

POISON

KEEP OUT OF REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

FREE
LEAFLET

Smart
PASS 450

HERBICIDE

ACTIVE CONSTITUENT: 450 g/L 2,4 D
present as the ISOPROPYLAMINE SALT

GROUP 4 HERBICIDE

For the control of emerged broadleaf weeds prior to sowing crops and pastures in conservation tillage situations and for selective weed control in crops and situations detailed in the Directions for Use.

THIS IS A PHENOXY HERBICIDE THAT CAN CAUSE SEVERE DAMAGE TO NATIVE VEGETATION AND SUSCEPTIBLE CROPS SUCH AS COTTON, GRAPES, TOMATOES, OILSEED CROPS AND ORNAMENTALS.



IMPORTANT:
READ THIS LEAFLET BEFORE USING THIS PRODUCT

Crop Smart
better crop protection

DIRECTIONS FOR USE:**RESTRAINTS:**

DO NOT exceed maximum application rate of 10 L/ha (4500 g ae/ha).

DO NOT exceed the maximum daily application rate by backpack spraying of 8.9 L of product per day.

DO NOT apply if heavy rains or storms are forecast within 3 days.

DO NOT irrigate to the point of runoff for at least 3 days after application.

DO NOT apply if crop or weeds are stressed due to dry or excessively moist conditions.

Additional USAGE restrictions apply in some crops, states and seasons, see restriction tables 1, 2, 3, 4 and 5.

SPRAY DRIFT RESTRAINTS

DO NOT apply by a vertical sprayer.

Specific definitions for terms used in this section of the label can be found at www.apvma.gov.au/spraydrift

DO NOT allow **bystanders** to come into contact with the spray cloud.

DO NOT apply in a manner that may cause an **unacceptable impact** to **native vegetation, agricultural crops, landscaped gardens** and **aquaculture production**, or cause contamination of plant or livestock commodities, outside the application site from **spray drift**. The **buffer zones** in the relevant buffer zone tables below provide guidance but may not be sufficient in all situations. Wherever possible, correctly use application equipment designed to reduce spray drift and apply when the wind direction is away from these sensitive areas.

DO NOT apply unless the **wind speed** is between 3 and 20 kilometres per hour at the **application site** during the time of application.

DO NOT apply if there are **hazardous surface temperature inversion** conditions present at the **application site** during the time of application. **Surface temperature inversion conditions** exist most evenings one to two hours before sunset and persist until one to two hours after sunrise.

BOOM SPRAYERS

DO NOT apply by a boom sprayer unless the following requirements are met:

- Spray droplets are not smaller than a VERY COARSE **spray droplet size category**
- Minimum distances between the **application site** and downwind **sensitive areas** are observed (see 'Mandatory buffer zones' section of the following table titled 'Buffer zones for boom sprayers') are observed.

Buffer Zones for Boom Sprayers

Application rate (/ha)	Boom Height above target canopy	Mandatory buffer zones (distances given in metres)				
		Bystander Areas	Natural Aquatic Areas	Pollinator Areas	Vegetation Areas	Livestock Areas
Up to 1 L (450 g a/ha)	0.5m or lower	0	5	0	5	0
	1.0m or lower		35		30	
Up to 2 L (900 g ae/ha)	0.5m or lower		25		20	
	1.0m or lower		50		50	
Up to 3 L (1350 g ae/ha)	0.5m or lower		30		30	
	1.0m or lower		70		70	
Up to 4 L (1800 g ae/ha)	0.5m or lower		35		35	
	1.0m or lower		90		85	
Up to 5 L (2250 g ae/ha)	0.5m or lower		40		35	
	1.0m or lower		110		110	
Up to 6.7 L (3000 g ae/ha)	0.5m or lower		50		45	
	1.0m or lower		150		140	

AIRCRAFT

DO NOT apply by aircraft unless the following requirements are met:

- Spray droplets are no smaller than a VERY COARSE spray droplet size category
- For maximum release heights above the target canopy of 3 metres or 25 per cent of wingspan or 25 per cent of rotor diameter whichever is the greatest, minimum distances between the application site and downwind sensitive areas (see 'Mandatory buffer zones' section of the following table titled 'Buffer zones for aircraft') are observed.

BUFFER ZONES FOR AIRCRAFT

Application rate (/ha)	Aircraft type	Mandatory buffer zones (distances given in metres)				
		Bystander Areas	Natural Aquatic Areas	Pollinator Areas	Vegetation Areas	Livestock Areas
Up to 1 L (450 g ae/ha)	Fixed Wing	0	100	0	100	0
	Helicopter		75		75	
Up to 2 L (900 g ae/ha)	Fixed Wing		160		160	
	Helicopter		110		110	
Up to 3 L (1350 g ae/ha)	Fixed Wing		210		210	
	Helicopter		150		140	
Up to 4 L (1800 g ae/ha)	Fixed Wing		275		250	
	Helicopter		180		170	
Up to 5 L (2250 g ae/ha)	Fixed Wing		325		300	
	Helicopter		200		200	
Up to 6.7 L (3000 g ae/ha)	Fixed Wing		425		400	
	Helicopter		250		240	

Timing and Usage Restriction Tables.**Table 1: Timing restrictions for spraying peanuts**

Situation	Rate (L/ha)	Region	Timing Restriction
			DO NOT APPLY DURING THE MONTHS
Broadcast spraying, prior to sowing (peanuts)	Up to 1.9L/ha	Cape York	October and November
		Northern Gulf	October and November
		Northern Territory	October and November
		Wet Tropics	No timing restrictions
		Burdekin	October
		Mackay/Whitsunday	September to December
		Mary/Burnett	October to November
		SE Queensland	August to May
	Up to 2.4L/ha	Cape York	October and November
		Northern Gulf	October and November
		Northern Territory	October and November
		Wet Tropics	No timing restrictions
		Burdekin	October
		Mackay/Whitsunday	August to December
		Mary/Burnett	September to November
		SE Queensland	Use not supported

Situation	Rate (L/ha)	Region	Timing Restriction
			DO NOT APPLY DURING THE MONTHS
FALLOW BAND SPRAY PRIOR TO SOWING Peanuts	Up to 2.5L/ha	Queensland dryland	No timing restrictions
		Cape York	No timing restrictions
		Northern Gulf	October and November
		Northern Territory	October and November
		Wet Tropics	No timing restrictions
		Burdekin	No timing restrictions
		Mackay/Whitsunday	No timing restrictions
		Mary/Burnett	No timing restrictions
SE Queensland	October to January		
Broadcast spray, post-sowing pre- emergence (peanuts)	Up to 5L/ha	Queensland dryland	June to August
		Cape York	October and November
		Northern Gulf	October and November
		Northern Territory	October and November
		Wet Tropics	October to December
		Burdekin	September and October
		Mackay/Whitsunday	August to December
		Mary/Burnett	April to January
SE Queensland	Use not supported		

DO NOT apply above maximum rate (L/ha) below OR label rate, whichever is LOWEST					
Pastures (prior to sowing, conservation tillage)	State	Summer	Autumn	Winter	Spring
	Queensland & NT	7.1	7.1	7.1	7.1
	New South Wales & ACT	7.1	7.1	7.1	7.1
	Victoria	0.8	2.3	7.1	2.3
	Tasmania	0.8	1.7	4.9	2.3
	South Australia	1.6	2.3	7.1	4.9
	Western Australia	2.3	4.9	7.1	4.9
Pastures (established)	State	Summer	Autumn	Winter	Spring
	Queensland & NT	10	10	10	10
	New South Wales & ACT	10	10	10	10
	Victoria	1.3	2.7	10	5
	Tasmania	0.9	2.3	7.1	4.4
	South Australia	2	4.4	10	7.1
	Western Australia	5	7.1	10	7.1

Rate (L/ha)	Region	Timing Restriction
		DO NOT APPLY DURING THE MONTHS
Up to 2.4L/ha	Wet Tropics	No timing restriction
	Burdekin	No timing restriction
	Mackay/Whitsunday	October to November
	Mary/Burnett	October to November
	Northern NSW	No timing restriction
Up to 4.9L/ha	Wet Tropics	October to December
	Burdekin	September to October
	Mackay/Whitsunday	August to December
	Mary/Burnett	April to January
	Northern NSW	October to November

DO NOT apply above maximum rate (L/ha) below OR label rate, whichever is LOWEST		
Turf	State	Rate (L/ha)
	Queensland & NT	4.4
	New South Wales & ACT	4.4
	Victoria	3.5
	Tasmania	3.5
	South Australia	3.5
	Western Australia	5.6

If applying to golf courses in Tasmania, DO NOT apply to fairways adjacent to natural water bodies.

Situation	Risk mitigation measures
Dryland cropping, Preparatory spray	Only apply in no-till farming systems (Tasmania, South Australia)
Winter cereals, pre- emergence uses	Only apply in no-till farming systems (Tasmania, South Australia, Western Australia)
Summer cereals, pre- emergent uses	Only apply in no-till farming systems (Tasmania, South Australia)

Table 1. Pre sowing: FALLOWS, STUBBLE SPRAY PRIOR TO DIRECT DRILLING OR SOWING

Situation & Crop	Weeds	State	Rate	Critical Comments	USAGE RESTRICTIONS
Pastures: Balansa Clover, Lucerne, Perennial Ryegrass, Persian Clover, Phalaris, Subterranean Clover, Vetch, White Clover Cereals: Barley, Oats, Rice, Sorghum, Triticale, Wheat Grain legumes: Chickpeas, Faba Beans, Field Peas, Lentils, Lupins, Narbon Beans, Navybeans Oilseeds: Cotton, Linseed, Safflower, Soybean, Sunflower, Rapeseed	Fumitory (white), Ball Mustard, Indian Hedge Mustard, Common Sowthistle, Turnip Weed, Wild Turnip, Wild Radish.	All States	440mL/ha - 800L/ ha + 450g/L Glyphosate and Surfactant at recommended label rates	RATE SELECTION: Use the lower rate for seedling broadleaf weeds and increase to this higher rate for broadleaf weeds more than 10cm diameter/high. Always add Glyphosate 450g/L at recommended label rates.	USAGE RESTRICTIONS APPLY: See Table 5: Risk mitigation measures for Dryland cropping, pre- emergent uses.
	Seedlings of: Australian Bindweed, Bellvine, Caltrop, New Zealand Spinach, Raspweed	NSW, Qld only			
	Ageratum (Blue Top), Dock, Volunteer Lupins, Volunteer Peas, Volunteer Sunflowers, Charlock, Fumitory (Red), Medic, Paterson's Curse, Prickly Lettuce (Wild Lettuce), Saffron Thistle, Spear Thistle, Variegated Thistle	All states	600mL/ha – 800 mL/ha + Glyphosate 450g/L and Surfactant at recommended label rates	At the time of application, all weeds must be actively growing and not under stress from low moisture, frost, cold, disease or waterlogging. If grazing has occurred allow regrowth to 6-8cm before spraying and use higher rate.	
	Bathurst Burr, Blackberry Nightshade, Californian Burr, Horehound Seedlings, Lincoln Weed Seedlings, Marshmallow Seedlings, Sorrel Seedlings, Thornapple, Volunteer Vetch, Volunteer Safflower, Common Ice-Plant, Storksbill/ Erodium Seedlings, Ivyleaf, Speedwell, Melilotus, Shepherd's Purse, Skeleton Weed (Suppression only), Ward's Weed, Wireweed Seedlings (Hogweed), White Clover, Sub-Clover		800mL/ha - 1.2L/ha + Glyphosate 450g/L and Surfactant at Recommended label rates	Always add either a non-ionic surfactant (eg. 900g/L non-ionic surfactant) or the acidifying surfactant LI-700 or Bonus in accordance with label directions on the Glyphosate 450g/L product. Use LI-700 with Glyphosate 450g/L if insecticides will be included in the tank mixture or if faster brownout of weeds is required.	
	Amaranth, Apple of Peru, Mexican Poppy, Annual Ground Cherry, Bladder Ketmia, Fat Hen, Melons, Native Rosella, Noogoora Burr, Potato Weed, Cow Vine, Yellow Vine, Rapeseed.	NSW, Qld, ACT only	1.2L/ha – 1.8L/ha + Glyphosate 450g/L and Surfactant at recommended label rates		
Winter cereal, maize, sweetcorn, peanuts	Refer to weed table	Vic, NSW, ACT, Qld, NT only	Vic: 310 mL- 1.9 L NSW, ACT, Qld: 800 mL-2.3 L	Observe plant back periods given in the table on this booklet. Can be mixed with chlorsulfuron, metsulfuron or paraquat when grasses are present. For skeleton weed spraying should be done 6-8 weeks before sowing & subsequent cultivation limited to a minimum	USAGE RESTRICTIONS APPLY: See Table 1: Timing restrictions for spraying peanuts and Table 5: Risk mitigation measures for Dryland cropping, pre-emergent uses
PASTURES: Conservation Tillage - Direct Drilling, Surface Sowing or Fallow Maintenance	Charlock, Mustards, Shepherd's Purse, Saffron, Slender, Spear & Variegated Thistles, Turnip Weed, Wild Radish, Wild Turnip	All States	730mL - 2.2L/ha	Apply to actively growing young weeds before sowing. Observe plant back periods given in the table on this leaflet.	USAGE RESTRICTIONS APPLY: See APPENDIX 2: Application and timing restrictions for application to pastures
	Clover, Sorrel		1.5 L/ha plus 280mL- 400mL/ha Dicamba 500g/L	Apply to actively growing plants in autumn. Do not sow pasture seed for at least 30 days after application.	

2. POST SOWING - PRE AND POST EMERGENT USES

Situation & Crop	Weeds	State	Rate	Critical Comments	USAGE RESTRICTIONS
Wheat Barley Cereal Rye, Triticale Oats	Refer Weed Table	NSW, SA, ACT, Vic, Qld, Tas only	450mL - 1.9L/ha Refer to weed table for specific rates in each state	Apply after the first node can be felt at the base of a tiller and before swelling of the head can be felt in a tiller (NSW, SA only). Apply from tillering to boot stage (Vic only). Apply from mid-tillering to before boot stage (Qld only). Apply at 5 leaf to fully tillered (Tas only).	
		NSW, SA, Vic, Qld, only			
Cereals: Wheat, Oats, Barley	Cape Tulip	WA only	930mL – 1.7L/ha	Apply from the 5 leaf stage up to jointing stage (Zadoks 15-33). Apply after the 6 leaf stage (Z 16) for cranbrook, jacup, aroona and spear wheat and mortlock oats to avoid possible damage. DO NOT spray if lucerne is present. WEED STAGE: 10-15cm. Docks should be sprayed before 5-leaf stage. Cape tulip - low rate for cornils only.	
	Dock, Saffron Thistle		1.5L/ha		
	Indian Hedge Mustard, London Rocket, Lupin, Rapistrum, Wild Radish	1.1L/ha			
	Wild Turnip	930 mL/ha			
	Capeweed, Doublegee, Erodium, London Rocket, Lupin, Mustard, Rapistrum, Wild Radish, Wild Turnip		250 mL/ha plus 500mL/ha Flowable Diuron 500g/L	Apply when crop has 4-5 leaves and most weeds have germinated and are in 2-5 leaf stage. Crop and weeds should be dry at time of application. Some temporary yellowing of crop may occur after application. Undersown sub-clovers may be slightly retarded. DO NOT apply to undersown medics.	
Wheat, Barley	Wild Radish	NSW, SA, Vic only	110mL/ha plus 850g/ha Bayer Tribunil herbicide	Spray 2-6 weeks after sowing and not later. DO NOT use on crops undersown with lucerne.	
Maize, Sweetcorn		NSW, ACT, SA only	800mL – 1.5L/ha	Apply when crop is 10-20cm high and secondary roots are developing for an over the top spray. When crop is between 20cm high and just before tasselling, spray with dropped nozzles to avoid chemical being sprayed into the whorl and on upper leaves.	
		Qld only		Apply when crop is 10-30cm high and secondary roots have developed. Use drop nozzles and direct spray when crop exceeds 30cm in height and before tasselling.	
		Tas only		Apply when the crop is 15-30cm high. Do not spray if the crop is showing signs of stress. Some leaf twisting may occur following application - crop recovers quickly.	
Sorghum		NSW, SA, ACT, Vic only		Apply preferably when crop is at 3-6 fully expanded leaf stage but can be sprayed from 2-8 leaf stage. From 6 leaf stage onwards to within 2 weeks of flowering, crop can be sprayed with dropped nozzles to avoid chemical being sprayed into the whorl and on upper leaves.	
		Qld only (except central Qld)		Apply when crop has 4 to 8 fully expanded leaves and secondary roots have developed.	

Situation & Crop	Weeds	State	Rate	Critical Comments	USAGE RESTRICTIONS
Millet	Refer Weed Table	NSW, SA, ACT, Vic only	800mL – 1.5L/ha	Spray when secondary roots have developed, when fully tillered and before heads start to form at the base of the tillers. Do not use on panarama or panicum.	
		Qld only	800mL - 1.2L/ha		
Maize, Sweetcorn, Saccaline, Broom Millet, Millet	Cape Tulip, Dock, Saffron Thistle, Indian Hedge Mustard, London Rocket, Lupin, Rapistrum, Radish, Wild Turnip	WA only	1.5L/ha	Spray when crop is 10-30cm high and secondary roots have developed and before tasselling. Apply as direct spray to weeds.	
				Apply when crop is 12cm high. DO NOT apply between tassel and dough stage. Avoid spraying when in flower.	
Grain Sorghum					
Sugar Cane	Bindy Eye (Star Burr), Blue Top, Cobblers Pegs, Fleabanes, Jute, Leucas, Needle Burr, Spear Thistle Water Primrose, Ipomea Vines, Convolvulus Vines	Qld, NSW only	2.4 L- 4.9L/ha	Add 170mL of Surfactant 600g/L to 100L of spray mixture. Agitate well. DO NOT use on Q63, Q67, Q80 or Q96 varieties.	USAGE RESTRICTIONS APPLY. See Table 3: Risk mitigation measures for Sugarcane
	Chinese Mint, Blue Snakeweed		4.9L/ha		
Peanuts	Broadleaf Weeds except Noogoora Burr, Grasses except Mossman Burr	Qld., NT only	2.4L or 5L/ha	LOWER RATE: Apply as BAND SPRAY as soon as possible after planting in a 55cm band. HIGHER RATE: Apply as OVERALL SPRAY after planting and before crop emergence. Some crop damage may occur if heavy rain fails between application and crop emergence.	USAGE RESTRICTIONS APPLY. See Table 3: Risk mitigation measures for Peanuts

3. PASTURES AND NON-AGRICULTURAL USE

Situation & Crop	Weeds	State	Rate	Critical Comments	Usage Restrictions
Pastures & non agricultural	Refer Weed Table	NSW, Qld, SA, Tas only	730 mL – 2.3L/ha	Pasture legumes including lucerne, clovers, and medics may be damaged unless well protected by grasses. Spot spraying is preferred.	USAGE RESTRICTIONS APPLY: See Table 2: Application and timing restrictions for application to pastures
	Amsinckia, Docks, Bindweed, Caltrop, Flatweed, SpearThistle, Capeweed, Doublegee, Saffron Thistle, Mustard, Wild Radish, Wild Turnip, Annual Thistles, Paterson's Curse	WA only	1.5L/ha	For pastures not containing legumes. Only seedling docks, spear thistles and saffron thistle will be controlled.	
	Afghan Melons		2.2L/ha plus 1% crop oil	Spray when plants are actively growing preferably before flowering or vining.	
	Paddy Melons		1.1 – 1.5L/ha		
	Prickly Saltwort (Roly Poly)		2.2L/ha	Spray when plants are small.	
	Stinkwort		2.2L – 4.4L/ha. plus surfactant	Best results are obtained when plants are small Use high rate on larger plants.	
	Dove Weed		4.4L/ha	Spray after good emergence of seedlings.	

Situation & Crop	Weeds	State	Rate	Critical Comments	Usage Restrictions
Pastures, Rights of Way & Industrial	Boxthorn, Boneseed, Hawthorn	Vic, SA only	110mL/10L water	Spot spraying. For boneseed only, thoroughly wet plants or seedlings	USAGE RESTRICTIONS APPLY: See Table 2: Application and timing restrictions for application to pastures
	Groundsel	NSW, Qld, SA, ACT only	1.3L/15L water	MISTING Lightly wet plants.	USAGE RESTRICTIONS APPLY: See APPENDIX 2: Application and timing restrictions for application to pastures
			400mL/100L water	HIGH VOLUME: Thoroughly wet plants.	
			330mL/15L water	CUT STUMP: Swab the cut stump within one hour of cutting. Apply by a pouring can or knapsack spray.	
	4 – 6.1 L/ha	AERIAL APPLICATION: Spray when groundsel ' is actively growing.			
	Lantana		400mL/100L water	Use a very coarse spray with sufficient pressure to penetrate canopy and wet stems as well as foliage. Spray at the end of a wet summer (March to May). Defoliation should occur but respraying of new growth will be necessary in the following Autumn. Broadcast grass seed and keep stock off following Summer to allow the pasture to establish. Damage may result to pasture legumes.	
Mother of Millions	NSW only	550mL/100L water	Hand gun and Knapsack only: a thorough coverage of leaves and plantlets is necessary. Use Spraymate Chemwet 1000 at the rate of 1.0mL of surfactant per 1L of mixture.		
Noogoora Burr, Weir Vine (Ipomea)	Qld only	220mL/100L water	In all cases apply to young, actively growing weeds, ensuring thorough coverage. * Spray rosette stage # Repeat spraying if necessary		
Annual & Perennial Pigweed, Artichoke Thistle, Bathurst Burr, Billygoat Weed, Blue Snake Weed, Burr Medic, Clockweed*, Fleabanes, Galvanised Burr, Hemlock, Hoary Cress, #Kyalinga Weed (Whisker Grass), Knobweed, Milky Cotton Bushes, Weed, Paterson's Curse, Saffron Thistle, Star Burr, Thornapple, Variegated Thistle*		400mL/100L water			
Rubber Vine		220mL/10L water		Apply to freshly cut stump.	
Lawns/Turf	Refer Weed Table	WA & Qld only	2.3mL– 4.5mL/1L water	Wet foliage thoroughly.	USAGE RESTRICTIONS APPLY: See Table 4: Application and timing restrictions for application to turf

4. PASTURES – SPRAY/GRAZE TECHNIQUES

	Precaution: An increased quantity of poisonous plants may be eaten by stock using spray-graze eg. caltrop, capeweed, paterson's curse and variegated thistle and deaths could result from causes such as nitrate poisoning. With paterson's curse, preferably graze stock soon destined for slaughter and avoid extended period of grazing. Avoid grazing with young or breeding stock. Do not graze horses or pigs on paterson's curse.				
Pastures - Spray/Graze Techniques	Amsinckia, Thistles, Capeweed, Doublegee, Mustard, Paterson's Curse, Wild Turnip, Wild Radish, Docks, Geranium, Erodium	SA only	730mL/ha	Apply from 6 weeks after opening rains in autumn until the end of August. Seven days after spraying stock paddock at 4-5 times normal rate, preferably with sheep. Maintain this level of grazing for 6 weeks or until pasture shows signs of over grazing. Then return to normal stocking levels. Use high stocking rates in following spring to prevent weeds from flowering. Repeat treatments may be required for 2-3 years for complete control.	USAGE RESTRICTIONS APPLY: See Table 2: Application and timing restrictions for application to pastures
	Annual Thistles, Capeweed, Doublegee, Mustards, Paterson's Curse, Turnip, Saffron Thistle, Spear Thistle	Tas, Vic only			
	Amsinckia, Docks (seedling only), Capeweed, Doublegee, Mustard, Wild Radish, Wild Turnip, Paterson's Curse, Annual Thistles	WA only	870mL/ha	Apply from 6 weeks after opening rains in autumn until the end of August. Seven days after spraying stock paddock at 4-5 times normal rate, preferably with sheep. Maintain this level of grazing for 6 weeks or until pasture shows signs of over grazing. Then return to normal stocking levels. Use high stocking rates in following spring to prevent weeds from flowering. Repeat treatments may be required for 2-3 years for complete control.	
	Spear Thistle, Saffron Thistle		1.7L/ha	Apply to saffron thistle at the end of September when plants are running up to flower. Sub- clovers may be damaged at this rate and use is not recommended for all medic pastures.	
	Melons		2.2L/ha	Heavy stocking on young plants sprayed with 750mL/ha provides effective control.	
	Docks	Vic only	1.5L/ha	Apply in September only and follow other recommendations above.	
	Caltrop, Capeweed, Charlock, Mustards, Paterson's Curse, Shepherd's Purse, Saffron, Slender, Spear or Variegated Thistle, Turnip Weed, Wild Radish, Wild Turnip	NSW, ACT only	400mL-1.5L/ha	Spray actively growing 6-8 week Qld weeds. Introduce stock 7-10 days after spraying, preferably sheep (cattle are less effective). Stocking rate should be at least 5 times heavier than normal until weeds have been reduced, but before survival of desirable pasture species is threatened. Lucerne and medics may be damaged and should be grazed short before spraying. Other legumes may be affected.	

5. OTHER USES

APPLICATION METHOD	CROP	TARGET WEEDS	STATE	RATE (/ha)	CRITICAL COMMENTS	USAGE RESTRICTIONS
Harvest aid or Salvage spray	Winter cereals, Maize & sorghum	Dessicate broadleaf weeds Refer to weed table	Qld, NSW, ACT only	1.7 – 2.3L	Apply after dough stage.	No usage restrictions
SPOT SPRAYING	High Volume Spraying	Refer to weed table	All States	Add 1/10 th of rate on weed table to 150 L of water. Each 150 L of mix will cover 1000m ² (1/10 th ha) e.g. if rate in weed table is 1.5 L use 150 mL/150 L water.		
	Knapsack application			Add 1/100 th of rate on weed table to 10 L of water. Each 10 L of mix will cover 100m ² (1/100 th ha) e.g. if rate in weed table is 1.5 L use 15 mL/10 L water.		

6. Plantations

CROP	WEEDS	STATE	RATE (/ha)	CRITICAL COMMENTS	USAGE RESTRICTIONS
Forestry – Hard and soft wood plantations	Broadleaf and woody Weeds listed in the weed table including groundsel and <i>Pinus</i> spp. wildlings		Maximum rate 2.2L/ha	Apply a single preplant application and/or a maximum of 2 post plant applications using shielded sprayers within the first 2 years following planting. Apply using aircraft (rotary wing only) or ground based equipment. DO NOT spray over or into watercourses. Products may be mixed with glyphosate for pre-plant spray operations, following the conditions of use under this permit only.	
Oil Tea Tree	Weeds on label		Maximum of 1.2 L/ha as per label directions	Apply as a shielded spray. Avoid contact with foliage, green stems, exposed nonwoody roots, desirable plants and trees as severe injury or destruction may result. Apply following harvest as a blanket spray only after: <ul style="list-style-type: none"> All residual tea tree foliage has been removed by mechanical shaving, or by using a burner, No swollen buds are present on stumps. NOTE that buds can burst Surface of cut stumps are dry before spraying commences. 	
	Purple Top (<i>Verbena bonariensis</i>)		960 mL/ha Plus 720 g ai glyphosate /ha in a tank mix.	Apply as a shielded spray. Avoid contact with foliage, green stems, exposed nonwoody roots, desirable plants and trees as severe injury or destruction may result.	

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

IN TASMANIA, THIS PRODUCT MAY ONLY BE USED FROM 15 APRIL TO 15 SEPTEMBER UNLESS OTHERWISE PERMITTED BY THE REGISTRAR OF PESTICIDES.

WITHOLDING PERIOD:

PASTURE, CEREAL CROPS - DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 7 DAYS AFTER APPLICATION.

CROP HARVEST: NOT REQUIRED WHEN USED AS DIRECTED.

WEED TABLE: The rates listed in the Weed Table below are spot spraying rates for use in crop or pasture, or for use where weeds only are present and no crop or pasture is involved. NOTE: Where weeds are to be sprayed in a CROP or PASTURE (other than spot spraying) use only the rates given for the particular crop or situation indicated under the Directions for Use.

WEED TABLE:

Weeds	Application Rate per Hectare							Critical Comments
	Crop						Pastures	
	Vic	NSW	SA	Qld	Tas	WA	NSW, SA, Qld, Tas only	
Amaranthus spp.		730mL-1.5L		1.2L				Spray young plants.
Apple of Peru		730mL-1.5L		1.2L				Spray young plants. Susceptible when young.
Bathurst Burr		1.1-1.5L		1.2L			1.1-1.5L NOT SA	Spray seedlings only.
Blackberry Nightshade		730mL-1.5L		1.2L				
California Burr		1.1-1.5L		1.2L			1.1-1.5L NOT SA	Spray seedlings only.
Cape Tulip						930mL-1.7L		Low rate for cormils only.*
Capeweed	1.9L		2.3L		1.9L		2.3-3.9L	Spray seedlings to rosette stage.
Caltrop		1.1-2.3L		1.2L				Moderately susceptible.
Charlock	730mL-1.1L	730mL-1.5L	730mL		1.9L		1.1-1.5L	Spray at rosette stage.
Clover		1.7L						
Common Ice Plant			1.5L					
Docks	1.9L		1.9L	1.9L	1.9L	1.5L	4.4L SA ONLY	Spray at multiple leaf stage. - effective only on seedlings.
Fat Hen		800mL- 2.3L		1.2L	1.9L			Spray pre-flowering.
Fumitory - red			2.3L					
Fumitory - white	1.1L	730mL						Spray at multiple leaf stage.
Hexham Scent/ Melilotus	1.9L		1.5L	1.9L			1.5-2.3L	Spray at multiple leaf stage, before seeding.
Hoary Cress	1.2-1.9L	1.5-2.3L	1.9L	1.9L			2-2.3L	Spray rosettes and pre-flowering.
Hogweed / Wireweed	1.9L			1.9L				Spray at multiple leaf stage (Vic) Spray at seedling and young plant stage (Qld).
Horehound			1.9L				3.1 – 4.4L SA ONLY	Spray seedlings.
Khaki Weed							1.5-3L NOT SA	Spray seedlings only.
Lincoln Weed			2.3L					Spray early rosettes.
London Rocket						1.1L		
Lupins		1.1-2.3L						
Mexican Poppy				1.9L				Spray seedlings - plants become more resistant with age.
Mintweed		1.5L		1.2L				Spray seedlings - resistant in later stages.

Weeds	Application Rate per Hectare							Critical Comments	
	Crop						Pastures		
	Vic	NSW	SA	Qld	Tas	WA	NSW, SA, Qld, Tas only		
Mustards	310mL-730mL	730mL-1.5L	730mL-1.9L	1.2L			1.1L	730mL -1.5L	Spray at 2-4 leaf up to rosette stage.
New Zealand Spinach		1.5-2.3L							
Noogoora Burr		1.1-1.5L		1.2L				1.1-1.5L NOT SA	Spray seedlings only.
Paterson's Curse		1.5L-2.3L		1.9L			1.7L	2.3-3.1L	Spray rosettes or before plants have 10 leaves. Later stages harder to kill .
Potato Weed		730mL-1.5L		1.2L					
Rapeseed		1.1-2.3L							
Rough Poppy		1.5L							
Safflower		730mL- 1.9L							
Shepherds Purse		1.5L- 2.3L			1.9L			1.1-1.5L	Spray young rosettes.
Skeleton Weed	1.9L	1.5-2.3L	1.9L					2-3.1L	Spray rosettes before aerial growth
Sorrel	1.9L	2.3L	1.9L						Only moderately susceptible.
Speedwell-ivy Leaf			1.5L						
Spiny Emex				1.9L					Only young plants are susceptible.
Stinkwort		1.1L – 1.9L							
Storkbill / Erodium					1.9L			2.2-4.4L	Spray seedlings to young rosettes.
Sunflower (seedlings)	1.9L	730mL- 1.9L		1.2L					
Thistle - Californian					800mL			4.4-5.1L	Repeated applications may be necessary (NSW, Tas only).
Saffron	1.5L	730mL-1.867L	1.9L	1.9L	1.3L	1.5L		1.5-2.3L	Low rate only sufficient to control weeds in crops at rosette stage when sprayed early.
Slender / Shore		1.1-1.9L			1.9L			1.5L	Suppression only.
Soldier	1.9L							1.5L-2.2L NOT NSW, Tas	Spray young rosettes.
Spear	730mL						1.9L	1.5-2.2L	Spray young rosettes.
Star								2.2-4.4L SA ONLY	Use higher rate as flower stalk appears.
Variogated		730mL-2.3L		1.2L	1.9L			1.5-2.3L	Spray at rosette stage.
Thornapple		1.1-1.5L						2.2-3.3L NOT SA	Spray seedlings only.
Turnip Weed/ Rapistrum		730mL- 1.5L		730L		1.1L		730mL – 1.5L	
Wards Weed			1.5L						
Wild Cabbage	1.9L								Spray multiple leaves
Wild Poppy	730mL							1.5-2.3L	Spray rosettes.
Wild Radish	1.9L	2.3L	1.9L	1.2L	1.9L	1.1L		1.1-1.5L	Spray up to young rosette stage.

Weeds	Application Rate per Hectare							Critical Comments
	Crop						Pastures	
	Vic	NSW	SA	Qld	Tas	WA	NSW, SA, Qld, Tas only	
Wild Turnip	310mL-730mL	730mL-1.5L	440mL		1.9L	930mL	730mL-1.5L	Spray 2-4 leaf up to rosette stage.
Vetches /Tares	1.9L		1.5L					Spray at multiple leaf stage.

PLANT BACK DAYS FOR SMART PASS 450 HERBICIDE

Crop	Rates		
	Up to 730mL/ha	730mL-1.5L/ha	1.5-2.3L/ha
Balansa Clover	7	7	10
Barley %	1	1	3
Chickpeas #	7	14	21
Cotton	10	14	21
Faba Beans	7	7	10
Field Peas	7	14	14
Lentils	7	7	10
Linseed	7	7	14
Lucerne	7	7	10
Lupins +	7	14	21
Medic	7	7	10
Narbon Beans	7	7	10
Navybeans	10	10	14
Oats	3	3	7
Perennial Ryegrass	7	7	10
Persian Clover	7	7	10
Phalaris	7	7	10
Canola / Rapeseed #	14	21	28
Rice	7	7	14
Safflower #	7	14	21
Sorghum @	3	7	10
Soybean	14	14	21
Sub-Clover	7	7	10
Sunflower @	7	10	14
Triticale %	1	3	7
Vetch	7	7	10
Wheat %	1	3	7
White Clover	7	7	10

IMPORTANT: WHEN APPLIED TO DRY SOILS AT LEAST 15mm(½ inch) OF RAIN MUST FALL PRIOR TO THE COMMENCEMENT OF THE PLANT BACK PERIOD.

NOTES:

% In Queensland, no rainfall is required to fall prior to commencement of Plant Back Period for wheat, barley and triticale.

In Queensland, planting of canola / rapeseed, chickpeas and safflower must be delayed for at least 14 days following rainfall of at least 15mm.

@ In Central Queensland, when using 1.1L/ha or less of Smart Pass 450 Herbicide, the plant back period for sorghum and sunflower is 1 day irrespective of rainfall.

+ In WA the Plant Back Period for lupins at all rates is 28 days.

GENERAL INSTRUCTIONS:

Smart Pass 450 Herbicide is a water-soluble liquid product with non-selective herbicidal activity against broadleaf weeds. Smart Pass 450 Herbicide will control emerged weeds only, and provides no residual control although certain plant back periods should be observed. Smart Pass 450 Herbicide is absorbed by plant foliage and accumulates to toxic levels in the regions of growth and reproduction, upsetting the ability of plants to balance the synthesis and use of nutrients. Visible effects are a gradual yellowing and wilting of the plants which advances to complete browning of above ground growth and deterioration of root systems. Effects may not be apparent for 7-10 days or even up to 21 days under cold or cloudy conditions. DO NOT treat weeds under poor growing or dormant conditions such as occur in drought, waterlogging, disease, insect damage, following frost, weeds heavily covered with dust or silt. Reduced results may also occur if weeds are under stress from previous herbicide application. Rainfall occurring up to 6 hours after application may reduce effectiveness. DO NOT spray if strong winds prevail.

CROP ESTABLISHMENT

Smart Pass 450 Herbicide is recommended as a herbicide additive to glyphosate for control of emerged weeds prior to crop establishment. When Smart Pass 450 Herbicide is applied prior to crop establishment, certain Plant Back Periods should be observed to ensure that the herbicide has degraded sufficiently to allow safe sowing of the intended crop. This process is largely influenced by moisture, temperature and certain soil characteristics and may be delayed particularly when conditions are cold and dry. Refer to the Plant Back Period table for specific information. In seasons of heavy weed growth, or where the following conditions apply, it may be necessary to further delay sowing until a suitable seedbed can be formed. Conditions which can delay crop germination and seedling development include; *Heavy green or decaying weed growth incorporated into the soil; *Soil compaction or crusting; *Cold and wet soils; *Deep seeding; *Prior use of residual or pre-emergent herbicides. To minimise these effects it is suggested that: *Weed bulk be reduced by grazing and cultivating to leave trash on the surface to dry out; *A friable seedbed be produced by cultivation, where necessary; *The use of pre-emergent herbicides to be avoided if they might contribute to reduced germination; *A correct seeding depth be used. The preferred alternative is to spray early to control any weeds in their less advanced stages and ensure the seedbed is in a suitable condition for early sowing when soil temperatures are not excessively cold.

APPLICATION BOOM EQUIPMENT Application of Smart Pass 450 /Glyphosate mixtures in spray volumes of 25-100L/ha is recommended. When 750 g/kg Chlorsulfuron or 600g/kg Metsulfuron Methyl is included in the mixture a minimum spray volume of 30L/ha is recommended. When Simazine is included in the mixture a minimum spray volume of 100L/ha is recommended. Boom height must be set to ensure double overlap of nozzle patterns at the top of the weed canopy.

AERIAL EQUIPMENT

Application of Smart Pass 450 /Glyphosate mixtures should occur in a minimum spray volume of 15L/ha. Application under hot conditions: High temperature and/or low relative humidity cause excessive evaporation of spray droplets which may reduce results. When temperatures reach 25°C increase water volume to 30L/ha. DO NOT apply by aircraft when temperature is above 35°C. DO NOT use in intensive horticultural cropping areas. Thoroughly wash aircraft, especially landing gear after each day of spraying to remove herbicide residues.

EQUIPMENT MAINTENANCE

Spray solutions of Smart Pass 450 and Glyphosate should be mixed, stored and applied only in stainless steel, aluminium, brass, copper, fibreglass, plastic-lined containers. Do not mix, store or apply spray solutions in galvanised steel or unlined steel (except stainless steel) containers or spray tanks. Smart Pass 450 / Glyphosate spray solutions may react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture that can flash or explode if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source. Thoroughly clean all equipment after use either by using hot soapy water or 1% solution of ammonia followed by several clean water rinses or use Spraymate Tank & Equipment Cleaner. If using Sulfonylurea herbicides (750g/kg Chlorsulfuron or 600g/kg Metsulfuron Methyl) follow decontamination procedures detailed on those product labels.

COMPATIBILITY

Smart Pass 450 is compatible in tank mixes with Glyphosate herbicides, 540g/L Glyphosate, 200g/L Dicamba, 750g/kg Chlorsulfuron, 600g/kg Metsulfuron Methyl, Simazine Flowable, Simazine DF, 500g/L Atrazine flowable, Atrazine WG, 135g/L Paraquat & 115g/L Diquat mixture, Chlorpyrifos 500EC, Dimethoate.

SURFACTANT ADDITION

DO NOT add surfactant excepting in conservation tillage where the product is to be tank-mixed with Glyphosate 450g/L. In this situation always add either a non-ionic surfactant (eg. 900g/L non-ionic surfactant) or the acidifying surfactant LI-700 in accordance with label directions on the Glyphosate 450g/L product. Use LI-700 with Glyphosate 450g/L if insecticides will be included in the tank mixture or if faster brownout of weeds is required. DO NOT mix with spraying oils, or any other materials or agricultural chemicals except as directed on this label. DO NOT use LI-700 or Bonus if sulfonylurea herbicides (750g/kg Chlorsulfuron or 600g/kg Metsulfuron Methyl) are included in the spray mixture.

TANK MIXTURES

The Smart Pass 450 Herbicide directions for use on this label are designed to be used as a tank mixture with Glyphosate 450g/L. However as shown in the compatibility and surfactant addition sections of this label, it is possible to extend/improve weed control to include other foliage applied and/or residual herbicides and adjuvants. A mixture of Smart Pass 450 and Glyphosate may be tank mixed with the following herbicides, insecticides and adjuvants where recommended in the Directions for Use tables. Read and follow all label directions, restraints and plant back periods, withholding periods and safety directions for the tank mix products.

Dicamba 500 g/L - For improved control of Sow Thistle.

Observe any regional use restrictions

Chlorsulfuron 750 g/kg - Will provide control for a wide range of broadleaf weeds and grasses.

600 g/kg Metsulfuron Methyl - For improved knockdown control of Yellow Burrweed (Amsinckia), Volunteer Chickpeas, Chickweed, Common Sowthistle, Cut-leaf Mignonette, Deadnettle, Faba Beans, Mallee Catchfly, Soursob, Stagger Weed, Wild Garlic. 600 g/kg Metsulfuron Methyl does not provide residual in-crop weed control.

INSECTICIDES

Chlorpyrifos 500EC and Dimethoate can be introduced into the tank mix for specific control to prevent insect damage to emerging crops.

MIXING INSTRUCTIONS

Smart Pass 450 Herbicide mixes readily with water. Ensure the spray tank is free of any residue of previous spray materials. 1. Fill the spray tank with clean water to one half of the required amount and start agitation. Do not use mechanical agitators as these may cause excessive foaming when herbicides are added. 2. Where either Bonus or LJ-700 acidifying surfactant is recommended at either 100mL or 300mL/100L, add to tank through top mesh screen. 3. Add recommended herbicide additive / insecticide to the spray tank and mix thoroughly. 4. Add Smart Pass 450 Herbicide and mix thoroughly. 5. Add Glyphosate 450g/L and the remaining water. 6. When non-ionic surfactant is used, add near the end of the filling process to minimise foaming. 7. Always maintain adequate agitation during application and use the tank mix promptly.

PRECAUTIONS

DO NOT hand harvest sugar cane for at least 1 day after application.

If re-entering treated areas before the spray has dried, workers should wear overalls, elbow-length gloves and water-resistant footwear. Clothing must be laundered after each day's use.

RESISTANT WEEDS WARNING

GROUP	4	HERBICIDE
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Smart Pass 450 Herbicide is a member of the Phenoxy group of herbicides. Smart Pass 450 Herbicide has the Disruptors of plant cell growth mode of action. For weed resistance management Smart Pass 450 Herbicide is a Group 4 herbicide. Some naturally occurring weed biotypes resistant to Smart Pass 450 Herbicide and other disruptors of plant cell growth 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 Smart Pass 450 Herbicide or other disruptors of plant cell growth herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Crop Smart Pty Ltd accepts no liability for any losses that may result from the failure of Smart Pass 450 Herbicide to control resistant weeds.

PROTECTION OF CROPS, NATIVE AND 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.

Avoid spray drift and vapour movement onto susceptible crops such as cotton, tobacco, tomatoes, vines, lupins, fruit trees and ornamentals.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Very toxic to aquatic life. DO NOT contaminate wetlands or watercourses with this product or used containers.

STORAGE AND DISPOSAL

Store in the original container, tightly closed in a safe well-ventilated area, as cool as possible. DO NOT store for prolonged periods in direct sunlight.

This container can be recycled if it is clean, dry, free of visible residues and has the *drumMUSTER* logo visible. Triple rinse container for disposal. Dispose of rinsate by adding it to the spray tank. DO NOT dispose of undiluted chemical on site. Wash outside of the container and the cap. Store cleaned container in a sheltered place with cap removed. It will then be acceptable for recycling at any *drumMUSTER* collection point or similar container management program site. The cap should not be replaced but may be taken separately.

If not recycling, break, crush, or puncture and deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. Do not burn empty containers and product.

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

SAFETY DIRECTIONS

Poisonous if absorbed by skin contact or swallowed. Will damage the eyes. Will irritate the skin. Avoid contact with the eyes and skin. When opening the container and preparing spray or using undiluted concentrate, wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length chemical resistant gloves and face shield or goggles. When using the prepared spray, wear cotton overalls buttoned to the neck and wrist and a washable hat and elbow-length chemical resistant gloves. If applying by hand wear half facepiece respirator with organic vapour/gas cartridge or canister. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. 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, face shield or goggles and contaminated clothing.

FIRST AID

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 13 11 26, New Zealand 0800 764 766.

SAFETY DATA SHEET

For further information refer to the Safety Data Sheet which is available from the supplier.

CONDITION OF SALE

Crop Smart Australia Limited ("Crop Smart") shall not be liable for any loss, injury, damage or death whether consequential or otherwise whatsoever, or howsoever arising through negligence or otherwise in connection with the sale, supply, use or application of this product. The supply of this product is on the express conditions that the purchaser does not rely on Crop Smart's skill or judgement in purchasing or using the same and every person dealing with this product does so at his own risk absolutely. No representative of Crop Smart has any authority to alter these conditions.

GHS Statement

Harmful if swallowed. Harmful if inhaled. Very toxic to aquatic life with long lasting effects. Use only outdoors or in a well ventilated area. Avoid release to the environment.

THIS PRODUCT IS NOT CONSIDERED TO BE A DANGEROUS GOOD UNDER THE AUSTRALIAN CODE FOR THE TRANSPORT OF DANGEROUS GOODS BY ROAD AND RAIL

