

CAUTION
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Rygel

Clopyralid 750 SG Herbicide

Active Constituent: 750 g/kg CLOPYRALID present as the potassium salt

For the control of a wide range of broadleaf weeds in wheat, barley, oats, triticale, canola, pastures and fallow land.

GROUP	I	HERBICIDE
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APVMA Approval No: 63916/0409

Pack Size: 2kg

GENERAL INSTRUCTIONS

MIXING:

Measure the required quantity of granules by weighing on scales.

Rygel Clopyralid 750 SG Herbicide granules are highly soluble in water and will dissolve rapidly once added to fast moving water. Maintain agitation **at all times**, including during mixing as well as spraying.

Spray rigs with premix hoppers

For spray rigs that have a drop down chemical induction hopper, three-quarter fill this hopper with water and have the rinsing sprinkler operating. Add the Rygel Clopyralid 750 SG Herbicide and when dissolved, transfer this batch into the quarter filled main tank. Continue to rinse the hopper until the entire product has washed through.

Spray rigs with limited bypass agitation

For spray rigs that have limited bypass agitation, then as for most granulated formulations, pre-dissolve the Rygel Clopyralid 750 SG in a bucket before adding them to the main tank. Add Rygel Clopyralid 750 SG while stirring until the granules have dissolved.

Tank-mixes: The following order should be followed:

1. Quarter fill the spray tank maintaining agitation
2. Add Rygel Clopyralid 750 SG Herbicide granules, using the mixing procedure above.
3. Add Haloxypop 520 if it is to be used in the tank-mix.
4. Add water to half fill the spray tank.
5. Add wettable powders, water dispersible granules or suspension concentrates.
6. Add other emulsifiable concentrates including other selective grass herbicides.
7. If Uptake* Spraying Oil is to be used add this when spray tank is half full.
8. If other adjuvants or a wetting agent is to be used than add these according to their label.
9. Add water to bring to the final spray volume. Only mix sufficient spray solution for immediate use and avoid storing.

COMPATIBILITY

Conventional Canola: Rygel Clopyralid 750 SG Herbicide + Haloxypop 520 + Uptake Spraying Oil are compatible and selective.

Triazine Tolerant Canola: Atrazine + Rygel Clopyralid 750 SG Herbicide + Haloxypop 520 + Uptake Spraying Oil are compatible and selective.

Clearfield Canola: OnDuty + Rygel Clopyralid 750 SG Herbicide are compatible and selective.

Rygel Clopyralid 750 SG Herbicide is compatible with the following:

BROADLEAF HERBICIDES: Fluroxypyr, metsulfuron methyl, bromoxynil, bromoxynil/MCPA LVE, chlorsulfuron, diuron, glyphosate, MCPA amine, MCPA LVE, paraquat, Paraquat/Diquat, terbutryn, 2,4-D amine, Broadstrike, Eclipse, Eclipse/MCPA LVE, metsulfuron methyl/MCPA LVE, triclopyr 600, atrazine, simazine, Tordon 242, Tigrex.

GRASS HERBICIDES ON BROADLEAF CROPS: Haloxypop 520 Herbicide, Clethodim 240, OnDuty, atrazine, simazine.

GRASS HERBICIDES IN CEREAL CROPS: Diclofop-methyl, Tralkoxydim WG, Wildcat, Topik 240EC, Tristar.

ADJUVANTS: Uptake Spraying Oil, Cropwett 1000.

APPLICATION

BOOM SPRAYING CROP AND PASTURES

Apply Rygel Clopyralid 750 SG Herbicide in sufficient water to obtain good coverage. It should be applied by an accurately calibrated ground rig or aircraft, delivering 200 to 300 micron droplets and not less than 50 L/ha water volume for boom sprayers or not less than 20L/ha for aerial applications.

Hardhead thistle – use a spray volume of 200 to 250 L/ha of water.

HIGH VOLUME HAND GUN

Apply the recommended mix to give full coverage of leaves and stems through a No. 6-8 tip at 700 to 1500 kPa. Spray volume for effective coverage of dense pasture weeds should be 10 to 15 litres of spray per 100m² (10m x 10m) of infestation. For

larger areas an equivalent would be 1000 to 1500 litres per infested hectare.

STEM INJECTION

To make a stem injection pocket at waist height, use a ¾ length axe with a blade width of 5 to 7 cm. The axe cut must be through the bark and deep enough to place all the chemicals in contact with the sap wood.

The chemical must be applied immediately after the injection pocket is made. Apply chemical with a Phillips 5mL vaccinator fitted with a tree injector kit, which can be accurately calibrated. Set vaccinator to deliver 1mL of the diluted mix.

When treating regrowth less than the width of the axe, ensure chemical does not run out the sides of the cut, as reduced control will result. This can be overcome by using the corner of the axe to make the pocket in the stem.

CLEANING SPRAY EQUIPMENT

Rinse water should be discharged onto a designated disposal area or, if this is unavailable, onto unused land away from desirable plants and watercourses.

PARTIAL CLEANING (before spraying crops that are selective to Rygel Clopyralid 750 SG Herbicide). After using Rygel Clopyralid 750 SG Herbicide, empty the tank completely and drain the whole system. Thoroughly wash inside the tank using a pressure hose. Quarter fill the tank with clean water and circulate through the pump, line, hoses and nozzles. Drain and repeat procedure twice.

COMPLETE CLEANING (before spraying crops that are susceptible to Rygel Clopyralid 750 SG Herbicide). After using Rygel Clopyralid 750 SG Herbicide, empty the tank completely and drain the whole system. Thoroughly wash inside the tank using a pressure hose. Quarter fill the tank with clean water and circulate as above, then drain. Quarter fill the tank again and add an alkali detergent (e.g. Surf®, Omo®, Drive®) at 500mL/100L water or 500g/100L water and circulate throughout the system for at least fifteen minutes.

Drain, remove filters and nozzles and clean separately. Rinse inside the tank thoroughly using a pressure hose and flush system with clean water. Chlorine based cleansers are NOT recommended.

Rinse water should be discharged onto a designated disposal area, or if this is unavailable, onto unused land away from desirable plants and water sources.

RESISTANT WEEDS WARNING

GROUP	I	HERBICIDE
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Rygel Clopyralid 750 SG Herbicide is a member of the pyridines group of herbicides. The product has the disrupters of plant cell growth mode of action. For weed resistance management, the product is a Group I herbicide. Some naturally occurring weed biotypes resistant to the product and other Group I herbicides may exist through normal genetic variability in any weed population. The resistant individuals can eventually dominate the weed population if these herbicides are used repeatedly.

These resistant weeds will not be controlled by this product or other Group I 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 the product to control resistant weeds.

Strategies to minimize the risk of herbicide resistance are available. Contact your farm chemical supplier, consultant, or local Department of Agriculture.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

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

Susceptible crops and plants include, but are not limited to chickpeas, cotton, faba beans, field peas, fruit trees, lentils, lupins, lucerne, medics, ornamentals, potatoes, safflower, sub-clover, tomatoes, vegetables, grape and kiwifruit vines, wattles and white clover.

Do not apply Rygel Clopyralid 750 SG Herbicide to crops or pastures, which are intended to be cut for the production of compost or mulches to be used with susceptible crops or plants. The use of straw, hay or other plant materials treated with Rygel Clopyralid 750 SG Herbicide for composting or mulching susceptible crop may damage these crops.

Note: Field peas and faba beans are particularly susceptible and should not be sown the season following an application of 200g/ha.

Where rates in excess of 200g/ha have been used, susceptible crops, including field peas and faba beans should not be sown for at least two years.

Plantback periods NSW, Vic, SA, WA (winter rainfall areas)

Rate Rygel Clopyralid 750 SG Herbicide g/ha	Up to 120	200	>200
Chickpea, field pea, faba bean, lupins, medics & clover	9 months	12 months	24 months
Wheat, barley, oats	1 week	-	-

Plantback period NNSW, Qld (summer rainfall areas)

Rate Rygel Clopyralid 750 SG g/ha	30	60	120
Wheat, barley, oats	1 week	1 week	-
Chickpea	-	12 weeks	-
Lucerne	36 weeks	36 weeks	36 weeks
Cotton	2 weeks	4 weeks	8 weeks
Sorghum, maize	1 week	2 weeks	2 weeks

Sunflower	5 weeks	8 weeks	24 weeks
Soybean	1 week	1 week	24 weeks

Where dry conditions have occurred with less than average rainfall from the time of application to planting of the subsequent crop then:

Field bioassay – plant a small area of the susceptible crop four to six weeks before desired planting date and take note of any symptoms of injury. If any herbicide symptoms observed, do not plant that susceptible crop this season.

Pot bioassay – where not practical to do field bioassay, plant a small number of seeds of the susceptible crop into pots containing soil from the treated field. Do this four to six weeks before desired planting date. If any herbicide symptoms observed, do not plant that susceptible crop this season.

Stubble – ensure that harvesters effectively spread crop straw and do not leave a heavy “header trail” after harvest. Burn (if legal in the area) or if not possible bale and remove stubble.

For plantback periods of >4 weeks, 100mm rain must have fallen between application of Rygel Clopyralid 750 SG Herbicide and planting susceptible crop.

PROTECTION OF LIVESTOCK

DO NOT graze or cut treated crops for stock food except as specified under WITHHOLDING PERIODS.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Rygel Clopyralid 750 SG Herbicide has low toxicity to fish, birds, honey bees, livestock, earthworm and aquatic organisms.

DO NOT contaminate streams, rivers or waterways with chemical or used containers.

STORAGE AND DISPOSAL

Store in the closed original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Store in area sheltered from rainfall. **DO NOT** store near feed stuffs, fertilisers or seed.

Triple or preferable pressure rinse 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 or puncture and bury empty packaging in a local authority landfill. If not landfill is available, bury the packaging below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty packaging and product should not be burnt.

SMALL SPILL MANAGEMENT

Sweep up material and contain in a refuse vessel for disposal in the same manner as for containers (see Storage and Disposal section).

SAFETY DIRECTIONS

Will irritate the eyes. Avoid contact with eyes. Wash hands after use. When the opening the container and preparing the product for use, and when using the prepared spray, wear elbow-length PVC gloves and face shield or goggles. After each day's use, wash gloves and face shield or goggles.

FIRST AID

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

MATERIAL SAFETY DATA SHEET

Additional information is listed in the Material Safety Data Sheet, which is available from the supplier.

CONDITIONS OF SALE

The use of Rygel Clopyralid 750 SG 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

IT IS ESSENTIAL to select a rate appropriate for the weed size. Best results will be obtained when weeds are actively growing at treatment.

Restraints:

DO NOT apply to weeds that may be stressed (inactive growth) due to prolonged periods of extreme heat or cold, moisture stress (water logging or drought) or previous herbicide treatment as reduced levels of control may result.

DO NOT sow susceptible crops in SNSW, Vic, SA or WA (winter dominant rainfall areas - see Protection Of Crops section) for nine months following any application up to 120g/ha, twelve months following an application of 120g/ha to 200g/ha and two years following an application of more than 200g/ha.

DO NOT apply this product by air or mister within a Chemical Control Area in Victoria without a valid permit.

DO NOT spray if rain is likely within 3 hours.

DO NOT apply later than the eight-leaf stage of canola or the 1st node stage of winter cereals.

DO NOT apply immediately prior to sowing susceptible crops including chickpeas, faba beans, field peas, lentils and lupins or pastures with a lucerne, medic or clover component.

Table 1. Winter Cereals and Canola: Pre-Sowing Knockdown

WEED	WEED STAGE	RATE g/ha	CRITICAL COMMENTS
Capeweed, Volunteer chickpea, Volunteer faba bean, Vetch and Sub-clover	Up to 8 leaf and maximum 10 cm diameter	60 plus knockdown herbicide	Pre-sowing: This rate should only be used in tank mixture with formulations of paraquat/diquat or glyphosate.

Table 2. Winter Cereals and Canola: Post-Sowing Pre-Emergence to 3-leaf crop stage

WEED	WEED STAGE	RATE g/ha	CRITICAL COMMENTS
Capeweed (In cereals only, WA only)	Pre-emergence to 8 leaf and maximum 10cm diameter	60 plus diuron at 300 mL/ha	Post sowing pre-emergent to 3 leaf: This rate should only be used in tank mixture with diuron for control of transplants.
Capeweed, volunteer faba bean and sub-clover	Pre-emergence	120 - 240	Rates of 120 – 200 g/ha give good suppression (reduced seed set and up to 80% weed control). 240 g/ha is required for good control of capeweed and sub-clover. Apply to moist soil and time treatment for major germination of weeds. Good soil moisture and application close to time of weed germination is essential for best control.

Table 3. Winter Cereals: Early Post-Emergence to 2 leaf to 1st node crop stage

WEED	WEED STAGE	RATE g/ha	CRITICAL COMMENTS
Capeweed (WA only)	Cotyledons to 6 leaf and maximum 5cm diameter	60	Early post-emergent: Weeds should be young, actively growing and not larger than listed size. Weeds will become stunted and non-competitive soon after application, although final results may not show for some weeks.
Capeweed, Soldier Thistle, St Barnaby's Thistle	Up to 10 cm diameter (4 to 8 leaf)	120	
Chickpea lentils and safflower (volunteers)	Up to 6 leaf	100	
Faba bean and lupins (volunteers)	Up to 4 leaf	100	Faba beans and lupins will usually survive, but will be stunted, uncompetitive and generally not set viable seed.
Field pea (volunteers)	Maximum 10 cm high or 6 nodes	60	For best control of hairy leaved medics such as Snail medic, add 500 mL Update Spraying Oil / 100 L of water.
Medic and seedling Lucerne (volunteers)	Up to 8 leaf	60 – 80	
Sub-clovers (volunteers)	Up to 6 leaf		
Vetch (volunteers)	Runners up to 10 cm and maximum 16 leaf	40	

Table 4. Winter Cereals: Post-Emergence tank mixtures WA, SA, Vic, Tas, NSW only (unless specified)

Weeds should be young and actively growing. Weeds will become stunted and non-competitive soon after application although final results may not show for some weeks. Where a rate range is listed use low rate mixtures for small weeds to 5cm across and higher rate mixtures for weeds up to 10cm across. Use a surfactant such as Cropwett 1000 for granular herbicides or the recommended adjuvant on the partner herbicide label.

WEED	WEED STAGE	RATE g/ha	CRITICAL COMMENTS
Capeweed	Up to 4 leaf, 10cm diameter	80-120 plus 20g/ha Chlorsulfuron 750	Chlorsulfuron 750 mixes – 2 leaf to 1 st node crop stage.
		40 plus 5-7g/ha Eclipse + 0.35-0.5L/ha MCPA LVE	Eclipse/MCPA LVE mixes – 3 leaf to 1 st node. Where 0.5L/ha MCPA LVE added apply from 4-5 leaf to 1 st node crop stage.
		40 plus 5g/ha Metsulfuron methyl + 0.5L/ha MCPA LVE	Metsulfuron methyl/MCPA LVE mixes – 4 to 5 leaf to 1 st node crop stage.
		40 plus 0.75L/ha Tigrex	Tigrex mixes – 3 leaf to 1 st node crop stage, but not on Barley or Kulin wheat in WA
Field peas (volunteer)	Up to 6 node, 10cm diam.	40 plus 5-7g/ha Eclipse + 0.5-0.7L/ha Bromoxynil	Bromoxynil/MCPA mixes – 3 leaf to 1st node crop stage.
Vetch (volunteer)	Up to 4 branch, 10 cm diam	40 plus 5-7g/ha Eclipse + 0.35-0.5L/ha MCPA LVE	Eclipse/MCPA LVE mixes – 3 leaf to 1 st node. Where 0.5L/ha MCPA LVE added apply from 4-5 leaf to 1 st node crop stage.
		40 plus 5g/ha Metsulfuron methyl + 0.35L/ha MCPA LVE or 30 plus 0.7L/ha MCPA LVE	Use 30g/ha only in combination with MCPA LVE. Rygel Clopyralid 750 SG Herbicide + MCPA LVE mixes – 4 to 5 leaf to 1 st node crop stage.
Chickpea (volunteer)	Up to 4 branch, 10cm diam.	40 plus 5-7g/ha Eclipse + 0.5-0.7L/ha Bromoxynil / MCPA	Bromoxynil/MCPA mixes – 3 leaf to 1 st node crop stage.
Faba bean (volunteer)	Up to 4 node, 10cm tall	40 plus 5-7g/ha Eclipse + 0.35-0.5L/ha MCPA LVE	Eclipse/MCPA LVE mixes – 3 leaf to 1 st node. Where 0.5L/ha MCPA LVE added apply from 4-5 leaf to 1 st node crop stage.
Lupin (volunteer)	Up to 6 leaf, 10cm tall	40 plus 5g/ha Metsulfuron methyl + 0.35-0.7L/ha MCPA LVE	Metsulfuron methyl/MCPA LVE mixes – 4 to 5 leaf to 1 st node crop stage.
Sub-clover (volunteer)	Up to 5 trifoliolate, 5cm diam.		
Prickly lettuce	Up to 6 leaf, max. 10cm diam.		
Medic (volunteer)	Up to 6 leaf, max. 5cm diam.		
Prickly lettuce	Up to 6 leaf, max. 10cm diam.	60 plus 700 mL/ha MCPA LVE	Rygel Clopyralid 750 SG Herbicide + MCPA LVE mixes – 4 to 5 leave to 1 st node crop stage.
Thistles including: Nodding, Saffron Scotch, Slender Spear, Stemless, Variegated	Rosettes up to 10 cm max. diam.	20 plus 1.0 L/ha MCPA amine (500 g/L) or 20 + 700 mL/ha MCPA LVE	For thistle control, Rygel Clopyralid 750 SG Herbicide rate will depend on density, growth stage, climatic conditions and time of application. Use higher rates for best control where high density and/or large weeds occur.
St Barnaby's Thistle	4 to 8 leaf, 5 to 10 cm across	20 - 40 + 2,4-D amine 0.5 – 1.0 L/ha or MCPA amine 1.0 – 1.5 L/ha	MCPA or 2,4-D mixes apply from 4-5 leaf to 1st node crop stage.
Sowthistle (Common) (WA, SA, Vic, Tas, NSW and QLD)	Young rosettes up to 8 true leaves	40 + 0.8 L/ha Tordon 242 or 5 g/ha Metsulfuron methyl + 0.7 L/ha MCPA LVE	Apply to actively growing young rosettes. Use Uptake Spraying Oil at 500 mL/100 L of water for improved control with Tordon 242 tank-mixes or Cropwett 1000 with Metsulfuron methyl/MCPA LVE tank-mixes. Apply tank-mixes from 4 - 5 leaf to 1st node crop stage.

Skeleton weed (NSW, Vic and SA, WA only)	5 to 15 cm rosettes	200 plus 1.0 L/ha MCPA amine (500 g/L)	Weeds should be a minimum 5 cm in diameter, and growing actively. This rate will give control until harvest and substantially reduce weed numbers the following season. Apply from 4-5 leaf to 1 st node crop stage.
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Table 5. Canola Post-Emergence 2 to 8 leaf crop stage

WEED	WEED STAGE	RATE g/ha	CRITICAL COMMENTS
Capeweed, Cotula, Saffron thistle, Skeleton weed, Soldier thistle	Up to 10cm diameter (4 to 8 leaf)	120	Weeds should be young and actively growing. Weeds will become stunted and will not be competitive soon after application although final results may not show for some weeks. Skeleton weed will only be controlled until harvest.
Chickpea, Lentils and Safflower (volunteer)	Up to 6 leaf	100	For the control of annual grasses: For the control of annual grasses: Rygel Clopyralid 750 SG Herbicide is compatible with Haloxyfop 520 Herbicide. Uptake Spraying Oil should be added to this tank-mix for best grass control. Rygel Clopyralid 750 SG Herbicide + Haloxyfop 520 + Uptake Spraying Oil is compatible and selective to canola.
Faba beans and Lupins (volunteer)	Up to 4 leaf		
Field peas (volunteer)	Maximum 10 cm high or 6 nodes	60	
Medics and Lucerne seedlings (volunteer)	Up to 8 leaf		
Sub-clover (volunteer)	Up to 6 leaf	40	Faba beans and lupins will usually survive, but will be stunted, uncompetitive and generally not set viable seed. For best control of hairy leaved medics such as Snail medic, add 500 mL Uptake Spraying Oil / 100 L water. Will not control Woolly pod vetch.
Vetch (volunteer)	Runners to 10 cm max. 16 leaf		
St Barnaby's thistle	4 to 8 leaf, 5 to 10 cm diameter	60 – 120	Rygel Clopyralid 750 SG Herbicide rate will depend on weed density, growth stage, climatic conditions and time of application. Use higher rates for best control where high density and/or large weeds occur.

Table 6. Herbicide Tolerant Canola: Post-Emergence 2 to 8 leaf crop stage

WEED	WEED STAGE	RATE g/ha	CRITICAL COMMENTS
Clearfield Canola			
Common Cotula, Capeweed	Up to 6 leaf	60 + 40g OnDuty [®]	Where capeweed is a significant component of the weed spectrum, a tank-mix with Rygel Clopyralid 750 SG Herbicide may be needed post-emergence. DO NOT exceed this rate as reduced control of grass weeds may occur.
Triazine tolerant Canola			
Capeweed, Lupins (volunteer), Saffron thistle, Skeleton weed, Soldier thistle and weeds from conventional canola	Up to 6 leaf	120	Rygel Clopyralid 750 SG Herbicide is compatible with atrazine and simazine for use in triazine tolerant canola. Uptake Spraying Oil at 500 mL/100 L of water should be added to this mix for best grass and broadleaf weed control. For the control of annual grass weeds Rygel Clopyralid 750 SG Herbicide + Atrazine + Haloxyfop 520 + Uptake Spraying Oil are compatible and selective to triazine tolerant canola

Table 7. Pastures and Fallow Land – Post-emergence (Established perennial grass and sub-clover based pastures) (Boom spray application if not specified)

WEED	WEED STAGE	RATE	STATE	CRITICAL COMMENTS
Hardhead thistle (creeping knapweed, Russian knapweed)	Actively growing plants	Handgun: 200g/100L of water. Boom spray: 800 or 1600g/ha	Vic & Qld only	See Critical Comments below for spraying thistles in pastures and fallow land Only use the 1600g/ha rate in Qld by boom spray
St Barnaby's thistle	5 to 8 leaf and 5 to 10 cm diameter	20 or 40 plus 0.5-1L/ha 2,4-D amine or 1.5-2.5L/ha 2,4-DB or 1 L/ha Gramoxone or 1-1.5L/ha	NSW, Vic, TAS, SA and Qld only	

		Simazine + 1 L/ha 2,4-DB		
Thistles including: Nodding Variegated Scotch, Spear, Slender Saffron, St Barnaby's thistle	Rosette stage prior to stem elongation	20 or 28g/ha plus 1-1.5 L/ha MCPA amine (500 g/L)/ha Drench gun: 20g/1L of water Hand gun: 100g/100L of water	WA, NSW, Vic, Tas, SA and Qld only	
Nodding thistle	Rosettes up to 20cm diameter	40	NSW only	Apply the spray from September to October. Apply by boom spray only. DO NOT apply to thistles over 20cm in diameter. When thistles are over 20cm in diameter use Rygel Clopyralid 750 SG Herbicide plus MCPA (referred to above). Clover Damage: Damage to white clover will be no greater than damage with MCPA alone and less than damage from Rygel Clopyralid 750 SG Herbicide plus MCPA mixtures. Damage to sub-clover may be greater than with MCPA or 2,4- D alone. DO NOT use for spot treatment.
California thistle	From early buds to flowering (December to February)	Handgun: 100g/100 L of water. Boom spray: 800g/ha	Vic and Tas only	Addition of a wetting agent at label rates is recommended. Retreatment of regrowth in the year following treatment will usually be necessary to achieve a high level of control. Note: Clovers and medics will be eliminated for at least one year.
Lucerne	30 to 40 cm high pre- flowering	120 plus 1.5 – 2 L/ha Rygel ClearUp 450 + either 2L/ha MCPA amine or 2L/ha 2,4-D amine or 2L/ha 2,4-D ester	Qld, NSW, Vic, SA, WA	Treat healthy, actively growing lucerne in early spring prior to flowering. After grazing or cutting, allow Lucerne to regrow for approx 4 weeks before treatment. For best control, do not re-graze for >2 weeks after application. For complete control of Lucerne in pasture, cultivate approx 1 month after herbicide treatment.

Critical Comments – Thistle control in pasture.

- 1. Hardhead thistles – DO NOT USE HANDGUN APPLICATION ON LUCERNE, CLOVERS AND MEDICS AS THEY WILL BE ELIMINATED FOR AT LEAST ONE YEAR.** *Victoria only:* Use the lower rate only on light soils (sand and sandy loam) where a slightly lower degree of control is acceptable. Use the higher rate on all soil types where complete control is required. Addition of a wetting agent at label rates is recommended for treatment of hardhead thistle. Spray between September and April on actively growing plants for effective control. Thorough coverage is essential. Apply in 200 to 250 L of water/ha.
- 2. BOOM SPRAYING:** Use the higher rates of Rygel Clopyralid 750 SG Herbicide plus MCPA on multi-crowned plants or rosettes larger than 30cm in diameter. Spraying may be done at any time during active growth, usually in early winter or spring. Avoid spraying during the dormant winter period or at any time when thistles are not actively growing. Do not spray flowering thistles.
- 3. PRE-SPRAY MANAGEMENT:** The pasture should be slightly grazed prior to spraying to reduce clover and grass cover and expose the smaller thistles to the spray. The grazed pasture should be left seven days to allow thistles to freshen prior to treatment.
- 4. POST-TREATMENT MANAGEMENT:** Response of thistles to treatment with the Rygel Clopyralid 750 SG Herbicide plus MCPA mixture will be slow compared to the standard treatments with 2,4-D or MCPA. If

possible delay grazing of sprayed thistles for 14 days after treatment.

5. **CLOVER DAMAGE:** Rygel Clopyralid 750 SG Herbicide plus MCPA or 2,4-D mixtures can be damaging to clover. The low rate is no more damaging than label rates of 2,4-D or MCPA. Use 20g/ha mixes when clover is at the 6 trifoliolate leaf stage to just prior to flowering. The 28g/ha mix will reduce the clover component of the pasture for about two months. Use the 28g/ha mix from 6 trifoliolate leaf stage to flowering to minimize clover injury, and when clover has reached the 6 to 8 trifoliolate leaf stage and where thistles are large due to early germination. Clover recovery will be quicker during periods of active growth. If clover damage is the major consideration, use the lower Rygel Clopyralid 750 SG rate to minimize damage.
6. **Gramoxone mixes are for lucerne pasture use only.** Simazine mixes are for silver grass control and for lucerne based pastures only.
7. **HANDGUN (Spot spray):** Treat from rosette stage to early flowering. Thorough spraying is necessary.
8. **DRENCH GUN:** Apply 10 mL to rosette crown. To multi-crown plants, apply 10 mL to each crown.

Table 8: Agricultural Non-crop Areas, Commercial and Industrial Areas, Forests, Pastures and Rights-of-Way Stem injection application on Acacia Species.

Mix 200g Rygel Clopyralid 750 SG Herbicide with 2.5L of water and apply the diluted mix as directed below.

WEED GROWTH STAGE	APPLICATION RATE	CRITICAL COMMENTS
Single stem less than 25cm diameter at base	1 mL of the diluted mix per cut @ 10 to 13 cm centres	Apply to waist high cuts. See General Instructions Application section for application method details.
Multiple stems or more than 25cm diameter at base	2 mL of the diluted mix per cut @ 10 to 13 cm centres.	DO NOT exceed the recommended spacings from the centre of one cut to the centre of the next cut. Inject each stem of a multistem tree where possible.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER CONTRARY TO THIS LABEL UNLESS AUTHORIZED UNDER APPROPRIATE LEGISLATION

WITHHOLDING PERIODS:

- PASTURES:** DO NOT GRAZE OR CUT TREATED PASTURES FOR STOCK FEED FOR 7 DAYS AFTER APPLICATION OF RATES OF 1600 g/ha OR LESS.
- CEREALS:** DO NOT GRAZE OR CUT TREATED CEREALS FOR STOCK FEED FOR 4 WEEKS AFTER APPLICATION IF RATE IS IN EXCESS OF 120 g/ha.
DO NOT APPLY LATER THAN 10 WEEKS BEFORE HARVEST
- CANOLA:** DO NOT HARVEST, GRAZE OR CUT FOR STOCK FEED EARLIER THAN 12 WEEKS AFTER APPLICATION.