 6 hours after application may reduce effectiveness. Heavy rainfall within 2 hours of application may wash the chemical off the foliage and a repeat treatment may be required.

Delay treatment of plants wet with dew or rain, if water droplets runoff when plants are disturbed. Avoid contact with foliage, green stems or fruit of crops, desirable plants and trees, since severe injury or destruction may result.

Rygel ClearUp Glyphosate 450 Herbicides is compatible with certain herbicides, insecticides and additives (see Compatibility). The active constituent of Rygel ClearUp Glyphosate 450 Herbicide is 450g/L glyphosate present as the isopropylamine salt.

A withholding period for grazing stock is not required. However, it is recommended that grazing of treated plants be delayed for one day after treatment of annual weeds, or 7 days if perennial weeds are present to ensure absorption of Rygel ClearUp Glyphosate 450 Herbicide.

Certain plants (eg. Soursob, variegated thistle) may be naturally toxic to stock. Where known toxic plants are present, do not allow stock to graze until complete browning of treated plants has occurred.

RESISTANT WEED WARNING

GROUP	M	HERBICIDE
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Rygel ClearUp Glyphosate 450 Herbicide is a member of the Glycine group of herbicides. Rygel ClearUp Glyphosate 450 Herbicide has the inhibition of EPSP syntheses mode of action. For weed resistance management Rygel ClearUp Glyphosate 450 Herbicide is a Group M Herbicide. Some naturally occurring weed biotypes resistant to Rygel ClearUp Glyphosate 450 Herbicide and other Group M herbicides may exist through normal genetic variability in any weed population. These resistant weeds will not be controlled by Rygel ClearUp Glyphosate 450 Herbicide or other Group M herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Rygel Australia Pty Ltd accepts no liability for any losses that may result from the failure of Rygel ClearUp Glyphosate 450 Herbicide to control resistant weeds.

CROP ESTABLISHMENT

Rygel ClearUp Glyphosate 450 Herbicide is recommended for control of emerged weeds prior to crop establishment. Suitable cultivation and/or sowing operations are required to provide seedbed conditions satisfactory for crop germination and development, proceed as follows:

- Spray Rygel ClearUp Glyphosate 450 Herbicide early when weeds are young.
- If weeds are few and the soil is friable, you can start seeding as early as one day after spraying.
- If weed density is high, you delay sowing until dead weeds are sufficiently decayed, to ensure that crop emergence is not delayed as a result of green or decaying weeds, being incorporated by cultivation or sowing. This is particularly important in cold or wet weather. Grazing will

help to reduce the weed density and you can assist weed decay by cultivation to leave trash on the surface.

- If seedbed conditions are marginal, be careful to seed at the correct depth. Do not use of pre-emergent herbicides if their labels indicate that they may delay crop emergence.

MIXING

Note: Reduced results may occur if water containing soil is used, eg. water from ponds and unlined ditches; or if hard water containing calcium salts is used.

Rygel ClearUp Glyphosate 450 Herbicide is a non-volatile liquid that mixes readily with water. DO NOT mix, store or apply this product in galvanised steel or unlined steel (except stainless steel) containers or spray tanks, since a highly flammable gas mixture may be formed. So use only spray tanks and equipment made of plastic or plastic lined, fibreglass, rubber, aluminium, brass, copper or stainless steel.

1. Make sure the spray tank is completely free of previous spray residues.
2. Half fill the spray tank with clean water. Where possible avoid turbid water or hard water containing calcium salts, as this may reduce weed control.
3. If Rygel ClearUp Glyphosate 450 Herbicide is being used alone, go to step 5.
4. If Rygel ClearUp Glyphosate 450 Herbicide is being used with insecticides, other herbicides or additives (see tank Mixtures), add these products now according to their label directions. If ammonium sulphate is required, add it first using 2kg/100L of spray volume. Use only crystalline, ammonium sulphate, not the prilled or granulated forms, and wash it into the tank through a mesh screen. If the quality is in doubt, add 40g to 2 litres of water. Swirl gently for 2 minutes. If undissolved particles remain, pre-dissolve the ammonium sulphate in water and add it to the spray tank through a screen.
5. Add the required amount of Rygel ClearUp Glyphosate 450 Herbicide and mix well. Mechanical agitators may cause excessive foaming and should not be used unless required by any tank mix partners.
6. Add the rest of the water. Near the end, add a non-ionic wetting agent, see below. Make sure the filling hose is submerged to avoid excessive foaming and on completion remove it immediately to avoid back siphoning into water supply. Use the tank mix promptly and certainly within 5 days since a gradual loss of activity will occur.

Spray tanks, pumps, lines and nozzles should be thoroughly rinsed with clean water following application to prevent corrosion.

SURFACTANT ADDITION

The use of a non-ionic surfactant may improve weed control where water rates are high or product rates low. Use the following amounts of non-ionic wetting agent per 100L spray mix:
200mL Rygel Cropwett 1000

Do not add any other agricultural chemicals, spraying oils or other materials except as directed on the label.

APPLICATION

Rygel ClearUp Glyphosate 450 Herbicide is a non-selective translocated herbicide. Direct spray contact or even slight drift, may cause severe injury or destruction of any growing crop or other desirable plants including trees. Thoroughly flush your mixing and spray equipment with clean water after use.

GROUND APPLICATION

Apply 25-100L of spray mix per hectare
Where possible use flat fan nozzle equipment with pressures in the range 240-280 kPa.
Set the boom high enough to ensure double overlap of nozzle patterns at the top of the weed canopy.

AERIAL APPLICATION

- Use aerial spraying only in pastures or fallow situations prior to the establishing new pasture, field crops, fodder crops, or for pre-harvest application to sorghum crops. Do not apply Rygel ClearUp Glyphosate 450 Herbicide by air within intensive cropping areas, as the consequences of accidental drift damage are too extreme.
- Do not exceed 3.2L of Rygel ClearUp Glyphosate 450 Herbicide per hectare.
- Use at least 15 L/ha with Micronair and boom equipment.
- On cool days apply at least 15L of spray mix per hectare using an average size (or VMD) of 250-350 micron and a swath width of 15-17 metres.
- On hilly terrain increase the water volume to 30-80L/ha and the minimum droplet size to 300 micron VMD.
- At 25°C increase water volume to at least 30L/ha and the minimum average droplet size to 300 micron to compensate for evaporation. Do NOT spray by air at temperatures above 35°C as excessive evaporation may occur that will reduce weed control.
- Drift is likely when droplets size is 150 micron or less, wind speed is near zero or over 8 km/hr, the air is hot and dry, or there is a temperature inversion. Do not spray under these conditions
- After each day of spraying, thoroughly wash the aircraft and landing gear with clean water to remove herbicide residues.

Drift Warning

DO NOT use when breeze is blowing towards nearby desirable plants. Do NOT apply under weather conditions, or from spraying equipment that may cause spray to drift onto nearby susceptible plants, crops, cropping land or pastures.

Tank Mixtures - Compatibility

Rygel ClearUp Glyphosate 450 Herbicide may be tank-mixed with the following herbicides, insecticides and additives. Read and follow all label directions, restraints, plant-back periods, withholding periods, regional use restrictions and safety directions for the tank mix products.

Herbicides: 2,4-D ester, tri-allate, dicamba, metsulfuron, chlorsulfuron, oxyfluorfen, atrazine* flowable or granular (Do not apply the tank mix for control of Barnyard grass or Liverseed grass) simazine* flowable or granular, triasulfuron, pendimethalin.

Insecticides: dimethoate, phosmet, omethoate, chlorpyrifos and fenitrothion.

Additives: ammonium sulphate, non-ionic wetting agent as specified.

Tank Mixes – How to Choose

Use the following list of suggestions to determine the appropriate tank mixtures. Adhere to manufacturers' instructions in all cases.

- **To improve knockdown and give residual weed control**
 - Atrazine (flowable only) can be added. Use with ammonium sulphate (crystalline only) to overcome antagonism.
 - Do not spray by air. This mixture does not control barnyard grass
 - **In fallow or in crop**, Chlorsulfuron can be added
 - **Prior to sowing lupins**. Simazine (flowable only) can be added. Atrazine (flowable only) can be added. Use with ammonium sulphate (crystalline only) to overcome antagonism.
- **To improve and accelerate knockdown symptoms prior to planting wheat or barley**
 - Add 75mL of oxyfluorfen (240g/L) per hectare.
- **To improve control of certain broadleaf weeds.**
 - Add 2,4-D ester. Observe any regional restrictions.
- **To improve control of Sorrel, Subterranean Clover, Medics and White Clover.**
 - Add dicamba. Observe any regional restrictions.
- **To improve control of Annual Ryegrass, Silver grass and perennial grasses.**
 - Add 200mL of wetting agent per 100L of spray mix. Use only if recommended.
- **To compensate for adverse growing conditions such as cool or cloudy weather.**
 - Control of annual weeds with Rygel ClearUp Glyphosate 450 Herbicide alone may possibly be improved by adding 2kg of crystalline ammonium sulphate per 100L of spray mix.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

Avoid contact with foliage, green stems or fruit of crops, desirable plants and trees, as severe injury or destruction may result.

DO NOT apply under weather conditions, or from spraying equipment that may cause spray to drift onto nearby susceptible plants/crops, cropping lands or pastures.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Do not contaminate dams, rivers or streams with the product or used container. Do not apply to weeds growing in or over water. Do not spray across open bodies of water.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight.

Triple or preferably, pressure rinse empty containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point.

If not recycling, break, crush, and or puncture and bury empty containers in a local authority landfill. If no landfill is available bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

For refillable containers: Empty containers fully into application equipment. Close all valves and return to point of supply for refill or storage.

SAFETY DIRECTIONS

Product will irritate the eyes and skin. Avoid contact with eyes and skin. When preparing product for use wear elbow length PVC gloves and face shield or goggles. When using controlled droplet applicator wear protective waterproof clothing and impervious footwear.

After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each days use, wash contaminated clothing, gloves, face shield or goggles.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. (Tel: Australia 13 11 26).

MATERIAL SAFETY DATA SHEET

Additional information is listed in the Material Safety Data Sheet that can be obtained from the supplier.

CONDITIONS OF SALE

The use of Rygel ClearUp Glyphosate 450 Herbicide being beyond the control of the manufacturer, no warranty expressed or implied is given by Rygel Australia Pty Ltd regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Rygel Australia Pty Ltd accepts with no responsibility for any consequences whatsoever resulting from the use of this product.

In an Emergency Dial 000 Police or Fire Brigade

DIRECTIONS FOR USE

Restraints

To ensure herbicide absorption, DO NOT disturb weeds by cultivation, sowing or grazing for 1 day after treatment of annual weeds and 7 days for perennial weeds, except where noted.

Annual Weed Control - All States

Weeds Controlled	Rate	Critical comments
Amaranth (<i>Amaranthus spp.</i>) Barley grass (<i>Hordeum leporinum</i>) Barnyard grass (<i>Echinochloa spp.</i>) Brome grass (<i>Bromus spp.</i>) Caltrop (<i>Tribulus terrestris</i>) Canary grass (<i>Phalaris spp.</i>) Capeweed (<i>Arctotheca calendula</i>) Cereals Volunteer Chickweed (<i>Stellaria media</i>) Cobbler's Peg (<i>Bidens pilosa</i>) Deadnettle (<i>Lamium amplexicaule</i>) Double Gee (<i>Emex australis</i>) Fumitory (<i>Fumaria officinalis</i>) Ground Cherry (<i>Physalis angulata</i>) Lesser Swinecress (<i>Coronopus didymus</i>) Liverseed grass (<i>Urochloa panicoides</i>) Mintweed (<i>Salvia reflexa</i>) Paradoxa grass (<i>Phalaris paradoxa</i>) Paterson's Curse (<i>Echium plantagineum</i>) Pigweed (<i>Portulaca oleracea</i>) Potato weed (<i>Galinsoga parviflora</i>) Ryegrass Annual (<i>Lolium rigidum</i>) Saffron thistle (<i>Carthamus lanatus</i>) Silver grass (<i>Vulpia spp.</i>) Sow Thistle (<i>Sonchus oleraceus</i>) Spear Thistle (<i>Cirsium vulgare</i>) Spiny Burrgrass (<i>Cenchrus spp.</i>) Spurge (<i>Euphorbia spp.</i>) Sub Clover (<i>Trifolium subterraneum</i>) Thornapple (<i>Datura spp.</i>) Wild Mustard (<i>Sisymbrium officinale</i>) Wild Oats (<i>Avena spp.</i>) Wild Turnip (<i>Brassica tournefortii</i>) Winter grass (<i>Poa annua</i>) Variegated Thistle (<i>Silybum marianum</i>)	<p>Boom: 1.6 – 2.4 L/ha</p> <p>Handgun: 400 – 560mL per 100L of water</p> <p>Knapsack: 60 – 80mL per 15L of water</p>	<p>All weeds</p> <p>Spray actively growing plants. The taller the weed the higher the rate. As a guide, use the higher rate when weeds are higher than 15cm.</p> <p>If residual activity is required, see section titled "Compatibility". To use a residual herbicide, use the herbicides that have been recommended as being compatible in accordance with their label rates.</p> <p>Use Rygel ClearUp Glyphosate 450 Herbicide at rates indicated in the adjacent column.</p>

Perennial Weed Control

Weeds Controlled	State	Rate			Critical Comments
		Boom L/ha	Knap-sack mL/15L	Hand-gun vol/100L	
Bent grass (<i>Agrostis tenuis</i>)	Vic, Tas only	2	60	400mL	Apply to actively growing plants in late spring when they have some seed head development but before summer drought stress. Bent grass should NOT be grazed heavily at spraying. Follow-up management is required to limit seedling re-establishment. Full disturbance with tyned implement should follow 10-21 days after spraying. Application of this product should be followed by a summer crop and/or by re-seeding pasture or crop the following autumn.
Blady grass (<i>Imperata cylindrica</i>)	Qld, NSW only	7.2	160	1L	Spray at head stage while plants are in active growth stage.
Carpet grass (<i>Axonopus spp</i>)	All states	2.4	60	400mL	Spray at early head stage while in active growth stage.
Cocksfoot (<i>Dactylis glomerata</i>)	All states	2.4	80	560mL	Spray at early head stage while in active growth stage.
Couch (<i>Cynodon dactylon</i>)	All states	7.2	160	1L	Spray at early head stage (late Spring).
Cumbungi (<i>Typha spp.</i>)	All states	7.2	160	1L	Spray during Summer or Autumn period during the heading stage. Except for Tasmania, Wiper equipment can be used. Refer to information on 'Application Equipment' section of the label. DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Flatweed (Cat's Ear) (<i>Hypochaeris radicata</i>)	All states	2.4	80	560mL	Spray at early flowering to fully developed rosettes.
Glyceria (<i>Glyceria maxima</i>)	Tas only	4.8	120	800mL	Spray at fully headed stage in late Summer/Autumn. Add surfactant at recommended rate. DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Guinea grass (<i>Panicum maximum</i>)	All states	7.2	160	1L	Spray at early head stage. Refer to 'Application Equipment' section of the label: sub-heading 'Wiper Equipment' as it can also be used.
Hoary Cress (<i>Cardaria draba</i>)	Vic, NSW only	1.2	60	400mL	Spray at late rosette to flowering stage, late July to September. At this time of year ensure frosts, waterlogging or possibly drought stress are not a restraint as plants need to be in active growth stage. Refer to 'Wiper Equipment' section of this booklet, if this use technique can be applied to this situation.
Johnson grass (<i>Sorghum halepense</i>)	All states	4.8	120	800mL	Spray at early head stage when plants are actively growing or refer to 'Wiper Equipment' section of this booklet, if that application technique is to be used on Johnson grass.
Kangaroo grass (<i>Themeda australis</i>)	All states	4.8	120	800mL	Spray at early head stage when plants are actively growing.
Kikuyu grass	All	4.8	120	800mL	Spray at early head stage when plants are

Weeds Controlled	State	Rate			Critical Comments
		Boom L/ha	Knap-sack mL/15L	Hand-gun vol/100L	
<i>(Pennisetum clandestinum)</i>	states				actively growing.
Nutgrass <i>(Cyperus rotundus)</i>	All states	4.8	120	800mL	Non-cultivated situations.
Nutgrass <i>(Cyperus rotundus)</i>	All states	2.4 followed by 2.4	80 followed by 80	560mL followed by 560mL	If spraying is to be done on crop growing land, apply first spray in February, which is about the time that 20-25% of plants have reached heading stage. Then a second application is necessary about 2 months later, which gives adequate time for full emergence to occur. Because underground runners are broken up by cultivation, individual nuts may spring up and repeat treatments may be needed to obtain a total control situation. On land that is primarily grazing or urban, spray in February/April period, so long as correct growing conditions are present. Again ensure that 20-25% of plants have reached the head stage.
Paragrass <i>(Brachiara mutica)</i>	All states	7.2	160	1L	Spray at early head stage when plants are in active growth. . DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Paspalum <i>(Paspalum dilatatum)</i>	All states	4.8	120	800mL	Spray at early head stage when plants are in active growth.
Phalaris <i>(Phalaris aquatica)</i>	SA, Vic, NSW only	2.4 – 4.8	60 – 120	400mL to 1L	For medium to longer term control, use the high rates while plants are in active growth phase during Winter/Spring. The lower rates may be used in conjunction with burning (fire breaks). This will give a brown out and better burning conditions. Leave for 2-3 weeks after spraying before burning.
Phragmites Common Reed <i>(Phragmites australis)</i>	All states	7.2	160	1L	If the Wiper technique is to be used, refer to 'Wiper Equipment' section of this booklet. Spray when plants are getting close to early head stage and actively growing. Spray symptoms may not be observed for a season or more. DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Plantains <i>(Plantago spp)</i>	All states	2.4	80	560mL	Spray when plants have reached the early head stage. Bear in mind that Plantains are slow to develop toxicity symptoms.
Prairie grass <i>(Bromus unioloides)</i>	All states	4.8	120	800mL	Spray at early head stage while plants are in active growth phase.
Qld Blue grass <i>(Dichanthium sericium)</i>	All states	4.8	120	800mL	Spray at early head stage while plants are in active growth phase.
Redleg grass <i>(Bothriochloa macra)</i>	All states	4.8	120	800mL	Spray at early head stage while plants are in active growth phase.
Rhodes grass <i>(Chloris gayana)</i>	All states	4.8	120	800mL	Spray at early head stage while plants are in active growth phase.
Rope Twitch	Tas, Vic only	4.8	120	800mL	Leave ground in a dormant state for 8 months prior to spraying in late Summer/Autumn, so

Weeds Controlled	State	Rate			Critical Comments
		Boom L/ha	Knap-sack mL/15L	Hand-gun vol/100L	
<i>(Agropyron repens)</i>					that the foliage to uptake the product is fully available (at least 20cm in height). Ensure drought stress conditions do not exist at time of spraying.
Rushes <i>(Juncus spp)</i>	All states	See Critical Comments			Use Wiper technique ensuring a high percentage of green matter is present. Refer to section of this booklet entitled 'Wiper Equipment' for directions for use. . DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Sedge – Tall <i>(Cyperus gracilis)</i>	NSW, Tas, Vic only	See Critical Comments			Use Wiper technique ensuring a high percentage of green matter is present. Refer to section of this booklet entitled 'Wiper Equipment' for directions for use. . DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Silverleaf Nightshade <i>(Solanum elaeagnifolium)</i>	NSW only	-	240	1.6L	Spray actively growing plants when good soil moisture is present. Spray when plants are in the late flowering to berry stage. Follow up sprays will be required to maximise control.
Sorrel <i>(Rumex acetosella)</i>	All states	4.8	120	800mL	Spray at bud stage so long as plants are in an active growth phase. See also 'Conservation Tillage' section of this booklet.
Soursob <i>(Oxalis pes-caprae)</i>	NSW, Vic, SA, WA, Tas only	1.2	60	400mL	Best results can be obtained by late Winter/early Spring sprays. Ensure foliage is in a healthy, actively growing stage at time of spraying. See also 'Conservation Tillage' section of this booklet.
St John's Wort <i>(Hypericum perforatum)</i>	All states	2.4	60	400mL	Spray at the flowering to post-flowering stage in Summer/Autumn period. As spraying is only part of the total management concept of pasture improvement, follow-up sprays may be needed.
Thistle Artichoke <i>(Cynara cardunculus)</i>	Vic, SA only	2.4	60	400mL	Spray when plants have reached rosette/early heading stage. Plants should be free of soil deposits, particularly when spraying along roadsides.
Thistle Californian <i>(Cirsium arvense)</i>	Vic, Tas only	4.8	120	800mL	Spray at the flowering stage, As spraying is only part of the total management concept of pasture improvement, follow-up sprays may be needed.
Water Couch <i>(Paspalum distichum)</i>	All states	2.4	80	560mL	Spray actively growing plants in February/March period. DO NOT apply to weeds growing in or over water. DO NOT spray across bodies of water and DO NOT allow spray to enter the water. DO NOT allow water to return to dry channels or drains within 4 days of application.
Yorkshire Fog <i>(Holcus lanatus)</i>	All states	2.4	80	560mL	Spray when plants have reached the early heading stage and are in an active growth phase.

Crop / Situation	State	Weeds Controlled	Rate Vol/ha	Critical Comments
<p>TREE AND VINE CROPS</p> <p>Avocados, Banana, Blueberries, Citrus fruits, Custard Apples, Duboisia, Figs – dessert, Guava, Kiwifruit, Litchi, Mango, Monstera – fruit, Nuts (including Almond, Pecan, Macadamia, Pistachio and Walnut), Olives, Pawpaw, Persimmons, Pome fruit, Raspberries, Stone fruit, Tea, Vineyards</p>	All states	<p>Amaranth, Barley Grass, Brome grass, Barnyard grass, Caltrop, Canary grass, Capeweed, Chickweed, Deadnettle, Doublegee, Liverseed grass, Mintweed, Paterson’s Curse, Pigweed, Ryegrass, Silver grass, Spear Thistle, Thornapple, Wild Mustard, Wild Oats, Wild Turnip, Winter grass, Variegated Thistle</p>	<p>400 – 800mL pre-tillering</p> <p>800mL – 1.0L post tillering</p>	<p>Apply as a directed or shielded spray or using wiper equipment. DO NOT apply as a spray near trees or vines less than 3 years old unless they are effectively shielded from spray and spray drift. DO NOT allow wiper surface to contact any part of the tree, vine or palm.</p> <p>Citrus fruits, Nuts, Olives, Pome fruit and Vineyards – Do NOT allow spray drift to contact green bark or stems, canes, laterals, suckers, fresh wounds, foliage or fruit.</p> <p>Tea – apply a maximum of 2.4L/ha by shielded boom or directed off-centre nozzle or 0.4L/100L by directed hand-gun or knapsack to avoid application to the crop.</p> <p>All other crops – DO NOT allow spray or spray drift to contact any part of the plant including trunk.</p> <p>CAUTION – Where split bark on Kiwifruit and green stems on Pawpaw occur, extreme care is required. Annual weeds may be sprayed anytime they are actively growing. Use the lower rate on weeds up to 15cm tall.</p>

Crop & Situation	State	Weeds Controlled	Rate Vol/ha	Critical Comments
SOUTHERN AUSTRALIA Prior to sowing a crop or pasture with full soil disturbance by cultivation or sowing with a tyned implement	WA, SA, Vic, NSW only	Barley Grass, Brome grass, Volunteer cereals, Wild oats	400 – 800mL pre tillering 800mL – 1.0L post tillering	Treat actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing has occurred allow regrowth to 6-8cm before spraying and use the higher rate. RATE SELECTION: Increase to higher rates late in the season or when treating under cold/overcast conditions. FULL DISTURBANCE with cultivation or sowing with a tyned implement may start 1 day after treatment (7 days if Dock, Phalaris, Skeleton weed, Soursob or Sorrel are present) and should occur within 21 days after treatment. Where cultivation or sowing does not occur within 21 days, new weed growth may require further treatment. When treating light infestations of seedling annual grasses (pre-tillering) and annual broadleaved weeds (less than 8cm dia/height) cultivation or sowing may start 6 hours after treatment and should occur within 21 days. CROP ESTABLISHMENT: Sowing should not proceed until conditions allow the formation of a satisfactory seedbed. See Crop Establishment for directions. ANNUAL RYEGRASS, SILVERGRASS AND PERENNIAL GRASSES: Addition of a Rygel Cropwett 1000 non-ionic wetting agent, 200mL/100L of spray solution may improve control. When treating dense infestations of Silvergrass, use of low volume nozzles (eg. SS 11001, Hardi No 10) and a spray volume of 70L/ha or more is recommended to improve plant spray coverage. TANK MIXTURES: For improved control of clover add dicamba. Read and follow all label directions, restraints, plant back periods, withholding periods, regional use restrictions and safety directions for the tank mix products. See Tank Mixtures for directions PERENNIAL WEEDS: For Perennial phalaris, Soursob, Skeleton weed and Sorrel, this product will provide knockdown, seasonal suppression and reduction in treated plant numbers.
		Annual phalaris (Canary grass), Annual ryegrass, Silvergrass, Winter grass	800 – 1.0L pre tillering 1.0L – 1.2L post tillering	
		Calomba daisy, Capeweed, Doublegee (Spiny Emex)	400 – 800mL less than 8cm diameter 800mL – 1.2L greater than 12cm diameter	
		Amsinckia, Fumitory, Paterson's Curse, Saffron Thistle, Scotch Thistle, Spear thistle, Variegated thistle, Volunteer lupins, Wild turnip	800 – 1.0L less than 12cm diameter 1.0L – 1.2L greater than 12cm diameter	
		Dock (Seedling)	800mL – 1.2L	
	Perennial phalaris, Skeleton weed fully emerged rosettes (NSW only), Sorrel, Soursob, Sub clover	1.2L		
Tas only	All the above weeds	1.2 – 2.4L	TASMANIA: Use 1.2L/ha on annual weeds. Increase to 2.4L/ha where perennial weeds are being treated. To control White clover and improve control of Sorrel and Dock, add 1L/ha of dicamba (200g/L). Observe dicamba label directions and plant back periods.	

Crop & Situation	State	Weeds Controlled	Rate Vol/ha	Critical Comments
SOUTHERN AUSTRALIA Prior to establishing a crop or pasture with an implement that gives minimal or no soil disturbance.	NSW SA, VIC, WA, only	Barley grass, Volunteer cereals, Wild oats	800mL – 1.2L	Treat actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing of mature plants has occurred allow regrowth to 6-8cm before spraying and use the higher rate. RATE SELECTION: Use the lower rate on young weeds, increase to the higher rate where grasses reach full tillering or where broadleaf weeds reach stem elongation/budding. Increase to higher rates in spring or when treating under cold/overcast conditions. AERIAL APPLICATION: Use the higher rates. See also Aerial Application. ANNUAL RYEGRASS, SILVERGRASS AND PERENNIAL GRASSES: Add Rygel Cropwett 1000, non-ionic wetting agent, 200mL/100L of spray solution. When treating dense infestations of Silvergrass, use of low volume nozzles (eg. SS 11001, Hardi No 10) and a spray volume of 70L/ha or more is recommended to improve plant spray coverage. TANK MIXTURES: For improved control of Dock, Sorrel and Sub clover add dicamba. Read and follow all label directions, restraints, plant back periods, withholding periods, regional use restrictions and safety directions for the tank mix products. See Tank Mixtures for directions. Addition of Ammonium Sulphate, 2kg/100L, may improve control when treating under adverse environmental conditions. PASTURE OR CROP ESTABLISHMENT: Do NOT sow into excessive trash. Trash may be removed by grazing after treatment. Grazing may commence one day after treatment of annual weeds (small) and 7 days for perennial weeds. Delay grazing for 3 days where annual weeds are large. Sowing may proceed when excessive trash is removed, but not sooner than one day after treatment of annual weeds and 7 days for perennial weeds. See also Crop Establishment AERIAL (OR SURFACE) SEEDING: Delay seeding until trash is completely removed by grazing and/or plant decay. When establishing pasture, ensure application of fertilizer and insecticides and follow-up management is undertaken as required.
		Brome grass, Canary grass, Capeweed, Variegated thistle, Winter grass	1.0 – 1.6L	
		Annual ryegrass, Paterson's curse, Saffron thistle, Scotch thistle, Silvergrass, Spear thistle, Wild mustard, Wild radish, Wild turnip	1.2 – 1.6L	
		Erodium, Perennial phalaris, Plantain, Sorrel, Sub clover, Yorkshire fog	1.5 – 2.0L	
	Dock, Flatweed	2.0L		
	Tas only	All the above weeds	1.2 – 2.4L	TASMANIA: Use 1.2L/ha on annual weeds. Increase to 2.4L/ha where perennial weeds are being treated. To control White clover and improve control of Sorrel and Dock, add 1L/ha of dicamba (200g/L). Observe dicamba label directions and plant back periods.

Crop & Situation	State	Weeds Controlled	Rate Vol/ha	Critical Comments
SOUTHERN AUSTRALIA To commence a fallow	NSW, VIC, SA, WA only	Barley grass, volunteer cereals, Wild oats	800mL – 1.2L	<p>Treat actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing has occurred allow regrowth to 6-8cm before spraying and use the higher rate.</p> <p>RATE SELECTION: Use the lower rate on young weeds, or where cultivation is to follow within 21 days, increasing to the higher rate where grasses reach full tillering or where broadleaf weeds reach stem elongation/budding.</p> <p>ANNUAL RYEGRASS, SILVERGRASS AND PERENNIAL GRASSES: Add Rygel Cropwett 1000, non-ionic wetting agent, 200mL/100L of spray solution. When treating dense infestations of Silvergrass, use of low volume nozzles (eg. SS 11001, Hardi No 10) and a spray volume of 70L/ha or more is recommended to improve plant spray coverage.</p> <p>HOARY CRESS: Treat from late rosette to early flowering</p> <p>SOURSOB: Treat at tuber exhaustion</p> <p>COUCH: Use the higher rate on dense infestations. Apply sequential treatments during summer and autumn, with autumn being most effective. Repeat applications will be required for full control. For improved control, use in conjunction with cultivation.</p> <p>TANK MIXTURES: Read and follow all label directions, restraints, plant back periods, withholding periods, regional use restrictions and safety directions for the tank mix products. See Tank Mixtures for directions.</p>
		Annual ryegrass, Brome grass, Capeweed, Paterson's curse (rosette), Saffron thistle, Scotch thistle, Silvergrass, Spear thistle, Wild mustard, Wild radish, Wild turnip	1.2 - 1.6L	
		Hoary cress, Soursob	1.2L	
	Couch	1.2 – 2.4L		
	TAS only	All the above weeds	1.2 – 2.4L	TASMANIA: Use 1.2L/ha on annual weeds. Increase to 2.4L/ha where perennial weeds are being treated. To control White clover and improve control of Sorrel and Dock, add 1L/ha of dicamba (200g/L). Observe dicamba label directions and plant back periods
PASTURE TOPPING For annual grass, Capeweed and Calomba daisy seed-set reduction	WA, SA, Vic, Tas, NSW, ACT only	Barley grass, Brome grass, Capeweed, Silvergrass	240 – 360mL	<p>Remove stock prior to treatment to allow even regrowth. Apply to Capeweed and Annual ryegrass at FLOWERING. For other grasses apply from HEAD to MILKY DOUGH stage. Use the higher rate for dense infestations or where Annual ryegrass is present. Apply before signs of plants "haying off". Reduction in pasture legume population may occur as a result. DO NOT apply to clover or medic crops intended for seed or hay.</p>
		Annual ryegrass, Calomba daisy	360mL	
SEED-HEAD SUPPRESSION OF PERENNIAL GRASSES	Vic, Tas, NSW, WA, SA, ACT, only	Bent grass	300 – 500mL	<p>TIMING: Treat from late October to late November. Apply before seedheads have emerged. Use the higher rate where growth is excessive and renovation is intended the following autumn.</p> <p>FOLLOW-UP MANAGEMENT: Graze hard after spraying.</p>
BENT GRASS INFESTED PASTURE For	Vic, Tas only	Most annual weeds and Bent grass (<i>Agrostis capillaries</i>)	2.0L	TIMING: Apply to actively growing plants in late spring when they have some seed-head development, but before summer moisture stress. Remove stock to ensure there is full leaf growth.

Crop & Situation	State	Weeds Controlled	Rate Vol/ha	Critical Comments
control/suppression prior to establishing crops or improved pasture species				FOLLOW-UP MANAGEMENT: Full disturbance with a tined implement should follow 10-21 days after spraying. Then follow with a summer crop, and/or reseeded pasture or crop the following autumn.
PASTURE MANIPULATION For suppression or control of pasture species prior to drilling, improved pasture, forage species, soybeans or Leucaena. BAND SPRAYING: May also be applied as a band or strip spray	NSW, VIC, WA only	Carpet grass, Kikuyu, Paspalum	1.1 – 4.8 L	RATE SELECTION: For suppression apply the low rate. Where complete control is required apply up to the high rate. BAND SPRAYING: Band spraying may be done immediately after the sowing operation. Mount the nozzles behind the coulter/tyne/press wheel assembly of the band seeder. Adjust to spray 0.5 to 1.0m strips. Ensure minimal disturbance of the pasture. Excessive dust created in the seeding. Operation may reduce herbicide activity. Pasture seed must be drilled at the appropriate depth and covered by soil. LEUCAENA (Qld ONLY): Apply 2L/ha through a single taper fan nozzle LF1-80 mounted at the rear of the single row planter providing a 1m swath. Planting rows to be 4m apart.
	QLD only	Carpet grass, Paspalum	1.1 – 4.8 L	
		Kikuyu	500mL – 4.8 L	
		Barbed wire grass, Black Speargrass, Love grasses, Red Natal grass, Wire grasses	2.0L	
POA TUSSOCK INFESTED PASTURE For reduction of ground cover allowing pasture renovation	NSW, Tas, VIC, QLD, ACT only	Most annual weeds and suppression of Poa tussock (<i>Poa labillardieri</i>)	2.4 – 3.2L	TIMING: Graze heavily, then remove stock at least 14 days before spraying to allow fresh regrowth. Apply to actively growing plants after the autumn break but before heavy frosts (March – May) APPLICATION: Increasing to the higher rate may give more effective reductions. If aerial spraying see, Aerial Equipment . FOLLOW-UP MANAGEMENT: Sowing may start from 14 days after spraying. It is essential that correct follow-up pasture establishment and management occurs after treatment. Spot treatment will limit re-infestations.

Crop & Situation	State	Weeds Controlled	Rate Vol/ha	Critical Comments	
NORTHERN AUSTRALIA For weed control in fallows or prior to sowing winter or summer crops	Qld, NSW only	Annual phalaris (Canary grass), Barley grass, volunteer cereals, Wild oats	400 - 800mL	Treat actively growing weeds not under stress from low moisture, frost, cold, disease or waterlogging. If heavy grazing has occurred allow regrowth to 6-8cm. NOTE that under summer (hot) conditions, dense infestations of Barnyard grass and Liverseed grass may require follow-up treatment for complete control. In winter (cold) conditions, symptoms on Deadnettle may be slow to develop. RATE SELECTION: Use the lower rate on young weeds, increase to the higher rate where grasses reach full tillering or where broadleaf weeds reach stem elongation/budding. At more advanced stages of growth certain broadleaf weeds require a higher rate range or the addition of 2,4-D Ester. CROP ESTABLISHMENT: Sowing should not proceed until conditions allow for a formation of a satisfactory seedbed. See Crop Establishment for directions. TANK MIXTURES: Read and follow all label directions, restraints, plant back periods, withholding periods, regional use restrictions and safety directions for the tank mix products. DO NOT tank mix with atrazine when spraying Barnyard grass or Liverseed grass. AERIAL APPLICATION: For instructions on Aerial application under hot conditions, see Aerial Application. DO NOT apply by aircraft when temperature is above 30°C.	
		Barnyard grass, Button grass, Columbus grass (seedling), Liverseed grass, Native Millet, Stinkgrass (Lovegrass), Volunteer Sorghum	800mL – 1.6L		
		Australian bluebell (Qld only), Cudweed, Fumitory, Mexican poppy, New Zealand spinach, Saffron thistle, Spear thistle, Spurge, Stinking goosefoot	800mL - 1.2L		
		Black (giant) pigweed, Boggabri weed, Caltrop (Yellowvine), Indian hedge mustard, Mintweed, Summer grass	400 – 800mL up to 5 true leaves or 3cm diameter/ height 800mL – 1.2L greater than 3cm diameter/height		
		African turnip weed, Deadnettle, Sweet summer grass, Variegated thistle, Volunteer Sunflower	600 – 800mL up to 5 true leaves or 3cm diameter/ height 800mL – 1.6L greater than 3cm diameter/ height		
		Annual ground cherry (Gooseberry), Bladder Ketmia, Camel melon, False castor oil plant/Thornapple, Noogoora burr, Turnip weed, Wild lettuce, Wild turnip, Wireweed	800mL – 1.2L prior to stem elongation/ budding. After that use 400mL – 1.2L plus 500 – 700mL 2,4-D ester (800g/L) OR 1.2 – 1.6L of this product alone		
		Pigweed	800mL - 1.6L up to 20cm diameter		Use a higher rate on larger weeds. Control of Pigweed over a wide range of growth stages can be obtained with the addition of metsulfuron methyl. Observe recropping intervals.

Crop & Situation	State	Weeds Controlled	Rate Vol/ha	Critical Comments
		Sowthistle/ Milkthistle	600 – 800mL rosette up to 3cm diameter 800mL – 1.6L greater than 3cm diameter	Previously grazed plants may be difficult to control without allowing full recovery
		Couch	1.2 – 2.4L	Use the higher rate for dense infestations. Apply sequential treatments during summer and autumn, with autumn being most effective. Repeat applications may be required for full control. For improved control use in conjunction with cultivation
		Johnson grass	1.5 – 2.4L	Use the higher rates on plants approaching seedhead stage. Apply to plants with a minimum of 30cm new growth. Sequential treatments will be required for long-term control.
		Nutgrass	2.4L followed by 2.4L	Make first application to actively growing plants when at least 20% have reached the head stage (normally about February). After allowing maximum re-emergence to occur (normally in 6-8 weeks), it is essential to make a second application. NOTE: Follow-up treatments should be made as part of a Nutgrass control program.
Fallow/ Preplant Knockdown weed control prior to sowing the following winter cereals: - Wheat Fallow/ Preplant Knockdown weed control prior to sowing the following winter cereals: - Barley, Cereal Rye or Triticale	All states	Annual Ground Cherry (Gooseberry), Camel Melon, Bladder Ketmia, Sowthistle (Milk Thistle) Turnip Weed, Wild Lettuce, Wild Turnip plus those controlled by metsulfuron- methyl	600-800mL rosettes up to 3cm diameter (sowthistle only): plus 5 or 7 g/ha Rygel Metsulfuron. After that use 400mL-1.2L plus 500 -700mL 2,4- D ester (800g/L) OR 1.2L of this product alone plus 5 or 7 g/ha Rygel Metsulfuron.	WHEAT: DO NOT apply less than 10 days prior to sowing as crop injury may occur, particularly under dry, cold conditions. Apply when weeds are actively growing and in accordance with the recommendations provided on the respective product labels. Use the appropriate rate of each product for the target weed spectrum. BARLEY, CEREAL RYE or TRITICALE: DO NOT apply less than 6 weeks prior to sowing as crop injury may occur, particularly under dry, cold conditions. Apply when weeds are actively growing and in accordance with the recommendations provided on the respective product labels. Use the appropriate rate of each product for the target weed spectrum.
SORGHUM CONTROL Pre-harvest	Qld, NSW, only	Sorghum, Grain Sorghum DO NOT apply to varieties intended for seed production or varieties prone to lodging	1.2 or 1.6L	DO NOT apply if crop is under stress from low moisture, frost, cold or waterlogging. RATE SELECTION: Use the lower rate for control of crop and late tillers and suppression of ratoon regrowth. Use the higher rate for improved suppression of ratoon regrowth. TIMING: Apply when grain moisture is less than 25%. Application can be made when moderate browning has occurred. CAUTION: Treatment may increase potential for CROP LODGING, particularly if prior moisture stress has occurred. Harvest as soon as sufficient dry down has occurred to avoid possible lodging. CAUTION: Sorghum may be naturally toxic to stock.
SORGHUM CONTROL	Qld, NSW,	Sorghum stubble, Grain sorghum	800mL – 1.2L for fresh	APPLY UNDER GOOD GROWING CONDITIONS ONLY. DO NOT apply if plants

Crop & Situation	State	Weeds Controlled	Rate Vol/ha	Critical Comments
Post-harvest	only		regrowth from slashed stubble. 1.2 – 1.6L for standing stubble if sufficiently green and for fresh spring regrowth	are under stress from low moisture, frost, cold or waterlogging. SLASHED STUBBLE AND SPRING REGROWTH: Apply when fresh regrowth is at least 20cm high. STANDING STUBBLE: Apply only if sufficient green leaf is present. If grazing has occurred allow regrowth to 20cm high before treatment. RATE SELECTION: Use the lower rate for knockdown and regrowth suppression where cultivation is to follow. Increase to the higher rate for improved regrowth control. NOTE: Variable results occur where the crop has been subject to stress or the growing conditions are marginal. Some varieties particularly Goldrush2, Ruby, Trump, Prize and Nugget 2, give variable results if they have not grown under ideal conditions. CAUTION: Sorghum may be naturally toxic to stock.
SUGAR CANE Ratoon spray out	Qld, NSW only	Sugar Cane ratoon regrowth	3.2 - 7.2L	APPLY UNDER GOOD GROWING CONDITIONS ONLY to actively growing ratoons 60 – 120cm tall. DO NOT apply if plants are under stress from low moisture, frost, cold or waterlogging. RATE SELECTION: Use the lower rate for suppression or where cultivation is to follow. Use the higher rate for control.
RICE Direct drilling	NSW only	Annual phalaris (Canary grass), Annual ryegrass, Barley grass, Burr medic, Sub-clover, Winter grass	800mL – 1.0L	This product is less effective on drought stressed plants. In drought conditions a pre-watering prior to spraying is recommended. In grazed situations, if heavy grazing has occurred allow regrowth to 6-8cm before spraying. Annual Ryegrass: Add non-ionic wetting agent at 200mL/100L spray solution and when dominant use the higher rate. SOWING: Direct drilling may take place 1 – 14 days after spraying. This product does not provide residual weed control. Permanent water and approved selective herbicides should be used to provide continual control of weeds.
Winter Pasture Prior to Sowing with Rice	NSW, ACT only	Clovers, Paterson's Curse, Curled Dock, Narrow Leaf Dock	800mL-1.6L plus 5g/ha Rygel Metsulfuron	Apply as a tank mix prior to sowing rice by drill or air. Apply to actively growing weeds.
COTTON PRE-HARVEST Do not use on crops intended for seed production	Qld, NSW only	Bathurst burr, Noogoora burr, Winter annual weeds including Sowthistle/ Milkthistle	1.0 – 2.0L	Use the lower rate on light infestations of small weeds, where the crop canopy allows adequate spray coverage of the weeds. Increase to the higher rate when the crop canopy may limit spray coverage, when treating dense infestations, or when treating larger weeds. Apply alone or in tank mixtures with Dropp or Harvade. Apply when at least 60% of bolls are open and immature bolls cannot be easily cut with a sharp knife. Where a leafy canopy limits spray coverage, reduced weed control can be expected. For better results under these conditions, delay application until canopy re-opens following initial conditioning treatment.

Crop & Situation	State	Weeds Controlled	Rate Vol/ha	Critical Comments
		Nutgrass (seasonal suppression only)	2.0L	Where control of Nutgrass or Noogoora burr is required, treatment should be applied prior to the onset of frosts. When tank mixed with defoliant, a slightly higher proportion of cotton leaf may be retained, particularly where the higher rate is used. Read and follow all label directions for tank mix products.
COTTON Shielded Sprayers	Qld, NSW only	Refer to Weeds Controlled section Northern Australia: In fallows or prior to sowing a crop.		Apply this product to weeds growing between crop rows using a shielded sprayer. Do not apply in crops less than 20cm high. Do not allow spray or spray drift to contact any part of the cotton plants as severe injury or destruction may result.
GENERAL USES Dry drains and channels, dry margins of dams, lakes and streams	All states	For Weeds Controlled refer to list of species under ANNUAL: WEED CONTROL and PERENNIAL WEED CONTROL in this booklet	For Application rates refer to rates shown under ANNUAL: WEED CONTROL and PERENNIAL WEED CONTROL in this booklet	DO NOT apply to weeds growing in or over water. DO NOT spray across open bodies of water and DO NOT allow spray to enter water. DO NOT allow water to return to dry channels and drains within 4 days of application.
Forestry				Use Situations include; <ul style="list-style-type: none"> • Prior to nursery establishment • Site preparation prior to planting • In established tree areas using shielded or directed sprays or selective wiper equipment • DO NOT allow spray or spray drift to come into contact with foliage or green bark of desirable trees as severe damage may occur • DO NOT allow wiper surface to come into contact with any part of the tree.
Rights-of-way, domestic and public service areas, commercial and industrial areas and around buildings.				This product does not provide residual control.

**NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER CONTRARY TO THIS LABEL UNLESS AUTHORIZED UNDER APPROPRIATE LEGISLATION.
WITHOLDING PERIOD: NOT REQUIRED WHEN USED AS DIRECTED**