

**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**

# **Agro-Essence Paraquat+Diquat 250 Herbicide**

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

<b>GROUP</b>	<b>L</b>	<b>HERBICIDE</b>
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**For control of a wide range of grasses and broadleaf weeds.  
Can be utilised in crop establishment programs. Contains non-ionic wetter.**

**IMPORTANT: READ THIS BOOKLET BEFORE  
USING THIS PRODUCT**



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## DIRECTIONS FOR USE

### RESTRAINT

DO NOT spray plants which 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, hand held ultra low volume controlled droplet applicators (CDA units) or back-mounted equipment.

### SOUTHERN AUSTRALIA - FULL DISTURBANCE

CROP / SITUATION	WEEDS CONTROLLED		GROWTH STAGE	RATE L/ha	STATES	CRITICAL COMMENTS
	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), Field beans, Field peas, Lentils, Linseed (Linola), Lupins, Vetch  <b>Spring/Summer</b> Fodder Rape, Pigeon peas, Safflower, Sorghum Soybeans, Sunflower  <b>Pasture</b> Clover Grass, Lucerne, Medic	<u>Seedling grasses</u> Annual ryegrass Barley grass Brome grass Volunteer cereals, Wild oats	<i>Lolium rigidum</i> <i>Hordeum</i> spp. <i>Bromus</i> spp. <i>Avena</i> spp.	2-3 leaf 4 leaf to early tiller mid to fully tillered	0.6-0.8 0.8-1.6 1.6-2.4	<b>Sthn, NSW, Vic, Tas, SA, WA only</b>	<b>Refer to Crop Establishment Procedure (1)</b> In WA apply after the Autumn break within 4 weeks of weed germination. In the 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 favorable 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 1.2-2.4 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 (silvergrass) add a wetter such as Agral at 160 ml/100L or BS1000 at 100 mL/100L.  <b>Also refer to Crop Establishment Procedure (3) - cultivation after spraying</b> Cultivation can commence 30 minutes after spraying but should be completed within 7days unless a suitable residual herbicide is added or weeds are sprayed again. Where heavy Cont.
	Vulpia (silver grass, sand fescue)	<i>Vulpia</i> spp	2-3 leaf 4 leaf to early tiller mid to fully tillered	0.6-0.8 * 0.8-1.6 * 1.6-2.4*		
	<u>Seedling Brassica weeds</u> Ball mustard Charlock Indian hedge mustard Long fruited wild turnip Muskweed Shepherd's purse Short fruited wild turnip Ward's weed Wild radish	<i>Neslia paniculata</i> , <i>Sinapsis arvensis</i> <i>Sisymbrium orientale</i> <i>Brassica tournefortii</i> <i>Myagrum perfoliatum</i> <i>Capsella bursa-pastoris</i> <i>Rapistrum rugosum</i> <i>Carrichtera annua</i> <i>Raphanus raphanistrum</i>	1-5 cm diameter 5-10 cm diameter 10-20 cm diameter	0.8-1.2 1.2-1.6 1.6-2.4		

Continued from previous page	<u>Other seedling broadleaved weeds</u>		1-4 leaf or 1-4 cm Diameter	0.8-1.2	Sthn NSW, Vic, Tas, SA, WA only	weed growth is present at spraying a better seed bed will result if cultivation is delayed 3-5 days to obtain maximum root release. <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. <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.
	Bedstraw	<i>Galium tricomutum</i>				
	Bifora	<i>Bifora testiculata</i>				
	Capeweed	<i>Arctotheca calendula</i>	4-8 leaf or 4-8 cm diameter	1.2-1.6		
	Horehound	<i>Marrubium vulgare</i>				
Ivy-leaf speedwell	<i>Veronica hederifolia</i>					
Lincoln weed	<i>Diplotaxis tenuifolia</i>					
Medic	<i>Medicago</i> spp.					
Spiny emex (doublegee, three cornered jack)	<i>Emex australis</i>					
Stinging nettle	<i>Urtica urens</i>	1-10 leaf or 1-10 cm diameter		0.8-1.2		
Storksbill (wild geranium crowfoot)	<i>Erodium</i> spp.					
Sub clover	<i>Trifolium subterraneum</i>					
Vetch (tares)	<i>Vicia</i> spp					
Deadnettle	<i>Lamium amplexicaule</i>					
Fumitory	<i>Fumaria</i> spp					
Melilotus	<i>Melilotus</i> spp					
Pimpernel	<i>Anagallis</i> spp					
Poppy	<i>Papaver</i> spp					
Saffron thistle	<i>Carthamus lanatus</i>					
Sheepweed	<i>Buglossoides arvensis</i>					
Paterson's curse	<i>Echium plantagineum</i>	1-5 leaf		1.2-1.6		
Wireweed	<i>Polygonum aviculare</i>	1-4 leaf		0.8-1.2 L/ha		
Marshmallow	<i>Malva parviflora</i>	1-12 leaf		0.8-1.2 L/ha +Diuron (500g/SC) 75 mL/ha		
Volunteer beans, peas & lupins		1-6 leaf		0.8-1.2 L/ha+ Agro-essence Metsulfuron-methyl (600g/kg) 5 g or 0.8-1.2 L/ha + Dicamba 500mL (200g/l)		

## SOUTHERN AUSTRALIA – FALLOW / MINIMUM DISTURBANCE

CROP / SITUATION	WEEDS CONTROLLED		GROWTH STAGE	RATE L/ha	STATES	CRITICAL COMMENTS
	Common Name	Botanical Name				
<p><b>SOUTHERN AUSTRALIA</b></p> <p><b>DIRECT DRILLING</b> with minimum disturbance (disc drill, modified combine, sod seeder) or</p> <p><b>FALLOWS</b> cultivated or non-cultivated as an aid in establishing crops or establishing and maintaining a fallow. Includes the following crops:</p> <p><b>Winter</b> Canola, Chickpeas, Cereals (Wheat, Barley, Oats, Rye, Triticale), Field beans, Field peas, Lentils, Linseed (Linola), Lupins, Vetch</p> <p><b>Spring/Summer</b> Fodder rape, Pigeon peas, Safflower, Sorghum, Soybeans, Sunflower</p> <p><b>Pasture</b> Clover grass, Lucerne, Medic</p>	<u>Seedling grasses</u> Annual ryegrass Barley grass Brome grass Volunteer cereals, Wild oats	<i>Lolium rigidum</i> <i>Hordeum</i> spp <i>Bromus</i> spp <i>Avena</i> spp	2-3 leaf  4 leaf to early tiller  mid to fully tillered	1.0-1.2  1.2-2.4  2.4-3.2	Sth 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 the Autumn break within 4 weeks of weed germination. In the 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.</p> <p>Under less favorable conditions or where spraying is delayed until Winter or in higher rainfall areas or for fallow weed control, use higher rates in the range 2.4-3.2 L/ha.</p> <p>*For control of vulpia (silvergrass) add a wetter such as Agral at 160 ml/100L or BS 1000 at 100ml/100L</p> <p><b>Also refer to Crop Establishment Procedure (3) - cultivation after spraying</b> Cultivation can commence 30minutes after spraying but should be completed within 7days unless a suitable residual herbicide is added.</p> <p>Where heavy weed growth is present at spraying a better seedbed will result if cultivation is delayed 3 to 5 days.</p> <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>
	Vulpia (silver grass, sand fescue)	<i>Vulpia</i> spp	2-3 leaf 4 leaf to early tiller mid to fully tillered	1.0-1.2* 1.2-2.4* 2.4-3.2 *		
	<u>Seedling Brassica weeds</u> Ball mustard Charlock Indian hedge mustard Muskweed Shepherd's purse Short fruited wild turnip Ward's weed Wild radish	<i>Neslia paniculata</i> <i>Sinapsis arvensis</i> <i>Sisymbrium orientale</i> <i>Brassica tournefortii</i> <i>Myagrum perfoliatum</i> <i>Capsella bursa-pastoris</i> <i>Rapistrum rugosum</i> <i>Carrichtera annua</i> <i>Raphanus raphanistrum</i>	1-5cm diameter  5-10 cm diameter  10-20 cm diameter	1.2-1.8 L/ha 1.8-2.4 L/ha 2.4-3.2 L/ha		
	<u>Other seedling broadleaved weeds</u> Bedstraw Bifora Capeweed Horehound Ivy-leaf speedwell Lincoln weed Spiny emex(doublegee, three comered jack) Stinging nettle Storksbill(wild geranium,crowfoot) Vetch(tares)	<i>Gallium tricornutum</i> <i>Bifora testiculata</i> <i>Arctotheca calendula</i> <i>Marrubium vulgare</i> <i>Veronica hederifolia</i> <i>Diplotaxis tenuifolia</i> <i>Emex australis</i>	1-4 leaf or 1-4 cm diameter  4-8 leaf or 4-8 cm diameter	1.2-1.8 L/ha  1.8-3.2 L/ha		
	Vetch(tares)	<i>Urtica urens</i> <i>Erodium</i> spp. <i>vicia</i> spp.				

**SOUTHERN AUSTRALIA – FALLOW / MINIMUM DISTURBANCE**

CROP / SITUATION	WEEDS CONTROLLED		GROWTH STAGE	RATE L/ha	STATES	CRITICAL COMMENTS
	Common Name	Botanical Name				
(continued from previous page)	Deadnettle	<i>Lamium amplexicaule</i>	1-10 leaf or 1-10 cm diameter	1.2-3.2 L/ha	Sth NS W, Vic, Tas, SA, WA only	(continued from previous page)
	Fumitory	<i>Fumaria</i> spp				
	Melilotus	<i>Melilotus</i> spp				
	Pimpemel	<i>Anagallis</i> spp				
	Poppy	<i>Papaver</i> spp				
	Saffron thistle	<i>Carthamus lanatus</i>				
	Sheepweed	<i>Buglossoides arvensis</i>				
	Paterson's course	<i>Echium</i>	1-5 leaf	1.8-3.2 L/ha		
	Wireweed	<i>Polygonum aviculare</i>	1-4 leaf	1.2-3.2 L/ha		
	Marshmallow	<i>Malva parviflora</i>	1-12 leaf	1.2-1.8 L/ha + Spark 75 mL/ha		
Volunteer beans, peas & lupins		1-6 leaf	1.2-1.8 L/ha+ Associate 5 g or 1.2-1.8 L/ha + Dicamba 500 g/L SL 200 mL/ha			
Medic Sub. Clover	<i>Medicago</i> spp <i>Trifolium subterraneum</i>	1-4 leaf or 1-4 cm diameter	1.2-1.8 L/ha + 200 mL/ha Dicamba (500g/L)			
		4-8 leaf or 4-8 cm diameter	1.8-3.2 L/ha plus 5 g metsulfuron methyl 600 WG			
Split application for: Sub. Clover	<i>Trifolium subterraneum</i>	1-8 leaf or 1-8 cm diameter	1.2 L/ha followed by 1.2 L/ha			
		4 leaf to early tiller	1.2 L/ha followed by 1.2 L/ha			
Perennial ryegrass	<i>Lolium perenne</i>	mid to fully tillered	1.6 L/ha followed by 1.6 L/ha			
		Weeds higher than 10 cm	2.4-3.2 L/ha			
Most annual weeds	<i>Heliotropium europaeum</i>	1-15 cm	1.2-1.6 L/ha			
		15-30	1.6-2.4 L/ha			

For sub clover control without the addition of Dicamba 500 g/L SL 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 7-15 days later and when green regrowth is present. Apply first application in late Winter and follow with second application 7-15 days later when green regrowth is present. If there is excess leaf growth, ie more than 10cm, split the recommended rate in half and apply second part 7-15 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.

For use in Summer fallows only. Add 275g/ha Diuron 900 DF to enhance control of larger weeds.

**NORTHERN AUSTRALIA - FULL DISTURBANCE**

CROP / SITUATION	WEEDS CONTROLLED		GROWTH STAGE	RATE	STATE S	CRITICAL COMMENTS
	Common Name	Botanical Name				
<b>NORTHERN AUSTRALIA</b>  <b>DIRECT DRILLING</b> with full combine as an aid in the establishment of crops including:  <b>Broadacre crops –Winter</b> Cereals (Wheat, Barley, Oats, Rye, Triticale), Canola, Chickpeas, Field beans  <b>Broadacre crops – Summer</b> Cotton, Maize, Millet, Mungbeans, Navy beans, Peanuts, Pigeon peas, Safflower, Sorghum, Soybeans, Sunflower	<u>Seedling grasses</u> (not regrowth or rhizomes)	<i>Echinochloa</i> spp <i>Cenchrus ciliaris</i> <i>Sorghum x alrum</i> <i>Sorghum halepense</i> <i>Urochloa panicoides</i> <i>Cenchrus echinatus</i> <i>Phalaris paradoxa</i>	2-3 leaf	0.8-1.2 L/ha	Qld, Nthn NSW, NT only	<b>Refer to Crop Establishment Procedure (7a)</b> Apply in 50-100 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 tyres. Under less favourable conditions or where spraying is delayed or where narrow points are fitted, use higher rates in the range 1.6-2.4 L/ha.  <b>TANK MIX:</b> see Compatibility Section. + For control of larger weeds prior to cereals add 0.5L Agro-Essence 2,4-D 625 g/L SL. Refer to relevant label for plant-back period.
	Barnyard grass Columbus grass Buffel grass Liverseed grass Mossman river grass Paradoxa grass Rhodes grass Summer grass Sweet Summer grass Volunteer barley Volunteer wheat Wild oats	<i>Echinochloa</i> spp <i>Cenchrus ciliaris</i> <i>Sorghum x alrum</i> <i>Sorghum halepense</i> <i>Urochloa panicoides</i> <i>Cenchrus echinatus</i> <i>Phalaris paradoxa</i> <i>Chloris gayana</i> <i>Digitaria ciliaris</i> <i>Brachiaria eruciformis</i> <i>Hordeum vulgare</i> <i>Triticum aestivum</i> <i>Avena ludoviciana</i> , <i>A. fatua</i>	4 leaf to early tiller	1.2-1.6 L/ha		
	Sorghum Stink grass	<i>Sorghum bicolor</i> <i>Eragrostis cilianensis</i>	Mid to fully tillered	1.6-2.4 L/ha		
	<u>Seedling broadleaved weeds</u>	<i>Sisymbrium thellungii</i> * <i>Atriplex muelleri</i> <i>Convolvulus erubescens</i> <i>Wahlenbergia gracilis</i> <i>Solanum nigrum</i> <i>Xanthium spinosum</i> <i>Ipomoea plebeia</i> <i>Trianthema portulacastrum</i> <i>Hibiscus trionum</i> <i>Tribulus terrestris</i> <i>Euphorbia</i> spp. <i>Polygonum convolvulus</i> <i>Ipomoea lonchophylla</i> <i>Gnaphalium</i> spp. <i>Lamium amplexicaule</i> <i>Convolvulus arvensis</i> <i>Chenopodium album</i> <i>Senecio madagascariensis</i> <i>Conyza</i> spp.	1-4 leaf	0.8-1.6 L/ha		
	African turnip weed Annual saltbush Australian bindweed Australian bluebell Blackberry nightshade Bathurst burr Bellvine Black pigweed Bladder ketmia Caltrop Caustic weed Climbing buckwheat Cowvine Cudweeds Deadnettle European bindweed Fat hen Fireweed Fleabanes	<i>Sisymbrium thellungii</i> * <i>Atriplex muelleri</i> <i>Convolvulus erubescens</i> <i>Wahlenbergia gracilis</i> <i>Solanum nigrum</i> <i>Xanthium spinosum</i> <i>Ipomoea plebeia</i> <i>Trianthema portulacastrum</i> <i>Hibiscus trionum</i> <i>Tribulus terrestris</i> <i>Euphorbia</i> spp. <i>Polygonum convolvulus</i> <i>Ipomoea lonchophylla</i> <i>Gnaphalium</i> spp. <i>Lamium amplexicaule</i> <i>Convolvulus arvensis</i> <i>Chenopodium album</i> <i>Senecio madagascariensis</i> <i>Conyza</i> spp.	4-8 leaf	1.6-2.4 L/ha		
			8-12 leaf	2.4 L/ha		

Cont.

Same as above	Fumitory Hogweed Malvastrum Mexican poppy Mintweed Mungbean Native Rosella New Zealand spinach Noogoora burr Parthenium weed Peppergrass Phyllanthus Prickly lettuce Prickly paddymelon Red pigweed Rhynchosia Sesbania pea* Sida Smooth cucumber Soft roly poly Sowthistle Soybean Spiny emex Sunflower * Thornapples Variegated thistle Wild gooseberry	<i>Fumaria spp.</i> <i>Zaleya galericulata</i> <i>Malvastrum americanum</i> <i>Argemone spp.</i> <i>Salvia reflexa</i> <i>Vigna radiata</i> <i>Abelmoschus ficulneus</i> <i>Tetragonia tetragonioides</i> <i>Xanthium pungens</i> <i>Parthenium hysterophorus</i> <i>Lepidium spp.</i> <i>Phyllanthus spp.</i> <i>Lactuca seriola</i> <i>Cucumis myriocarpa</i> <i>Portulaca oleracea</i> <i>Rhynchosia spp.</i> <i>Sesbania cannabina *</i> <i>Sida spp.</i> <i>Cucumis spp.</i> <i>Salsola kali</i> <i>Sonchus spp.</i> <i>Glycine max</i> <i>Emex australis</i> <i>Helianthus annuus *</i> <i>Datura spp.</i> <i>Silybum marianum</i> <i>Physalis minima</i>			Same as above	Same as above
Same as above	Native jute	<i>Corchorus trilocularis</i>	1-4 leaf	1.2-1.6 L/ha	Qld, Nthn NSW, NT only	Same as above
			4-8 leaf	1.6-2.4 L/ha		
	Annual ground cherry	<i>Physalis angulata</i>				
	Tumip weed	<i>Rapistrum rugosum</i>	1-4 leaf	1.2-1.6 Lha		
	Boggabri	<i>Amaranthus mitchellii</i>	1-8 leaf	0.8-1.2 L/ha		
	Hexham scent*	<i>Melilotus indicus*</i>	1-8 leaf	0.8-1.2 L/ha		
	Wild carrot	<i>Daucus glochidiatus</i>	1-8 leaf	0.8-1.2 L/ha		
	Speedy weed	<i>Flaveria australasica</i>	1-8 leaf	0.8-1.2 L/ha		

**NORTHERN AUSTRALIA – FALLOW / MINIMUM DISTURBANCE**

CROP / SITUATION	WEEDS CONTROLLED		GROWTH STAGE	RATE	STATES	CRITICAL COMMENTS
<p><b>NORTHERN AUSTRALIA</b></p> <p><b>DIRECT DRILLING</b> with minimum disturbance or</p>	<p><u>Seedling grasses</u> (not regrowth or rhizomes)</p> <p>Barnyard grass</p> <p>Liverseed grass</p> <p>Paradoxa grass</p> <p>Stink grass</p> <p>Volunteer barley</p> <p>Volunteer wheat</p> <p>Wild oats</p>	<p>Echinochloa spp.</p> <p>Urochloa panicoides</p> <p>Phalaris paradoxa</p> <p>Eragrostis cilianensis</p> <p>Hordeum vulgare</p> <p>Triticum aestivum</p> <p>Avena ludoviciana</p> <p>A. fatua</p>	<p>2 leaf to pre - tillering</p> <p>Early tillering</p>	<p>1.2-1.6 L/ha</p> <p>1.6-2.4 L/ha</p>	<p>QLD, Nthn NSW, NT only</p>	<p><b>Refer to 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 or no-till planters. Under less favourable conditions or where spraying is delayed or for fallow weed control use higher rates in the range 1.6-2.4 L/ha. Apply in 50-100 L of clean water/ha. Avoid spraying under hot dry conditions (delta T should be less than 8). Best results will be obtained when spraying is carried out in the evening or in humid conditions.</p>
<p><b>FALLOWS</b></p> <p>cultivated or non-cultivated as an aid in establishing or maintaining a fallow or the establishment of crops including</p> <p><b>Broadacre crops – Winter</b></p> <p>Cereals (Wheat, Barley, Oats, Rye, Triticale), Chickpeas</p> <p><b>Broadacre crops – Summer</b></p> <p>Cotton, Maize, Millet, Mungbeans, Safflower, Sorghum Soybeans Sunflower</p>	<p><u>Seedling broadleaved weeds</u></p> <p>Bathurst burr</p> <p>Bellvine</p> <p>Black pigweed</p> <p>Bladder ketmia</p> <p>Caltrop</p> <p>Fat hen</p> <p>Fireweed</p> <p>Fumitory</p> <p>Mintweed</p> <p>Mungbean *</p> <p>New Zealand spinach</p> <p>Prickly paddymelon</p> <p>Sesbania pea *</p> <p>Smooth cucumber</p> <p>Sunflower *</p> <p>Thornapples</p> <p>Wild gooseberry</p>	<p>Xanthium spinosum</p> <p>Ipomoea plebeia</p> <p>Trianthema portulacastrum</p> <p>Hibiscus trionum</p> <p>Tribulus terrestris</p> <p>Chenopodium album</p> <p>Senecio madagascariensis</p> <p>Fumaria spp.</p> <p>Salvia reflexa</p> <p>Vigna radiata *</p> <p>Tetragonia tetragonioides</p> <p>Cucumis myriocarpa</p> <p>Sesbania cannabina *</p> <p>Cucumis spp.</p> <p>Helianthus annuus *</p> <p>Datura spp.</p> <p>Physalis minima</p>	<p>1-4 leaf</p>	<p>1.6-2.4 L/ha</p>		<p>*For control of larger weeds prior to cereals add 0.4-0.8 L Agro-Essence 2,4-D 625 g/L SL - Refer to relevant label for plant-back period.</p>
<p><b>As an aid in post harvest weed control – after Winter cereals</b></p>	<p>Volunteer barley</p> <p>Volunteer wheat</p> <p>Bladder ketmia</p> <p>Milk thistle</p> <p>New Zealand spinach</p>	<p><i>Hordeum vulgare</i></p> <p>Triticum aestivum</p> <p>Hibiscus trionum</p> <p>Sonchus oleraceus</p> <p>Tetragonia tetragonioides</p>	<p>1-4 leaf</p> <p>1-4 leaf</p> <p>1-4 leaf</p> <p>1-4 leaf</p> <p>1-4 leaf</p>	<p>1.6-1.6-1.6-1.6-1.6-2.4 L/ha</p>		<p><b>TANK MIX:</b> see Compatibility Section.</p>
						<p><b>Refer to Procedure 5</b></p> <p>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>

# SUGAR CANE

CROP / SITUATION	<u>WEEDS CONTROLLED</u>		GROWTH STAGE	RATE	STATES	CRITICAL COMMENTS
	Common Name	Common Name				
<p><b>NORTHERN AUSTRALIA</b> Sugar Cane establishment and fallows prior to sugar can planting cultivated or non-cultivated</p> <p><b>As an aid in establishing sugar cane or controlling weeds in a fallow prior to sugar cane</b></p>	<p><u>Seedling grasses</u> (not regrowth or rhizomes) Banyard grass Liverseed grass Stink grass</p>	<p><i>Echinochloa</i> spp <i>Urochloa panicoides</i> <i>Eragrostis ciliaris</i></p>	2 leaf to pre-tillering	1.2-1.6 L/ha	Qld, Nthn NSW, NT only	<p><b>SUGAR CANE: prior to planting or for establishing or maintaining a fallow – refer to Procedure (6) and following</b> Cultivated fallow - where seedling weeds have recently germinated, are growing well and are up to 10cm high use rates of 1.6-2.4 L/ha in a spray volume of 150-200 L water /ha plus a wetter such BS1000 at 120ml/ha or Agral at 200ml/100L</p> <p>*Non-cultivated fallow – to control mature dense stands of annual weeds use rates of 2.4-3.2 L/ha in a spray volume of 400 L water/ha plus a wetter such as BS1000 at 120ml/100L or Agral at 200ml/100L. Control will be improved with the addition of an enhancement rate of Diuron 900 DF(500g to 1kg/ha) as per label instructions and if vines are present add Agro-Essence 2,4D 625 g/L SL. A split application of Agro-Essence Paraquat+Diquat 250 Herbicide 10-12 days apart will also improve control of tall dense weeds.Only use 110 * Flat fan nozzles equivalent to Spraying Systems 03 for 200L/ha and 04 for 250 to 400L/ha. When dense weed growth is present implement penetration and the resulting seedbed may be improved if cultivation commences 4-5 days after spraying. Best results will be obtained when spraying is carried out in the evening or in humid conditions (delta T should be less than 8). <b>TANK MIX:</b> see Compatibility section</p>
	<u>Seedling broadleaved</u>		1-4 leaf	1.6-2.4 L/ha		
	<u>weeds</u>		mature broadleaf weeds *	2.4-3.2* L/ha		
	Bathurst burr	<i>Xanthium spinosum</i>				
	Bellvine	<i>Ipomoea plebeia</i>				
	Black pigweed	<i>Trianthema portulacastrum</i>				
	Bladder ketmia	<i>Hibiscus trionum</i>				
	Caltrop	<i>Tribulus terrestris</i>				
	Fat hen	<i>Chenopodium album</i>				
	Fumitory	<i>Fumaria</i> spp				
	Mintweed	<i>Salvia reflexa</i>				
	Mungbean	<i>Vigna radiata</i>				
	New Zealand spinaches	<i>Tetragonia tetragonoid</i>				
	Prickly paddymelon	<i>Cucumis myriocarpa</i>				
	Sesbania pea	<i>Sesbania cannabina</i>				
Smooth cucumber	<i>Cucumis</i> spp					
Thomapples	<i>Datura</i> spp					
Wild gooseberry	<i>Physalis minima</i>					
Phyllanthus	<i>Phyllanthus</i> spp	1-8 leaf	1.6-2.4 L/ha			
		mature broadleaf weeds	2.4-3.2* L/ha			
<b>Most seedling broadleaf weeds including</b>		up to 5 cm high	1.2-1.6 L/ha			
Sicklepod	<i>Senna (Cassia) obtusifolia</i>	up to 50 cm high				
Bluetop	<i>Ageratum houstonianum</i>	up to 15 cm high				
Phyllanthus	<i>Phyllanthus</i> spp	up to 15 cm high				
Calopo	<i>Calapogonium muconoides</i>	3-5 leaves	1.6-2.0L/ha			

Cont.

SUGARCANE - PLANT & RATOON	<b>Most seedling broadleaf weeds including</b> Awnless banyard grass Summer grass Guinea grass Hamil grass Green Summer grass  all above grasses	<i>Echinochloa colona</i> <i>Digitaria ciliaris</i> <i>Panicum maximum</i> <i>Panicum maximum cv Hamil</i> <i>Brachiaria miliiformis</i>	up to 5 cm high	1.2-1.6 L/ha + Diuron 900 DF at label rates	Qld, NSW & WA only	Apply as a broadcast spray over-the-top of plant cane up to the 3-4 leaf stage or ratoon cane up to 10cm high. Cane foliage will be scorched but new leaves will appear in 7-10 days. In plant cane between the 3-4 leaf stage and the formation of the true stem use a directed interspace spray. The Irvin spray boom is the most suitable equipment to avoid excessive drift onto cane foliage while spraying at the bases of plant and ratoon cane. After the formation of the true stem which is resistant to Agro-Essence Paraquat+Diquat 250 Herbicide, 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. Agro-Essence Paraquat+Diquat 250 Herbicide can be mixed with Atrazine 900 DF to give residual weed control when used as a directed spray. It may also be mixed with Diuron 900 DF for residual control. To enhance activity of Agro-Essence Paraquat+Diquat 250 Herbicide under favorable growing conditions and rates. Complete spray coverage is essential. For grasses and broadleaved weeds up to 5cm 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 dense mature weeds. Always add a wetter such as Agral at 200ml/100L or BS1000 at 120ml per 100L of water
			up to 10 cm high	1.2-1.6 L/ha + Diuron 900 DF at label rates		
			> 10 cm high & seeding	1.6 L/ha + Diuron 900 DF at label rates		

## COTTON

CROP /	USE	RATE	STATES	CRITICAL COMMENTS
<b>COTTON</b> Dry land and moisture stressed	Desiccant to aid harvest	1.2-1.6 L/ha	Qld, NSW only	<b>Apply by groundrig only.</b> Good spray coverage is essential. Apply in 50-100 L of water/ha. 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. Agro-Essence Paraquat+Diqaut 250 Herbicide can damage immature green bolls.

## LUCERNE

CROP /	WEEDS	RATE	STATES	CRITICAL COMMENTS
<b>LUCERNE - established (at least 1 year old)</b>  - for improved grazing or over sowing	Most annual weeds including Capeweed and Erodium	1.6 L/ha	All States	Spray in Autumn after weeds germinate. Graze the Lucerne to reduce the height to 2-4 cm before spraying. <b>Note:</b> If required, grass, clover or lucerne seed can be direct drilled to increase desirable plant
- for improved grazing, hay or seed production or over sowing	Most annual weeds including Capeweed and Erodium	2.4 L/ha		Spray in Winter. Graze the lucerne to reduce the height to 2-4 cm before spraying. <b>Note:</b> If required, grass, clover or lucerne seed can be direct drilled to increase desirable plant
- for enhanced control of some broadleaf weeds	as above plus Paterson's curse and Shepherd's purse	2.4 L/ha + Diuron 900 DF 1 kg/ha		For improved control of Paterson's curse and Shepherd's purse mix with Diuron 900 DF at 1 kg/ha in late Winter. DO NOT use the tank mix if over sowing.
- for short term residual weed control	Erodium, Paterson's curse and Shepherd's purse	2.4 L/ha +Diuron 900 DF 1.9 kg/ha		<b>For short term residual control, tank mix with Diuron 900 DF at 1.9 kg/ha in late Winter. Length of control may be shorter on heavy soils or under irrigation. DO NOT use the tank mix if over sowing.</b>  <b>WARNING</b> -continued use of Agro-Essence Paraquat+Diqaut 250 Herbicide alone in certain areas, has resulted in the selection of resistant barley grass <i>Hordeum glaucum</i> , <i>H leporinum</i> , capeweed and silver grass <i>Vulpia</i> spp. Where resistant barley grass is confirmed it may be controlled with Fusilade or Fusion. The use of the tank mix with Diuron 900 DF will assist in control of resistant capeweed and silver grass and is recommended as a general weed resistance strategy for lucerne.

**PUBLIC SERVICE AREAS, TROPICAL TREE CROPS, VEGETABLES, POTATOES, ORCHARDS AND VINEYARDS**

CROP / SITUATION	WEEDS CONTROLLED	STATES	RATE		CRITICAL COMMENTS
			High Volume or power sprayer		
			L/ Ha	Per 100L (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 broadleaved weeds	All States	2.4-3.2 (a) see below	240-320 mL (b) see below	<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 Spark at 250 mL/ha will improve control of small flowered mallow, evening primrose and other weeds sensitive to Spark. Refer to the Spark 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 960-1280 mL/100L                      water volume 500 L/ha: use 480-640 mL/100L                      water volume 750 L/ha: use 320-430 mL/100L</p> <p><b>OR</b> Measure how much spray is required to cover an area of 100 m<sup>2</sup> using your normal application volume. Your dilution rate is 20-32 mL of Agro-Essence Paraquat+Diquat 250 Herbicide in this volume.</p>
Pre-crop emergence weed control (vegetable crops)					
Long term weed control			Agro-Essence Paraquat+Diquat 250 Herbicide can be mixed with soil residual herbicides Diuron 900 DF, Agro-Essence Atrazine 900 WG, Agro-Essence Simazine 900 WG. (For further information see General Instructions) See <b>Note</b> on spot spray rate above		
Potatoes - weed control - weed destruction prior to digging			After planting and hilling up, wait until 10-25% of potato shoots are emerged then blanket spray with Agro-Essence Paraquat+Diquat 250 Herbicide. Emerged potato shoots will suffer a marginal leaf burn but will quickly recover. See <b>Note</b> on spot spray rate above		
Avocados, Custard apples, Lychees, Mangoes	Most annual and perennial broadleaf weeds and grasses	All States	3.2 (a) see below	320 mL (b) see below	<p>Spray 3-7 days before digging after all tops have died down. See <b>Note</b> on spot spray rate above.</p> <p><b>Note:</b> DO NOT use Agro-Essence Paraquat+Diquat 250 Herbicide for Potato haulm desiccation.</p>
			-	120-240 mL (b) see below	<p>Apply to the ground cover underneath 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.</p> <p><b>WARNING:</b> Avoid spray drift onto trees.</p>

**Wetting agent:**

(a) If volume of water applied exceeds 200 L/ha add 200 mL Agral or 120 mL BS 1000/100 L of additional water.

(b) Add 160 mL Agral or 100 mL BS1000 per 100 L.

**PUBLIC SERVICE AREAS, TROPICAL TREE CROPS, VEGETABLES, POTATOES, ORCHARDS AND VINEYARDS,**

*continued*

<b>CROP /</b>	<b>SITUATION / WEEDS</b>	<b>STATES</b>	<b>RATE</b>	<b>CRITICAL COMMENTS</b>
Rice DO NOT apply if rice has emerged	Annual weeds	NSW only	1.6-3.2 L/ha	Refer to Direct Drilling Procedure - Rice (2)
	Annual weeds including Barnyard grass		1.7-2.2 L/ha	On rice stubbles after burning
	Clover control		2.2 L/ha +500mL Banvel 200 as tank mix	Well grazed clover dominant pastures
	Annual Pasture		3.2 L/ha	Pasture not properly managed. Use 100 L/ha water per 2 cm growth.
Kikuyu/Paspalum Pastures	To suppress growth to over sow Winter feed.	NSW only	2.4 L/ha	Spray in Autumn after grazing or slashing to 2-4 cm.
			3.2 L/ha	For early spraying (February or March) or if lightly grazed
Established Pastures 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 L/ha	Spray in Autumn (4 weeks after the break) to mid Winter. Only spray stands which are at least 12 months old. Graze pastures to maintain length between 2-4cm. (Sub clover should be past 6 true leaf stage).
			2.4 L/ha	Spray in late Winter. Only spray stands which are at least 12 months old. Continuously graze pasture to maintain length 2-4 cm.
Pasture Improvement	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 L/ha	Spray in Winter. Sub-clover should be past 6 true leaf stage. Only suppresses annual weeds. (All States except Western Australia) and perennial weeds (Western Australia).
Grasses (particularly Annual ryegrass)	To control grass seed set (SprayTop technique)	WA & SA only	<b>Boom-spray:</b> 800 mL/ha in a minimum of 50 L clean water	Apply at the end of growing season. Heavily graze paddocks during the Spring flush period 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 boom spray at a height to give double overlap spray pattern at the top of the pasture being sprayed.
			1.5 L/ha	Hay freezing for maximum retention of protein for Summer grazing.
Duboisia	Annual weeds	Qld and NT only	2.4-3.2 L/ha OR Spot Spraying 240-320 mL per 100 L	Apply as directed spray on to weeds around Duboisia plants. This treatment is most effective when applied to young weed seedlings. Product may be mixed with Agro-Essence Simazine 900 WG or Diuron 900 DF or applied alone. Thoroughly wet foliage. It is essential to obtain good leaf/coverage and spray volumes of 50-200L/ha are recommended, depending on density of weed cover. Refer to General Instructions for addition of wetter.
Tea-trees (Melaleuca alternifolia)	Grasses and broadleaf weeds	NSW only	1.6-3.2 L/ha	Apply immediately after harvest to desiccated weeds. Avoid drift to unharvested areas.

# 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

## WITHHOLDING PERIODS:

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:

Agro-Essence Paraquat+Diquat 250 Herbicide 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 almost 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 Agro-Essence Paraquat+Diquat 250 Herbicide to provide extended in-crop weed control in fallows and subsequent crops. Read label recommendations of the respective residual herbicides prior to their use, and observe precautions against use of residual herbicides before planting susceptible crops. See compatibility statement on this label for compatibility of Agro-Essence Paraquat+Diquat 250 Herbicide with other herbicides.

## RESISTANCE WEEDS WARNING



Agro-Essence Paraquat+Diquat 250 Herbicide is a member of the bipyridyls group of herbicides. Agro-Essence Paraquat+Diquat 250 Herbicide has the inhibitors of photo-synthesis at photosystem I mode of action. For weed resistance management Agro-Essence Paraquat+Diquat 250 Herbicide is a Group L herbicide. Some naturally occurring weed biotypes resistant to Agro-Essence Paraquat+Diquat 250 Herbicide 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 Agro-Essence Paraquat+Diquat 250 Herbicide or other Group L herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Agro-Alliance (Australia) Pty Ltd accepts no liability for any losses that may result from the failure of Agro-Essence Paraquat+Diquat 250 Herbicide to control resistant weeds.

## MIXING

The recommended rate of Agro-Essence Paraquat+Diquat 250 Herbicide 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 the spray and the following volumes are recommended:

Winter rainfall areas	Boomspray	Summer rainfall areas: Weed stage and density
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Plant height up to 2 cm	50-100 L/ha	Small plants (2-5 leaf) and well separated.
Plant height up to 2-5 cm	100-150 L/ha	5 leaf to early tiller/rosette; 30-50 % ground cover.
Plant height up to 6-10 cm	150-200 L/ha	Advanced growth, dense and/or tall weed 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/100L of Agral or 120 mL/100L BS1000 per 100 L of additional 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

##### (1) Boomspray

Use only through a properly calibrated boomspray which should be fitted with appropriate spray tips 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 240-280kPa. Speed of travel should be in the range of 6-10km/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.

#### DIRECT DRILLING PROCEDURE (1)

Use of Agro-Essence Paraquat+Diquat 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. Heavily 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 seed bed formation.
4. Remove stock 2-3 days before spraying	Allow the weeds to freshen up - important for maximum uptake of Agro-Essence Paraquat+Diquat 250 Herbicide. Spraying can, however, take place immediately after stock removal provided there is sufficient leaf cover and the pasture is not dusty.
5. Spraying with a boom spray	Accurate application and full spray cover are essential to give weed control. Note limitations as outlined under Directions for Use.
6. Sow 3-5 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 3-5 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 completed within 7 days. Where heavy weed growth is present a better seed bed will result if sowing is delayed for 3-5 days.

**DIRECT DRILLING (SOD SEEDING) PROCEDURE - RICE (2)**

STEP	CRITICAL COMMENTS
1. Graze pasture heavily	Allow pasture to green up before spraying, generally about 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 1.6-3.2 L Agro-Essence Paraquat+Diquat 250 Herbicide per hectare. Use 1.7-2.2 L/ha for weeds, particularly Barnyard grass, on rice stubbles after burning. Use 2.2L/ha for well grazed pastures plus 0.5L/ha Dicamba 500 g/L SL 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 100L clean water/ha per cm growth.
3. Direct drill rice	Drill at 2-3 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.

**CROP ESTABLISHMENT WITH A CULTIVATION AFTER SPRAYING. CROP ESTABLISHMENT 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 seed bed formation.
2. Remove stock 2-3 days before spraying	Allows the weeds to freshen up to important for maximum uptake of Agro-Essence Paraquat+Diquat 250 Herbicide. Spraying can take place immediately after stock removal provided there is sufficient leaf cover and the 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 seed bed may be improved if cultivation commences 3-5 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. CROP ESTABLISHMENT 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 4-6 weeks prior to the anticipated sowing date	Cultivate after Autumn rains when conditions are suitable to produce a seed bed 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 4-6 weeks to allow a full germination of weeds. Graze if necessary.
4. Remove stock 2-3 days before spraying	Allow the weeds to freshen up - important for maximum uptake of Agro-Essence Paraquat+Diquat 250 Herbicide.
5. Spray with a boomspray	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 seed bed will result if sowing is delayed for 3-5 days.

**NOTE:** For on the farm advice and assistance, contact your dealer or Agro-Alliance Manager.

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

### USE OF AGRO-ESSENCE PARAQUAT+DIQAUT 250 HERBICIDE 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 1.6-2.4 L/ha of Agro-Essence Paraquat+Diquat 250 Herbicide in at least 100 L of clean water. 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 AGRO-ESSENCE PARAQUAT+DIQAUT 250 HERBICIDE 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.

Agro-Essence Paraquat+Diquat 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 cane refer to the specific section of the label.

#### a) Seedling Weeds:

Seedling weeds should be sprayed with 1.0-3.2 L/ha Agro-Essence Paraquat+Diquat 250 Herbicide in 50-100 L of clean water (see Directions for Use table). Some difficult to control weeds may require a second application 7-21 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 Agro-Essence Paraquat+Diquat 250 Herbicide many species will require a follow-up cultivation to complete the kill. Agro-Essence Paraquat+Diquat 250 Herbicide 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 Agro-Essence Paraquat+Diquat 250 Herbicide in 100-200 L of clean water.

**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 Agro-Essence Paraquat+Diquat 250 Herbicide 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 an adequate chemical targets. Apply the highest rate of Agro-Essence Paraquat+Diquat 250 Herbicide preferably spraying in the late afternoon or early evening.

### USE OF AGRO-ESSENCE PARAQUAT+DIQAUT 250 HERBICIDE 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 0.8-2.4 L of Agro-Essence Paraquat+Diquat 250 Herbicide 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 Agro-Essence Paraquat+Diquat 250 Herbicide is recommended due to the absence of cultivation. Use Agro-Essence Paraquat+Diquat 250 Herbicide at 1.0-3.2 L/ha in southern Australia; 1.2-3.2 L/ha in northern Australia (Qld, ntn NSW & NT only).

**COMPATIBILITY**

Agro-Essence Paraquat+Diquat 250 Herbicide is compatible with any one of the following herbicides: Agro-Essence metsulfuron methyl 600 Herbicide, Agro-Essence atrazine 900 WG, Agro-Essence triallate 500 Herbicide, dicamba 500 SL, Agro-Essence 2,4-D 625 SL, 2,4-D ester 600 g/L EC, Diuron 900 DF, Diuron 900WG, S-metolachlor 960 g/L EC, chlorsulfuron 750 g/L DF, Agro-Essence MCPA 500 Herbicide, diquat 200 g/L SL, Agro-Essence Simazine 900 WG, Agro-Essence trifluralin 480 EC, Tank mixes with 2,4-D and MCPA formulations should not be more concentrated than 2 parts Agro-Essence Paraquat+Diquat 250SL 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.

Agro-Essence Paraquat+Diquat 250 Herbicide is compatible with any one of the following insecticides: alpha-cypermethrin, phosmet, lambda-cyhalothrin, omethoate, bifenthrin, dimethoate.

Agro-Essence Paraquat+Diquat 250 Herbicide is compatible with Agral and BS 1000 surfactants.

Agro-Essence Paraquat+Diquat 250 Herbicide is not compatible with copper, zinc or manganese sulphates.

**PROTECTION OF CROPS, NATIVE AND OTHER NON TARGET PLANTS**

DO NOT apply under weather conditions or from spraying equipment which 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 containers. 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****10, 20 and 200 L only**

Store in the closed, original container in a dry, cool, well ventilated locked room or a place away from children, animals, food, feedstuffs, seed and fertilisers. DO NOT store for prolonged periods in direct sunlight. Triple or preferably 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 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.

### **Refillable containers 1000L**

Store in the closed, original container in a dry, cool, well-ventilated locked room or a place away from children, animals, food, feedstuffs, seed and fertilisers. DO NOT store for prolonged periods in direct sunlight. Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

### **SAFETY DIRECTIONS**

Very dangerous, particularly the concentrate. Product is poisonous if absorbed by skin contact, inhaled or swallowed. Will irritate the eyes, nose, throat and skin. Attacks eyes. Protect eyes while using. Avoid contact with eyes, skin and clothing. DO NOT inhale spray mist. Obtain an emergency supply of Ipecac Syrup APF. When opening the container, 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 facepiece 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 irritation or nosebleed 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 which complies with the requirement 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 to 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 major hospitals or the Poisons Information Centres).

### **MATERIAL SAFETY DATA SHEET**

For further information refer to the Material Safety Data Sheet (MSDS), which can be obtained from your supplier or from the Agro-Alliance website: <http://www.agroalliance.com.au>

**In case of emergency: Phone 1800 033 498** Ask for shift supervisor. Toll free 24 hours.

## CONDITIONS OF SALE

Agro-Alliance (Australia) Pty Ltd (Agro-Alliance) shall not be liable for any loss, injury, damage or death whether consequential or otherwise whatsoever or howsoever arising whether through negligence, use under abnormal conditions or otherwise in connection with the sale, supply, use or application of this product. The supply of this product is on the express condition that the purchaser does not rely on Agro-Alliance's skill or judgment in purchasing or using the product and every person dealing with this product does so at their own risk.

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\* Other registered trademarks

<b>UN NO. 3016</b>	<b>DIPYRIDILIUM PESTICIDE LIQUID, TOXIC, N.O.S. (contains paraquat and diquat)</b>
<b>In a Transport Emergency Dial 000 Police or Fire Brigade</b>	<b>FOR A SPECIALIST ADVICE IN AN EMERGENCY DIAL 1800 033 111</b>
<b>PG III</b>	<b>HAZCHEM 2X</b>



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