



UN No. 3016	BIPYRIDILIUM PESTICIDE LIQUID, TOXIC, N.O.S. (contains paraquat and diquat)
PG III HAZCHEM 2 X	In Transport Emergency DIAL 000 Police or Fire Brigade

**DANGEROUS POISON**  
KEEP OUT OF REACH OF CHILDREN  
READ SAFETY DIRECTIONS BEFORE OPENING OR USING  
CAN KILL IF SWALLOWED  
DO NOT PUT IN DRINK BOTTLES  
KEEP LOCKED UP

**Rygel**  
**Pre-Seed 250**  
**Herbicide**

ACTIVE CONSTITUENTS: 135 g/L PARAQUAT present as PARAQUAT DICHLORIDE  
115 g/L DIQUAT present as DIQUAT DIBROMIDE

**GROUP L HERBICIDE**

For the control of a wide range of grasses and broadleaf weeds.  
Can be utilised in Crop Establishment programs.  
Contains non-ionic wetter.

READ THIS BOOKLET BEFORE USING THIS PRODUCT

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APVMA Approval No.: 58908/0804

# DIRECTIONS FOR USE

## RESTRAINTS

DO NOT spray plants that are waterlogged, under stress of any kind or covered with soil or dust.

DO NOT spray plants covered with heavy dew, but rain following spraying will not affect results.

DO NOT sow or cultivate for 1 hour after spraying.

For ground application only - DO NOT use through aircraft, misting machines or hand-held ultra low volume controlled droplet applicators (CDA units).

## SOUTHERN AUSTRALIA - FULL DISTURBANCE

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
<b>SOUTHERN AUSTRALIA</b>  <b>DIRECT DRILLING</b> with full combine or with cultivation before spraying or with cultivation after spraying as an aid in the establishment of crops including:  <b>Winter</b> Canola, Chickpeas, Cereals (Wheat, Barley, Oats, Rye, Triticale), continued over	<u>Seedling Grasses</u>		2 to 3 leaf	0.6 to 0.8
	Annual ryegrass	Lolium rigidum	4 leaf to early tiller	0.8 to 1.6
	Barley grass	Hordeum spp.		
	Brome grass	Bromus spp.	mid to fully tillered	1.6 to 2.4
	Volunteer Cereals			
	Wild Oats	Avena spp.	2 to 3 leaf	0.6 to 0.8 *
	Vulpia (Silver grass, Sand Fescue)	Vulpia spp.		
			4 leaf to early tiller	0.8 to 1.6 *
			mid to fully tillered	1.6 to 2.4 *
	<u>Seedling Brassica Weeds</u>		1 to 5 diam.	0.8 to 1.2
	Ball Mustard	Nestia paniculata	5 to 10 cm diam.	1.2 to 1.6
	Charlock	Sinapsis arvensis		
	Indian Hedge Mustard	Sisymbrium orientale	10 to 20 cm diam.	1.6 to 2.4
	Long Fruited Wild Turnip	Brassica tournefortii		
	Muskweed	Myagrum perfoliatum		
	Shepherd's Purse	Capsella bursapastoris		
	Short Fruited Wild Turnip	Rapistrum rugosum		
	Ward's Weed	Carrichtera annua		
	Wild Radish	Raphanus raphanistrum		

State	Critical Comments
Sthn NSW, Vic, Tas, SA, WA only	<p><b>Refer to Crop Establishment Procedure 1.</b> In WA apply after autumn break within 4 weeks of weed germination. In other states apply to young or well-grazed weeds. In a typical mixed weed situation use the rate recommended for the growth stage of the hardest-to-kill weed species. Rates shown are for optimum conditions, for sowing equipment with wide points and overall soil disturbance. Under less favourable conditions or where spraying is delayed until winter or where narrow points are fitted or in higher rainfall areas, use higher rates in the range 1.2 to 2.4 L/ha. For dense mature swards over 2 months old or spring crops use rates up to 2.4 L/ha. * For control of Vulpia (Silver grass) add a wetter such as Rygel Cropwett 1000 at 100 mL/100L.</p> <p><b>Also refer to Crop establishment Procedure 3. - Cultivation After Spraying.</b> Cultivation can commence 30 minutes after spraying but should be completed within 7 days unless a suitable residual herbicide is added or weeds are sprayed again. Where heavy weed growth is present at spraying a better seedbed will result if cultivation is delayed 3 to 5 days to obtain maximum root release.</p> <p><b>Also refer to Crop Establishment Procedure 4. - Cultivation Before Spraying.</b> Spraying may be carried out before or after sowing or transplanting but 3 days before the crop emerges. TANK MIX: see compatibility Section. Refer to partner product labels for suitability of use prior to sowing particular crops and relevant plant-back periods.</p>

**DIRECTIONS FOR USE Continued**

**SOUTHERN AUSTRALIA - FULL DISTURBANCE Continued**

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha		
	Common Name	Botanical Name				
as previous plus Field beans, Field peas, Lentils, Linseed (Linola), Lupins, Vetch	Other seedling - broadleaved weeds		1 to 4 leaf or 1 to 4 cm diam.	0.8 to 1.2		
	Bedstraw	Galium tricornutum	4 to 8 leaf or 4 to 8 cm diam.	1.2 to 1.6		
	Bifora	Bifora testiculata				
<b>Spring / Summer</b> Foddr rape, Pigeon peas, Safflower, Sorghum, Soybeans, Sunflower	Capeweed	Arctotheca calendula	1 to 10 leaf or 1 to 10 cm diam.	0.8 to 1.2		
	Horehound	Marubium vulgare				
	Ivy-Leaf Speedwell	Veronica hederifolia				
	Lincoln Weed	Dipiotaxis tenuifolia				
	Medic	Medicago spp.				
	Spiny Emex (Doublegee, three cornered jack)	Emex australis				
	Stinging Nettle	Urtica dioica				
	Storksbill (Wild Geranium, Crowsfoot)	Erodium spp.				
	Sub Clover	Trifolium subterranean				
	Vetch (Tares)	Vicia spp.				
<b>Pasture</b> Clover grass, Lucerne, Medic	Deadnettle	Lamium amplexicaule	1 to 5 leaf	1.2 to 1.6		
	Fumitory	Fumaria spp.				
	Melilot	Melilotus spp.				
	Pimpernel	Anagallis spp.				
	Poppy	Papaver spp.				
	Saffron thistle	Carthamus lanatus				
	Sheepweed	Buglossoides arvensis				
	Paterson's Curse	Echium plantagineum				
	Wireweed	Polygonum aviculare			1 to 4 leaf	0.8 to 1.2
	Marshmallow	Malva parviflora			1 to 12 leaf	0.8 to 1.2 + 75 mL oxyfluorfen

State	Critical Comments
Sthn NSW, Vic, Tas, SA, WA only	

## DIRECTIONS FOR USE Continued

### SOUTHERN AUSTRALIA - FULL DISTURBANCE Continued

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
as previous page	Volunteer Beans, Peas & Lupins		1 to 6 leaf	0.8 to 1.2 + 5 g Rygel Metsulfuron or 0.8 to 1.2 + 500 mL dicamba (200 g/L)

State	Critical Comments
Sthn NSW, Vic, Tas, SA, WA only	

### SOUTHERN AUSTRALIA - FALLOW / MINIMUM DISTURBANCE

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha	
	Common Name	Botanical Name			
<b>SOUTHERN AUSTRALIA</b>  <b>DIRECT DRILLING</b> with minimum disturbance (disc, drill, modified combine, sod seeder) or <b>FALLOWS</b> Cultivated or non-cultivated as an aid in  continued over	<u>Seedling Grasses</u>		2 to 3 leaf	1.0 to 1.2	
	Annual ryegrass	Lolium rigidum	4 leaf to early tiller	1.2 to 2.4	
	Barley grass	Hordeum spp.			
	Brome grass	Bromus spp.	mid to fully tillered	2.4 to 3.2	
	Volunteer cereals				
	Wild Oats	Avena spp.	2 to 3 leaf	1.0 to 1.2 *	
	Vulpia (Silver grass, Sand Fescue)	Vulpia spp.			
		<u>Seedling Brassica Weeds</u>		1 to 5 cm diam.	1.2 to 1.8
		Ball Mustard	Nestia paniculate	5 to 10 cm diam.	1.8 to 2.4
Charlock		Sinapsis arvensis			
Indian Hedge Mustard		Sisymbrium orientale	10 to 20 cm diam.	2.4 to 3.2	
Long Fruited Wild Turnip	Brassica tournefortii				

State	Critical Comments
Sthn NSW, Vic, Tas, SA, WA only	<p><b>Refer to Crop Establishment Procedures 1,6 or 7b as appropriate to the particular situation.</b></p> <p>In WA apply after autumn break within 4 weeks of weed germination. In other states apply to young or well-grazed weeds. In a typical mixed weed situation use the rate recommended for the growth stage of the hardest-to-kill weed species. Rates shown are for optimum conditions and for sowing equipment with narrow points. Under less favourable conditions or where spraying is delayed until winter or in higher rainfall areas or for fallow weed control, use higher rates in the range 2.4 to 3.2 L/ha. For dense swards or spring application use rates in the range 2.4 to 3.2 L/ha.</p> <p>* For control of Vulpia (Silver grass) add a wetter such as Rygel Cropwett 1000 at 100 mL/100L.</p> <p><b>Also refer to Crop Establishment Procedure 3. - Cultivation after spraying.</b> Cultivation can commence 30 minutes after spraying but should be completed within 7 days unless a suitable residual herbicide is added. Where heavy weed growth is present at spraying a better seedbed will result if cultivation is delayed 3 to 5 days.</p>

## DIRECTIONS FOR USE Continued

### SOUTHERN AUSTRALIA - FALLOW / MINIMUM DISTURBANCE Continued

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
establishing crops or establishing and maintaining fallow. Includes the following crops:	Muskweed	Myragrum perfoliatum		
	Shepherd's Purse	Capsella bursapastoris		
establishing and maintaining fallow. Includes the following crops:	Short Fruited Wild Turnip	Rapistrum rugosum		
	Ward's Weed	Carrichtera annua		
establishing and maintaining fallow. Includes the following crops:	Wild Radish	Raphanus raphanistrum		
<b>Winter</b>	<b>Other Seedling Broadleaved Weeds</b>		1 to 4 leaf or 1 to 4 cm diam.	1.2 to 1.8
	Bedstraw	Gallium tricornutum		
Canola, Chickpeas, Cereals (Wheat, Barley, Oats, Rye, Triticale) Field beans, Field peas, Lentils, Linseed (Linola). Lupins, Vetch	Bifora	Bifora testiculata	4 to 8 leaf or 4 to 8 cm diam.	1.8 to 3.2
	Capeweed	Arctotheca calendula		
Spring/Summer	Horehound	Marrubium vulgare		
	Ivy-Leaf Speedwell	Veronica hederifolia		
Fodder rape, Pigeon peas, Safflower, Sorghum, Soybeans, Sunflower	Lincoln Weed	Diploaxis tenuifolia		
	Spiny Emex (doublegee, three-cornered jack)	Emex australis		
continued over	Stinging Nettle	Urtica dioica		
	Storksbill (wild geranium, crowfoot)	Erodium spp.		
continued over	Vetch (Tares)	Vicia spp.		
	Deadnettle	Lamium amplexicaule		
continued over	Fumitory	Fumaria spp.	1 to 10 leaf or 1 to 10 cm diam.	1.2 to 3.2
	Melilot	Melilotus spp.		
continued over	Pimpernel	Anagallis spp.		
	Poppy	Papaver spp.		
continued over	Saffron Thistle	Carthamus lanatus		
	Sheepweed	Buglossoides arvensis		
continued over	Paterson's Curse	Echium plantagineum	1 to 5 leaf	1.8 to 3.2

State	Critical Comments
Sthn NSW, Vic, Tas, SA, WA only	<p><b>Also refer to Crop Establishment Procedure 4. - Cultivation before spraying.</b> Spraying may be carried out before or after sowing but 3 days before the crop emerges.</p> <p><b>TANK MIX:</b> see Compatibility Section. Refer to partner product labels for suitability of use prior to sowing particular crops and relevant plant-back periods.</p>

**DIRECTIONS FOR USE Continued**

**SOUTHERN AUSTRALIA - FALLOW / MINIMUM DISTURBANCE Continued**

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
Pasture Clover grass, Lucerne, Medic	Wireweed	<i>Polygonum aviculare</i>	1 to 4 leaf	1.2 to 3.2
	Marshmallow	<i>Malva parviflora</i>	1 to 12 leaf	1.2 to 1.8 + 75 mL oxyfluorfen
	Volunteer Beans, Peas & Lupins		1 to 6 leaf	1.2 to 1.8 + 5g Rygel Metsulfuron or 1.2 to 1.8 + 500 mL dicamba (200 g/L)
	Medic Sub. Clover	<i>Medicago</i> spp. <i>Trifolium</i> subterranean	1 to 4 leaf or 1 to 4 cm diam.	1.2 to 1.8 + 500 mL dicamba (200 g/L)
			4 to 8 leaf or 4 to 8 cm diam.	1.8 to 3.2 + 5g Rygel Metsulfuron
	<b>Split Application for:</b> Sub. Clover	<i>Trifolium</i> subterranean	1 to 8 leaf or 1 to 8 cm diam.	1.2 followed by 1.2
	Perennial Ryegrass	<i>Lolium perenne</i>	4 leaf to early tillering	1.2 followed by 1.2
mid to fully tillered			1.6 followed by 1.6	
continued over				

State	Critical Comments
Sthn NSW, Vic, Tas, SA, WA only	
	For sub clover control without the addition of dicamba in crops sown with triple disc , modified combine or sod seeder use a split application. Apply second application 7 to 15 days after first application and when green regrowth is present.
	For control prior to sowing with combine use a split application. Apply first application in autumn to mid winter. Apply second application 7 to 15 days later and when green growth is present.

## DIRECTIONS FOR USE Continued

### SOUTHERN AUSTRALIA - FALLOW / MINIMUM DISTURBANCE Continued

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
	Most annual weeds		Weeds higher than 10 cm	2.4 to 3.2
	Potato weed	Heliotropium europaeum	1 to 15 cm diam.	1.2 to 1.6
			15 to 30 cm diam.	1.6 to 2.4

State	Critical Comments
Sthn NSW, Vic, Tas, SA, WA only	If there is excess leaf growth, i.e. more than 10 cm, split the recommended rate in half and apply second part 7 to 15 days after the first. Paddocks should be well grazed continuously from the break. The first application removes excess leaf growth, the second application is effective on residual green tissue. Green growth must be present for second application.
SA only	For use in summer fallows only. Add 275 g/ha diuron (900 g/kg WG) herbicide to enhance control of larger weeds.

### NORTHERN AUSTRALIA - FULL DISTURBANCE

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
<b>NORTHERN AUSTRALIA</b>	Seedling Grasses (not regrowth or rhizomes)		2 to 3 leaf	0.8 to 1.2
<b>DIRECT DRILLING</b> with full combine as an aid in the establishment of crops including:  continued over	Barnyard grass	Echinochloa spp.	4 leaf to early tiller	1.2 to 1.6
	Buffet grass	Cenchrus ciliaris		
	Columbus grass	Sorghum x alnum	mid to fully tillered	1.6 to 2.4
	Johnson grass	Sorghum halepense		
	Liverseed grass	Urochloa panicoides		
	Mossman River grass	Cenchrus echinatus		
	Paradoxa grass	Phalaris paradoxa		
	Rhodes grass	Chloris gayana		
	Summer grass	Digitaria ciliaris		
	Sweet summer grass	Brachiaria eruciformis		
Volunteer barley	Hordeum vulgare			

State	Critical Comments
Qld, Nthn NSW, NT only	<b>Refer to Crop Establishment Procedure 7a.</b>  Apply in 50 to 100 L of clean water/ha. Avoid spraying under hot dry conditions. Best results will be obtained when spraying is carried out in humid conditions or in the late evening. In a typical mixed weed situation use the rate recommended for the growth stage of the hardest-to-kill weed species. Rates shown are for optimum conditions and for sowing equipment with wide points and cultivating tynes. Under less favourable conditions or where spraying is delayed or where narrow points are fitted, use higher rates in the range 1.6 to 2.4 L/ha.  <b>TANK MIX:</b> see compatibility Section.  continued over

## DIRECTIONS FOR USE Continued

### NORTHERN AUSTRALIA - FULL DISTURBANCE Continued

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
<b>Broadacre Crops - Winter</b> Canola, Chickpeas, Cereals (Wheat, Barley, Oats, Rye, Triticale), Field beans	Volunteer wheat	Triticum aestivum		
	Wild oats	Avena ludoviciana Avena fatua		
	Sorghum	Sorghum bicolor	2 to 3 leaf only	0.8 to 1.2
	Stink grass	Eragrostis cilianensis	2 to 3 leaf only	0.8 to 1.2
<b>Broadacre Crops - Summer</b> Cotton, Maize, Millet, Mungbeans, Navy Beans, Peanuts, Pigeon Peas, Safflower, Sorghum, Soybeans, Sunflower	<u>Seedling Broadleaved Weeds</u>		1 to 4 leaf	0.8 to 1.6
	African Turnip Weed	Sisymbrium thellungii +		
	Annual saltbush	Atriplex muelleri	4 to 8 leaf	1.6 to 2.4
	Australian Bindweed	Convolvulus erubescens	8 to 12 leaf	2.4
	Australian Bluebell	Wahlenbergia gracilis		
	Blackberry Nightshade	Solanum nigrum		
	Bathurst Burr	Xanthium spinosum		
	Bellvine	Ipomoea plebela		
	Black Pigweed	Trianthema portulacastrum		
	Bladder Ketmia	Higiscus trionum		
	Caltrop	Tribulus terrestris		
	Caustic Weed	Euphorbia spp.		
	Climbing Buckwheat	Polygonum convolvulus		
	Cowvine	Ipomoea lonchophylla		
Cudweeds	Gnaphalium spp.			
Deadnettle	Lamium amplexicaule			
European Bindweed	Convolvulus arvensis			
Fat Hen	Chenopodium album			
continued over				

State	Critical Comments
Qld, Nthn NSW, NT only	* For control of larger weeds prior to cereals add 0.5 to 1.0 L/ha 2,4-D amine (500 g/L). Refer to relevant label for plant-back period.



**DIRECTIONS FOR USE Continued**

**NORTHERN AUSTRALIA - FULL DISTURBANCE Continued**

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
	Fireweed	Senecio madagascariensis		
	Fleabanes	Conyza spp.		
	Fumitory	Fumaria spp.		
	Hogweed	Zaleya galericulata		
	Malvastrum	Malvastrum americanum		
	Mexican Poppy	Argemone spp.		
	Mintweed	Salvia reflexa		
	Mungbean	Vigna radiata		
	Native Rosella	Abelmoschus ficulneus		
	New Zealand Spinach	Tetragonia tetragonoides		
	Noogoora Burr	Xanthium pungens		
	Parthenium Weed	Parthenium hysterophorus		
	Peppergrass	Lepidium spp.		
	Phyllanthus	Phyllanthus spp.		
	Prickly Lettuce	Lactuca seriola		
	Prickly Paddymelon	Cucumis myriocarpa		
	Red Pigweed	Portulaca oleracea		
	Rhynchosia	Rhynchosia australis		
	Sesbania pea +	Sesbania cannabina +		
	Sida	Sida spp.		
	Smooth cucumber	Cucumis spp.		
	Soft Roly Poly	Salsola kali		
	Sowthistle	Sonchus spp.		
	continued over			

State	Critical Comments
Qld, Nthn NSW, NT only	

**DIRECTIONS FOR USE Continued**

**NORTHERN AUSTRALIA - FULL DISTURBANCE Continued**

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
	Soybean Spiny Emex Sunflower + Thornapple Variegated Thistle Wild gooseberry	Glycine max Emex australis Helianthus annuus + Datura spp. Silybum marianum Physalis minima		
	Native Jute	Corchorus trilocularis	1 to 4 leaf 4 to 8 leaf	1.2 to 1.6 1.6 to 2.4
	Annual Ground Cherry	Physalis angulata	1 to 4 leaf	1.2 to 1.6
	Turnip Weed	Rapistrum rugosum	1 to 4 leaf	1.2 to 1.6
	Boggabri Weed	Amaranthus Mitchell	1 to 8 leaf	0.8 to 1.2
	Hexham Scent +	Melilotus indicus +	1 to 8 leaf	0.8 to 1.2
	Wild Carrot	Daucus glochidiatus	1 to 8 leaf	0.8 to 1.2
	Speedy Weed	Flaveria australasica	1 to 8 leaf	0.8 to 1.2

State	Critical Comments

## DIRECTIONS FOR USE Continued

### NORTHERN AUSTRALIA - FALLOW / MINIMUM DISTURBANCE

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
<b>NORTHERN AUSTRALIA</b>	<u>Seedling Grasses</u> (not regrowth or rhizomes)		2 leaf to pre tillering	1.2 to 1.6
	<b>DIRECT DRILLING</b> with minimum disturbance or <b>FALLOWS</b> cultivated or non-cultivated as an aid in establishing or maintaining a fallow or the establishment of crops including:  <b>Broadacre crops - Winter</b> Cereals (Wheat, Barley, Oats, Rye, Triticale) Chickpeas  continued over	Barnyard grass Liverseed grass Paradoxa grass Stink grass Volunteer barley Volunteer wheat Wild oats	Echinochloa spp. Urochloa panicoides Phalaris paradoxa Eragrostis cilianensis Hordeum vulgare Triticum aestivum Avena ludoviciana Avena fatua	early tillering
	<u>Seedling Broadleaved Weeds</u>		1 to 4 leaf	1.6 to 2.4
	Bathurst Burr Bellvine Black Pigweed  Bladder Ketmia Caltrop Fat Hen  Fireweed  Fumitory Mintweed Mungbean + New Zealand Spinach  Prickly Paddmelon Sesbania Pea + Smooth cucumber Sunflower +	Xanthium spinosum Ipomoea plebeia Trianthema portulacastrum Hibiscus trionum Tribulus terrestris Chenopodium album Senecio madagascariensis Fumaria spp. Salvia reflexa Vigna radiata+ Tetragonia tetragonoides Cucumis myriocarpus Sesbania cannabina + Cucumis spp. Helianthus annuus +		

State	Critical Comments
Qld, Nthn NSW, NT only	<p><b>Refer to Crop Establishment Procedures 5,6 or 7b as appropriate to the particular situation.</b></p> <p>In a typical mixed weed situation use the rate recommended for the growth stage of the hardest-to-kill weed species. Rates shown are for optimum conditions and for row crop and no-till planter. Under less favourable conditions or where spraying is delayed or for fallow weed control, use higher rates in the range 1.6 to 2.4 L/ha. Apply in 50 to 100L of clean water per ha.</p> <p>Avoid spraying under hot dry conditions. Best results will be obtained when spraying is carried out in the evening or in humid conditions.</p> <p>+ For control of larger weeds prior to cereals add 0.5 to 1.0L 2,4-D amine (500 g/L) - refer to relevant label for plant back period.</p> <p><b>TANK MIX:</b> see Compatibility section.</p>

**DIRECTIONS FOR USE Continued**

**NORTHERN AUSTRALIA - FALLOW / MINIMUM DISTURBANCE Continued**

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
Broadacre crops - Summer Cotton, Maize, Millet, Mungbeans, Safflower, Sorghum, Soybeans, Sunflower	Thornapples	Datura spp.	5 to 9 leaf	2.4 to 3.2
	Volunteer Cotton (including Roundup Ready cotton)	Gossypium hirsutum		
	Wild gooseberry	Physalis minima		
Boggabri Weed Hexham Scent + Wild Carrot Phyllanthus	Volunteer Cotton (including Roundup Ready cotton)	Gossypium hirsutum	1 to 8 leaf	1.6 to 2.4
		Amaranthus mitchell Melilotus indicus + Daucus glochidiatus Phyllanthus spp.		
As an aid in post harvest weed control - after winter cereals	Volunteer Barley Volunteer Wheat Bladder Ketmia Milk Thistle New Zealand Spinach	Hordeum vulgare Triticum aestivum Hibiscus trianum Sonchus oleraceus Tetragonia tetragonoides	1 to 4 leaf	1.6 to 2.4

State	Critical Comments
	<p><b>Refer to Procedure 5.</b> Do not spray under hot, dry conditions or when weeds are covered with dust and/or trash. Application is best carried out following rain.</p>

## DIRECTIONS FOR USE Continued

### SUGAR CANE

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
NORTHERN AUSTRALIA  SUGAR CANE ESTABLISHMENT AND FALLOW SUGARCANE PLANTING Cultivated or non-cultivated.  As an aid in establishing sugar cane or controlling weeds in a fallow prior to sugar cane	<u>Seedling Grasses</u> (not regrowth or rhizomes)		2 leaf to pre-tillering	1.2 to 1.6
	Barnyard Grass	Echinochloa spp.	early tillering	1.6 to 2.4
	Liverseed Grass	Urochloa panicoides		
	Stink Grass	Eragrostis cilianensis		
	<u>Seedling Broadleaved Weeds</u>		1 to 4 leaf	1.6 to 2.4
	Bathurst Burr	Xanthium spinosum	Mature broadleaf weeds *	2.4 to 3.2 *
	Bellvine	Ipomoea plebeia		
	Black Pigweed	Trianthema portulacastrum		
	Bladder Ketmia	Hibiscus trionum		
	Caltrop	Tribulus terrestris		
Fat Hen	Chenopodium album			
Fumitory	Fumaria spp.			
Mintweed	Salvia reflexa			
Mungbean	Vigna radiata			
New Zealand Spinach	Tetragonia tetragonoides			
Prickly Paddymelon	Cucumis myriocarpa	1 to 8 leaf	1.6 to 2.4	
Sesbania Pea	Sesbania cannabina			
Smooth Cucumber	Cucumis spp.			
Thornapples	Datura spp.			
Wild Gooseberry	Physalis minima			
Phyllanthus	Phyllanthus spp.	1 to 8 leaf	1.6 to 2.4	
		mature broadleaf weeds *	2.4 to 3.2 *	

State	Critical Comments
Qld, Nthn NSW, NT only	<p><b>SUGAR CANE:</b> prior to planting or for establishing or maintaining a fallow - refer to Procedure 6. and following:            Cultivated fallow - where seedling weeds have recently germinated, are growing well are up to 10cm high use rates of 1.6 to 2.4 L/ha in a spray volume of 150 to 200 L water/ha plus a wetter such as Rygel Cropwett 1000 at 120 mL/ha.            * Non-cultivated fallow - to control mature dense stands of annual weeds use rates of 2.4 to 3.2L/ha in a spray volume of 400L water/ha plus a wetter such as Rygel Cropwett 1000 at 120mL/ha or Rygel Cropwett 600 at 240mL/ha.            Control can be improved with the addition of an enhanced rate of diuron 900 WG (500g to 1 kg/ha) and if vine weeds are present add 2,4-D amine.            A split application of Rygel Pre-Seed 250 10 to 12 days apart will also improve control of tall dense weeds. Only use 110° flat fan nozzles equivalent to Spraying Systems 03 for 200 L/ha and 04 for 250 to 400 L/ha. When dense weed growth is present implement penetration and the resulting seedbed may be improved if cultivation commences 4 to 5 days after spraying. Best results will be obtained when spraying is carried out in the evening or in humid conditions.</p> <p><b>TANK MIX:</b> see Compatibility section.</p>

## DIRECTIONS FOR USE Continued

### SUGAR CANE Continued

Crop / Situation	Weeds Controlled		Growth Stage	Rate L/ha
	Common Name	Botanical Name		
<b>SUGARCANE - PLANT &amp; RATOON</b>	<u>Most Seedling Broadleaf Weeds Including</u>		Up to 5 cm high	1.2 to 1.6
	Sicklepod	<i>Senna obtusifolia</i>	Up to 50 cm high	1.2 to 1.6
	Bluetop	<i>Ageratum houstonianum</i>	Up to 15 cm high	1.2 to 1.6
	Phyllantus	<i>Phyllanthus</i> spp.	Up to 15 cm high	1.2 to 1.6
	Calopo	<i>Calopogonium mucunoides</i>	3 to 5 leaves	1.6 to 2.0
	<u>Most Seedling Grasses Including</u>		Up to 5 cm high	1.2 to 1.6 + 0.5 kg Diuron (900 g/kg WG)
	Awnless Barnyard Grass	<i>Echinochloa colona</i>		
	Summer Grass	<i>Digitaria ciliaris</i>		
	Guinea Grass	<i>Panicum maximum</i>		
	Hamil Grass	<i>Panicum maximum</i> cv Hamil		
Green Summer Grass	<i>Brachlaria milliformis</i>			
All above grasses		Up to 10 cm high	1.2 to 1.6 + 1.0 kg Diuron (900 g/kg WG)	
All above grasses		> 10 cm high & seeding	1.6 + 2.8 to 3.9 kg Diuron (900 g/kg WG)	

State	Critical Comments
Qld, NSW & WA only	<p>Apply as a broadcast spray over-the-top of plant cane up to 3 to 4 leaf stage or ratoon cane up to 10 cm high. Cane foliage will be scorched but new leaves will appear in 7 to 10 days. In plant cane between the 3 to 4 leaf stage and the formation of the true stem use a directed interspace spray. The Irvin boom is the most suitable equipment to avoid excessive drift onto cane foliage while spraying at the bases of plant and ratoon cane.</p> <p>After the formation of the true stem, which is resistant to Rygel Pre-Seed 250, the sprayer height can be raised to overlap the spray pattern to give weed control in the stool. Use the higher rate for dense more mature weeds. Rygel Pre-Seed 250 can be mixed with atrazine herbicide to give residual weed control when used as a directed spray. It may also be mixed with high rates of diuron for residual control. To enhance the activity of Rygel Pre-Seed 250 under favourable growing conditions and in open sunny conditions add 275 g/ha diuron (900 g/kg WG) herbicide. Complete spray coverage is essential. For grasses and broadleaf weeds up to 5 cm high use a minimum of 250 L spray solution/ha, increase to 350 L/ha for weeds up to 10 cm high. Use a spray volume of 400 L/ha for weeds up to 10 cm high. Use a spray volume of 400 L/ha for dense mature weeds. Always add a wetter such as Rygel Cropwett 1000 at 120 mL per 100 L of water.</p>

## DIRECTIONS FOR USE Continued

### COTTON

Crop / Situation	Use	State	Rate L/ha
<b>COTTON</b> Dryland and moisture stressed	Desiccant to aid harvest	Qld, NSW only	1.2 to 1.6

### LUCERNE

Crop / Situation	Weeds Controlled	State	Rate L/ha
<b>LUCERNE Established (at least 1 year old)</b> - for improved grazing or oversowing  - for improved grazing, hay or seed production or oversowing.  - for enhanced control of some broadleaf weeds  - for short term residual weed control	most annual weeds including capeweed and Erodium.	All States	1.6
	most annual weeds including capeweed and Erodium.		2.4
	as above plus Paterson's Curse and Shepherd's Purse.		2.4 + 1 kg/ha diuron (900 g/kg WG)
	most annual weeds including capeweed and Erodium, Paterson's Curse and Shepherd's Purse.		2.4 + 1.9 kg/ha diuron (900 g/kg WG)

### Critical Comments

#### Apply by ground rig only.

Good spray coverage is essential. Apply in 50 to 100 L of water per hectare. Use 5 hollow cone or 3 flat fan nozzles per row. Apply when at least 85% of bolls are open and remaining bolls are mature. Rygel Pre-Seed 250 can damage immature green bolls.

### Critical Comments

Spray in autumn after weeds germinate. Graze the lucerne to reduce the height to 2 to 4 cm before spraying.  
**Note:** If required, grass, clover or lucerne seed can be direct drilled to increase desirable plant population.

Spray in winter. Graze the lucerne to reduce the height to 2 to 4 cm before spraying.  
**Note:** If required, grass, clover or lucerne seed can be direct drilled to increase desirable plant population.

For improved control of Paterson's Curse and Shepherd's Purse mix with 1 kg/ha diuron (900 g/kg WG) in late winter. Do not use the tank mix if oversowing.

For short term residual control, tank mix with 1.9 kg/ha diuron (900 g/kg WG) in late winter. Length of control may be shorter on heavy soils or under irrigation. Do not use the tank mix of oversowing.  
**WARNING** - continued use of Rygel Pre-Seed 250 alone in certain areas, has resulted in the selection of resistant barley grass. *Hordeum glaucum*, *H. leporinum*, capeweed and Silver grass, *Vulpia spp.* Where resistant barley grass is confirmed it may be controlled with selective grass herbicides. The use of the tank mix with diuron will assist in control of resistant capeweed and Silver grass and is recommended as a general weed resistance strategy for lucerne.

## DIRECTIONS FOR USE Continued

### PUBLIC SERVICE AREAS, TROPICAL TREE CROPS, VEGETABLES, POTATOES,

Crop / Situation	Weeds Controlled	State	Rate L High Volume or Power Sprayer	
			Per ha	Per 100 L (spot spray)
Public Service Areas, Rights-of-Way, Market Gardens and Nurseries, Orchards (including bananas), Vineyards and Forests - Ring weeding around trees with brown bark and strip spraying in orchards and vineyards	Most annual grasses and broadleaf weeds	All States	2.4 to 3.2 L (a) see below	240 to 320 mL (b) see below
Pre-crop emergence weed control (vegetable crops)				
Long Term Weed Control				

### ORCHARDS AND VINEYARDS

Critical Comments
<p>Thoroughly wet plant foliage. Use the high rate for dense more established weed growth. Repeat treatment on regenerated green perennial weeds (such as Paspalum and Docks) while plants are weakened from previous treatment. Addition of oxyfluorfen at 250 mL/ha will improve control of Small Flowered Mallow, Evening Primrose and other weeds sensitive to oxyfluorfen. Refer to the oxyfluorfen label.</p> <p><b>Note:</b> Spot spray rate assumes 1000 L water/ha. For lower water volumes increase dilution rate as below:            Water volume 250 L/ha: use 960 to 1280 mL/100L.            Water volume 500 L/ha: use 480 to 640 mL/100L.            Water volume 750 L/ha: use 320 to 430 mL/100L.</p> <p><b>OR</b> measure how much spray is required to cover an area of 100 square metres using your normal application volume. Your dilution rate is 24 to 32 mL of Rygel Pre-Seed 250 in this volume.</p>
<p>Prepare seedbed as long as possible before sowing to permit maximum weed germination. Spray the weeds, wait until they have dried off and then sow. If further weed germinations occur before crop emerges, spray again but at least 3 days before crop emerges. Spray when weeds are growing vigorously and not covered with soil or dust, or wilting due to dry conditions. When rain follows dry conditions allow 7 days for weed growth to commence before spray application. See <b>Note</b> on Spot spray rate above.</p>
<p>Rygel Pre-Seed 250 can be mixed with soil residual herbicides: diuron, atrazine, simazine (For further information see General Instructions). See <b>Note</b> on Spot spray rate above.</p>



**DIRECTIONS FOR USE Continued**

**PUBLIC SERVICE AREAS, TROPICAL TREE CROPS, VEGETABLES, POTATOES,**

Crop / Situation	Weeds Controlled	State	Rate L High Volume or Power Sprayer	
			Per ha	Per 100 L (spot spray)
<b>Potatoes</b> - weed control			2.4 to 3.2 L (a) see below	240 to 320 mL (b) see below
			3.2 L (a) see below	320 mL (b) see below
- weed destruction prior to digging				
<b>Avocados, Custard apples, Lychees, Mangoes</b>	Most annual grasses and perennial broadleaf weeds and grasses	All States		120 to 240 mL (b) see below

**Wetting Agent:**

(a) If volume of water applied exceeds 200 L/ha add 200 mL Rygel Cropwett 600 or 120 mL Rygel Cropwett 1000 per 100L of additional water.

(b) Add 100 mL Rygel Cropwett 1000 per 100L.

**ORCHARDS AND VINEYARDS Continued**

Critical Comments
After planting and hilling up, wait until 10 to 25% of potato shoots are emerged then blanket spray with Rygel Pre-Seed 250. Emerged potato shoots will suffer a marginal leaf burn but will quickly recover. See <b>Note</b> on Spot spray above.
Spray 3 to 7 days before digging after all tops have died down. See Note on Spot spray rate above. Note: DO NOT use Rygel Pre-Seed 250 for potato haulm desiccation.
Apply to the ground cover underneath trees from trees from summer to autumn prior to harvest. A second spray may be required 14 days later to control growth not controlled by the initial spray. See <b>Note</b> on Spot spray rate above. <b>WARNING:</b> Avoid spray drift onto trees.

**DIRECTIONS FOR USE Continued**  
**RICE, ESTABLISHED PASTURE, GRASSES**

Crop / Situation	Weeds Controlled	State	Rate L/ha
<b>Rice</b> Do not apply if rice has emerged	Annual Weeds	NSW only	1.6 to 3.2
	Annual Weeds including Barnyard Grass		1.7 to 2.2
	Clover Control		2.2 plus 500 mL dicamba (200 g/L)
	Annual Pasture		3.2
<b>Kikuyu / Paspalum Pastures</b>	To suppress growth to over sow winter feed.	NSW only	2.4
			3.2
<b>Established Pastures</b> Perennial grass crops, cocksfoot, perennial ryegrass, Phalaris and Emeter fescue	Control of annual weeds including capeweed and Erodium for improved grazing, hay or seed production.	NSW, Vic, SA, WA & Tas only	1.6
			2.4
<b>Pasture Improvement</b>	To increase the perennial grass and/or the sub clover or white clover content of the pasture.	Vic, NSW, Tas, SA, & WA only	1.2
<b>Grasses</b> (particularly annual ryegrass)	To control grass seed set (Spray Top technique)	WA & SA only	<b>Boom Spray:</b> 800 mL/ha in a minimum of 50 L clean water
			1.5

Critical Comments
Refer to direct drilling Procedure - Rice 2.
On rice stubbles after burning.
Well grazed clover dominant pasture.
Pasture not properly managed. Use 100 L/ha water per 2 cm growth.
Spray in autumn after grazing or slashing to 2 - 4 cm.
For early spraying (February or March) or if lightly grazed.
Spray in autumn (4 weeks after the break) to mid winter. Only spray stands that are at least 12 months old. Graze pastures to maintain length between 2 - 4 cm (sub-clover should be past 6 true leaf stage).
Spray in late winter. Only spray in stands that are at least 12 months old. Continuously graze pasture to maintain length 2 - 4 cm.
Spray in winter. Sub-clover should be at least 6 true leaf stage. Only suppresses annual weeds (All States except Western Australia) and perennial weeds (Western Australia).
Apply at the end of growing season. HEAVILY GRAZE paddocks during the spring flush to prevent early seed heads emerging. REMOVE all stock about 3 weeks before the end of the growing season to allow seed heads to emerge evenly. Set boomspray at a height to give double overlap spray pattern AT THE TOP of the pasture being sprayed.
HAY FREZING for maximum retention of protein for summer grazing.

**DIRECTIONS FOR USE Continued****RICE, ESTABLISHED PASTURE, GRASSES Continued**

Crop / Situation	Weeds Controlled	State	Rate L/ha
<b>Duboisia</b>	Annual Weeds	Qld & NT only	2.4 to 3.2 or Spot Spraying 240-320 mL per 100L
<b>Tea-trees</b> ( <i>Melaleuca alternifolia</i> )	Grasses and broadleaf weeds	NSW only	1.6 - 3.2

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

**FOR USE ONLY AS AN AGRICULTURAL HERBICIDE.  
THIS PRODUCT IS TOO HAZARDOUS TO BE USED IN THE HOME GARDEN.**

Critical Comments
Apply as directed spray onto weeds around Duboisia plants. This treatment is most effective when applied to young weed seedlings. Product may be mixed with simazine or diuron or applied alone. Thoroughly wet foliage. It is essential to obtain good leaf/coverage and spray volumes of 50-200 L/ha are recommended, depending on density of weed cover. Refer to General Instructions for addition of wetter.
Apply immediately after harvest to desiccated weeds. Avoid drift to unharvested areas.

**WITHHOLDING PERIOD:  
DO NOT GRAZE OR CUT SPRAYED VEGETATION FOR STOCK FOOD FOR AT LEAST 1 DAY OR GRAZE HORSES FOR 7 DAYS AFTER APPLICATION. REMOVE STOCK FROM TREATED AREAS 3 DAYS BEFORE SLAUGHTER.  
COTTON - DO NOT HARVEST EARLIER THAN 7 DAYS AFTER APPLICATION.**

# GENERAL INSTRUCTIONS

Rygel Pre-Seed 250 quickly kills a wide range of annual grasses, broadleaf weeds and some perennial grasses when sprayed directly onto the leaves. The active ingredients are rapidly and tightly absorbed by clay and silt particles in the soil and do not leave any effective soil residues. Thus crops sown immediately after spraying are not affected by the chemicals, nor are weed seeds, which germinate after spraying.

Where insect pests are anticipated use recommended insecticide treatment. Regular checks should be made before and after sowing.

Suitable residual herbicides can be tank mixed with Rygel Pre-Seed 250 to provide extended in-crop weed control in fallows and subsequent crops. Read label recommendations of the respective residual herbicides prior to use, and observe precautions against use of residual herbicides before planting susceptible crops. See compatibility statement on this label for compatibility of Rygel Pre-Seed 250 with other herbicides.

## RESISTANT WEEDS WARNING

### GROUP L HERBICIDE

Rygel Pre-Seed 250 Herbicide is a member of the bipyridyl group of herbicides. Rygel Pre-Seed 250 has the inhibitor of photosynthesis at Photosystem I mode of action. For weed resistance management Rygel Pre-Seed 250 is a Group L herbicide.

Some naturally occurring weed biotypes resistant to Rygel Pre-Seed 250 and other Group L 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 Pre-Seed 250 or other Group L 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 Pre-Seed 250 to control resistant weeds.

### Mixing

The recommended rate of Rygel Pre-Seed 250 should be added to water in the spray tank and agitated to give even mixing. Agitate again if left standing.

## Water Volume

It is essential to obtain good leaf coverage with spray and the following volumes are recommended:

Winter rainfall areas	Boomspray	Summer rainfall areas a: weed stage and density
Plant height up to 2 cm	50 to 100 L/ha	Small plants (2 to 5 leaf) and well separated.
Plant height up to 2 to 5 cm	100 to 150 L/ha	5 leaf to early tiller/rosette: 30-50% ground cover.
Plant height up to 6 to 10 cm	150 to 200 L/ha	Advanced growth, dense and/or tall weeds stands.
Above 10 cm	Use split application to remove excess growth. Use 150 L/ha	Very dense and tall weed growth.

### Note:

- (1) If the volume is increased above 100 L/ha additional wetter should be added at the rate of 200 mL Rygel Cropwett 600 or 120 mL of Rygel Cropwett 1000 per 100 L water.
- (2) Water should be clean and free from clay, silt and algae. Providing it meets this requirement, saline water, water collected from roofs, bore water, dam water and water from creeks may be used.

## Application

### Boomspray

Use only through a properly calibrated boom spray that should be fitted with flat fan jets and adjusted to a height to give at least double overlap of the spray at the top of the weeds being sprayed. Spraying pressures should be in the range of 240-280 kPa. Speed of travel should be in the range of 6 to 10 km/hr. It is essential that a good marking system be used. If a disc marker is used, it must be mounted so as to turn the soil back on to the area sprayed.

## GENERAL INSTRUCTIONS Continued

### Direct Drilling - Procedure 1.

Use of Rygel Pre-Seed 250 Herbicide in crop establishment with no working before sowing.

Step	Critical Comments
1. Burn	If possible crop stubble or pasture trash should be burnt early to avoid problems at sowing. Can also promote weed seed germination.
2. Shallow cultivation - optional	Should be carried out on opening rains to a depth of no more than 2 cm. This will encourage early even germination of weeds particularly annual grasses.
3. Heavy graze paddocks continuously from germination	This prepares the paddock for spraying by keeping the pasture short and open and at the same time restricts the development of the weed roots, which will assist seedbed formation.
4. Remove stock 2 to 3 days before spraying	Allow the weeds to freshen up - important for maximum uptake of Rygel Pre-Seed 250. Spraying can, however, take place immediately after stock removal provided there is sufficient leaf cover and the pasture is not dusty.
5. Spray with a boom sprayer	Accurate application and full spray cover are essential to give weed control. Note limitations as outline under 'Directions for Use'.
6. Sow 3 to 5 days after spraying	A rigid tyne spring release combine is preferred to ensure adequate penetration. Points should not be worn. The combine must be level and set to work 3 to 5 cm and sow seed at recommended depth. Use standard seed and fertiliser rates. When harrowing is considered necessary use trailing harrows.  Sowing can commence one hour after spraying and should be a completed within 7 days. Where heavy weed growth is present a better seedbed will result if sowing is delayed for 3 to 5 days.

### Direct Drilling (Sod Seeding) in Rice - Procedure 2.

Step	Critical Comments
1. Graze pasture heavily	Allow pasture to green up before spraying, generally 1 week. Watering may be required. Where rice follows a cereal crop, the stubbles should be burnt well in advance of the anticipated date of sowing to allow weeds to germinate prior to spraying.
2. Spray the paddock before or after direct drilling	Use 1.6 to 3.2 L Rygel Pre-Seed 250 per hectare. Use 1.7 to 2.2 L/ha for weeds, particularly Barnyard Grass, on rice stubbles after burning. Use 2.2 L/ha for well-grazed pastures plus 500 mL dicamba (200 g/L) per hectare as a tank mix for clover dominant pastures. Up to 3.2 L/ha may be required where the pasture has not been properly managed prior to spraying. Use approximately 100 L clean water /ha per cm growth.
3. Direct Drill Rice	Drill at 2 to 3 cm depth within a few hours of spraying. Do not delay for more than a few days after spraying. Spraying may be carried out after drilling.

## GENERAL INSTRUCTIONS Continued

### Crop Establishment with Cultivation AFTER Spraying - Procedure 3.

Step	Critical Comments
1. Graze paddocks continuously from germination	This prepares the paddock for spraying by keeping the pasture short and open and at the same time restricts the development of the weed roots, which will assist seedbed formation.
2. Remove stock 2 to 3 days before spraying	Allows the weeds to freshen up - important for maximum uptake of Rygel Pre-Seed 250. Spraying can take place immediately after stock removal provided there is sufficient leaf cover and pasture is not dusty.
3. Spray with a boom spray	Accurate application and full spray cover are essential to give weed control. Note limitations as outlined under 'Directions for Use'.
4. Cultivate	Between 1 hour and 7 days after spraying. When dense weed growth is present implement penetration and resulting seedbed may be improved if cultivation commences 3 to 5 days after spraying. It is not necessary to cultivate deeper than sowing depth. Use scarifier or combine with heavy harrows.
5. Sow	Sow at the recommended seed and fertiliser rates and depth.

### Crop Establishment with a Cultivation BEFORE Spraying - Procedure 4.

Step	Critical Comments
1. Graze	Graze pasture or stubble to keep growth of weeds down to a minimum following the autumn break.
2. Cultivate 4 to 6 weeks prior to the anticipated sowing date	Cultivate after autumn rains when conditions are suitable to produce a seedbed and before heavy weed growth develops. A scarifier and heavy harrows should be used with the aim of killing existing weed growth and leaving the seedbed in a level condition. It is not necessary to cultivate deeper than the sowing depth.
3. Wait	Wait 4 to 6 weeks to allow a full germination of weeds. Graze if necessary.
4. Remove stock 2 to 3 days before spraying	Allow the weeds to freshen up - important for maximum uptake of Rygel Pre-Seed 250.
5. Spray with a boom sprayer	Accurate application and full spray cover are essential to give weed control. Note limitations as outlined under 'Directions for Use'.
6. Sow	Between one hour and 7 days after spraying, sow crop in the normal manner. Sow at recommended seed and fertiliser rates and depth. <b>Note:</b> Where heavy weed growth is present at spraying, a better seedbed will result if sowing is delayed for 3 to 5 days.

**Note:** for on the farm advice and assistance, contact your dealer.

## GENERAL INSTRUCTIONS Continued

### CONTROL OF WEEDS AFTER CROP HARVEST AND IN CULTIVATED AND NON-CULTIVATED FALLOWS - NORTHERN NEW SOUTH WALES AND QUEENSLAND ONLY.

#### Use of Rygel Pre-Seed 250 for Weed Control After Cereal Harvest - Procedure 5.

New Zealand Spinach, Bladder Ketmia and Milk Thistle are often present after cereal harvest. They can be controlled by the application of 1.6 to 2.4 litres/hectare of Rygel Pre-Seed 250 in at least 100 litres of clean water/ha. Use a properly calibrated boom sprayer. Ensure that the boom is set for double overlap at the top of the weed canopy. The weed species must be free from dust and actively growing. They should not be shielded from the spray by stubble or trash. The use of a straw spreader at harvest is recommended.

#### Use of Rygel Pre-Seed 250 for the Control of Weeds During the Fallow - Procedure 6.

Weeds must be controlled during the fallow to conserve moisture. While cultivation can eliminate weeds it also exposes the soil to moisture loss. In addition, repeated cultivations destroy soil structure, reduce organic matter and stubble cover. This leads to the formation of hard pans, soil crusts and increases the risk of erosion. Under moist soil conditions weeds are frequently transplanted and not killed, weed growth holds the soil in clods.

Rygel Pre-Seed 250 herbicide provides an economical and reliable alternative for fallow weed control.

For use in fallows to be planted to sugar cane and for weed control prior to planting sugar can, refer to the specific section of this label.

##### a) Seedling Weeds

Seedling weeds should be sprayed with 1.0 to 3.2 /ha of Rygel Pre-Seed 250 in 50 to 100 litres of clean water (see Directions for Use table). Some difficult to control weeds may require a second application 7 to 21 days later, or control may be assisted by a following cultivation.

##### b) Advanced Weed Growth

While some advanced weeds will be controlled by a single application of Rygel Pre-Seed 250 many species will require a follow-up cultivation to complete the kill. Rygel Pre-Seed 250 rapidly desiccates plant material and causes weed roots to loosen their grip on the soil. The results are improved incorporation of plant material, a reduced number of large clods and a more reliable weed kill even in moist soil. Use the recommended rates of Rygel Pre-Seed 250 in 100 to 200 litres of clean water.

continued over

#### Control of Transplanted Weeds

Weeds transplanted by unsuccessful cultivation present an extremely difficult problem. If there is a risk that cultivation will result in weeds being transplanted (particularly under moist soil conditions) it is recommended that the weeds be sprayed with Rygel Pre-Seed 250 prior to cultivation (see previous section). Weeds partly covered by soil and clods provide poor conditions for successful chemical weed control. The best results will be achieved by allowing the weeds to make some regrowth to provide adequate chemical targets. Apply the highest rate of Rygel Pre-Seed 250 preferably spraying in the late afternoon or early evening.

#### Use of Rygel Pre-Seed 250 for the Control of Seedling Weeds Immediately Before Sowing - Procedure 7.

##### a) Sowing with full disturbance (full combine)

The cultivation action of the combine aids in weed kill. Use 0.8 to 2.4 litres of Rygel Pre-Seed 250 depending upon weed species (see Directions for Use table). Sowing should commence within 7 days of spraying.

##### b) Sowing with minimum disturbance (row crop, no-till planters)

A higher rate of Rygel Pre-Seed 250 is recommended due to the absence of cultivation. Use 1.2 to 3.2 litres per hectare in Southern Australia; 1.0 to 3.2 litres per hectare in Northern Australia (Qld, Nthn NSW & NT only).

#### Compatibility

Rygel Pre-Seed 250 is compatible with any one of the following herbicides: metsulfuron-methyl, atrazine, dicamba, 2,4-D, diuron, metolachlor, chloresulfuron, oxyfluorfen, paraquat, triasulfuron, clopyralid, MCPA, diquat, simazine, imazethapyr, pendimethalin, oryzalin, trifluralin. Tank mixes with 2,4-D and MCPA formulations should not be more concentrated than 2 parts Rygel Pre-Seed 250 to 1 part 2,4-D or MCPA.

Refer to the manufacturers label for specific details on compatibility and weed control. Mixtures with more than one product may not be compatible and should be checked in a jar test first. Physical compatibility does not guarantee biological compatibility.

Rygel Pre-Seed 250 is compatible with any one of the following insecticides: alpha-cypermethrin, phosmet, lambda-cyhalothrin, omethoate, bifenthrin.

Rygel Pre-Seed 250 is compatible with Rygel Cropwett 1000 surfactant.

Rygel Pre-Seed 250 is not compatible with copper, zinc or manganese sulphates.

## GENERAL INSTRUCTIONS Continued

### PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

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 LIVESTOCK

Domestic pets and poultry - keep away from treated areas. Low hazard to bees. No special precautions are required. This formulation should not be applied on or near water, which is used for livestock watering.

### PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate streams, rivers or waterways with the chemical or used container. This formulation should not be applied on or near water, which is used for human consumption, livestock watering or irrigation purposes or water used for commercial or recreational fishing.

### STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area locked room or a place away from children, animals, food, feedstuffs, seed and fertilisers. The method of disposal of the container depends on the container type. Read the Storage and Disposal instructions on the label that is attached to the container.

### SAFETY DIRECTIONS

Very dangerous, particularly the concentrate. Product is poisonous if absorbed by skin contact, inhaled or swallowed. Will irritate eyes, nose, throat and skin. Attacks the eyes. Protect eyes while using. Avoid contact with eyes and skin and clothing. DO NOT inhale spray mist. When opening the container and preparing product for use and using the prepared spray, wear:

- cotton overalls buttoned to the neck and wrist,
- a washable hat,
- elbow-length PVC gloves,
- face shield or goggles,
- half face piece respirator or disposable respirator.

If clothing becomes contaminated with product, or wet with spray, remove contaminated clothing immediately. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. Avoid contact with spray mist. DO NOT inhale spray mist. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After

each day's use, wash gloves, respirator and if rubber wash with detergent and warm water, face shield or goggles and contaminated clothing.

### SPRAY APPLICATION

- Do not work in spray mist.
- Do not continue to use if skin irritatin or nose bleed occurs. This may be caused by exposure to spray mist as the result of incorrect use of equipment or adverse climatic conditions. Stop and review handling and spraying techniques before further spraying. If symptoms persist seek medical advice.
- When there is a risk of exposure to spray mist wear waterproof footwear and waterproof protective clothing, impervious gauntlet length gloves (rubber or PVC), goggles and a face mask and respirator covering nose and mouth and capable of filtering spray droplets. A high efficiency type particulate respirator is recommended but in any event use a respirator that complies with the requirements of AS1716 (Standards Association of Australia). Further advice on safety equipment should be obtained from a safety equipment manufacturer.
- Avoid contacting vegetation wet with spray but if necessary to do so wear waterproof footwear and waterproof protective clothing and gloves.

### FIRST AID

If poisoning occurs, get to a doctor or hospital quickly. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

Note for Physicians:

For additional advice on the treatment of paraquat poisoning please consult the booklet "paraquat Poisoning: A Practical Guide to Diagnosis, First Aid and Hospital Treatment" (available from Rygel Australia Pty Ltd).

### 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 Pre-Seed 250 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.

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