

Product Name: AGRO-ESSENCE 2,4-D ESTER 680 HERBICIDE
APVMA Approval No: 67615 / 118038



Label Name:	AGRO-ESSENCE 2,4-D ESTER 680 HERBICIDE
Signal Headings:	POISON KEEP OUT OF REACH OF CHILDREN READ SAFETY DIRECTIONS BEFORE OPENING OR USING
Constituent Statements:	680 g/L 2,4-D present as the 2-ethylhexyl ester
Mode of Action:	GROUP I HERBICIDE
Statement of Claims:	A Specially Formulated Low Volatile Herbicide for Selective Control of Various Weeds in Crops, Pastures and Non-Agricultural Areas as per 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. PLEASE READ THE DRIFT WARNING STATEMENT
Net Contents:	20L, 110L, 200L, 1000L
Restraints:	This section contains file attachment.
Directions for Use:	This section contains file attachment.
Other Limitations:	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.

Withholding Periods:

PASTURES, CEREAL CROPS: DO NOT GRAZE OR CUT FOR STOCK FOOD FOR 7 DAYS AFTER APPLICATION.
HARVEST WITHHOLDING PERIOD NOT REQUIRED WHEN USED AS DIRECTED.

Trade Advice:

General Instructions:

Before opening, carefully read Directions for Use, Precautionary Statements, Safety Directions and First Aid Instructions.

APPLICATION INFORMATION

This product may be used in either high or low volume sprays. Just pour into water and stir.

Boom Spraying: Use 30 - 100 litres water per hectare.

Aerial Spraying: Use 40 - 90 litres water per hectare.

Note: Refer to the Department of Agriculture/Primary Industries in your state for the current restricted spraying areas.

SPRAY APPLICATIONS AND DRIFT RISK ASSESSMENT

USE ONLY when wind speed is more than 3 kilometres per hour or less than 15 km/hr, as measured by an anemometer at the application site.

Checklist:

- Have you cleaned/decontaminated your boom sprayer?
- Have you contacted your neighbour prior to spraying?
- Is your sprayer set-up correctly for the particular application?
- Check - boom calibration – at nozzle
 - nozzle choice
 - low drift/what spray quality – not smaller than very coarse droplet?
 - boom height
 - speed of intended application
- You must check, determine and record the weather conditions immediately prior to, and immediately after the spray application is made.
 - Record - Temperatures
 - Relative Humidity
 - Delta T
 - Wind speed (min 3km/hr, max 15km/hr)
 - Is there a temperature inversion?
- Night Spraying – Extra care is required to ensure that inversion conditions are not present. Use smoke generator to determine wind direction and presence of inversion conditions.

EQUIPMENT MAINTENANCE AND USAGE

Keep the spray unit for herbicides only if possible. Otherwise wash out the unit with hot soapy water followed by several clear water rinses. DO NOT use wooden spray vats, as they cannot be cleaned.

Hoses cannot be cleaned, and new hoses should be fitted when the unit is to be used or any other purpose.

COMPATIBILITY

This product can be tank mixed with the following herbicides; 500 g/L dicamba, chlorsulfuron 750 WG, paraquat, 2,2 DPA sodium salt, atrazine 900 WG, glyphosate,

metsulfuron 600 WG, triasulfuron 750 WG, paraquat/diquat mixtures, 600 g/L triclopyr, 200 g/L fluroxypyr.

TANK MIXING INSTRUCTIONS

- Fill the tank $\frac{1}{4}$ full with water and agitate.
- Add wettable powders and water dispersible granules first.
- Agitate until these are uniformly dispersed, while adding water until the tank is 90% full.
- Add suspension concentrates (flowables) then soluble concentrates. Add emulsifiable concentrates last.
- Top up the tank with water and continue agitation until all the ingredients are properly mixed.
- Observe any mixing sequence instructions specifically stated on the tank mix products.

Resistance Warning:

GROUP I HERBICIDE

Agro-Essence 2,4-D Ester 680 Herbicide is a member of the Phenoxys group of herbicides. Agro-Essence 2,4-D Ester 680 Herbicide has the Disruptors of plant cell growth mode of action. For weed resistance management Agro-Essence 2,4-D Ester 680 Herbicide is a Group I Herbicide.

Some naturally-occurring weed biotypes resistant to Agro-Essence 2,4-D Ester 680 Herbicide and other Group I Herbicides may exist through normal genetic variability in any weed population. The resistant individuals can eventually dominate the weed population if these herbicides are use repeatedly. These resistant weeds will not be controlled by Agro-Essence 2,4-D Ester 680 Herbicide or other Group I 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 2,4-D Ester 680 Herbicide to control resistant weeds.

Precautions:

Protections:

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT spray crops or weeds outside the stages indicated in 'Critical Comments' as damage, loss or yield or inadequate weed control may result.

Drift Warning: DO NOT spray under meteorological conditions or from spraying equipment that may cause spray drift onto nearby susceptible plants/ crops, cropping lands or pastures. Avoid spray drift onto susceptible crops such as cotton, tobacco, tomatoes, vines, lupins, fruit trees, ornamentals and trees (e.g. Kurrajongs, Belahs).

Legume Tolerance: If clovers are present, care should be taken to ensure that they have reached the 3 - 4 leaf stage before spraying. Rates above 410 mL of this product per hectare will destroy most clovers, whilst lucerne and medics are susceptible at any strength.

PROTECTION OF LIVESTOCK

Low hazard to bees. May be applied at any time as recommended in the Directions for Use.

Storage and Disposal:

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

Triple-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 deliver empty packaging to an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500 mm 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 or product.

Refillable containers

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

Safety Directions:

Poisonous if swallowed. Avoid contact with eyes and skin. DO NOT inhale spray mist. When preparing spray, wear PVC or rubber apron and elbow-length PVC gloves and face shield. When using the prepared spray, wear face shield. If product on skin, immediately wash area with soap and 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 and contaminated clothing.

First Aid Instructions:

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

First Aid Warnings:

RESTRAINTS

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 allow bystanders to come into contact with the spray cloud.

DO NOT apply unless the wind speed is between 3 and 15 kilometres per hour at the application site during the time of application.

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

Recognising a Surface Temperature Inversion

A surface temperature inversion is likely to be present if:

- Mist, fog, dew or a frost have occurred.
- Smoke or dust hangs in the air and moves sideways, just above the ground surface.
- Cumulus clouds that have built up during the day collapse towards evening.
- Wind speed is constantly less than 11 km/hr in the evening and overnight.
- Cool off-slope breezes develop during the evening and overnight.
- Distant sounds become clearer and easier to hear.
- Aromas become more distinct during the evening than during the day.

Spray Timing

- Spray during the day wherever possible. Vertical mixing of the air makes surface temperature inversions unlikely and will reduce the risk of drift caused by surface temperature inversions.
- There is a very low risk of surface temperature inversion when there is full cloud cover, and/or the wind speed is continuously greater than 11 km/hr.
- A lack of suitable weather conditions for spraying over extended periods is not an excuse for spraying in unsuitable conditions.

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

DO NOT apply with spray droplets smaller than VERY COARSE spray droplets according to the ASAE S572 definition for standard nozzles.

DO NOT use if rain is likely within 6 hours.

Monitoring And Record Keeping

Users of this product **MUST** make an accurate written record of the details of each spray application within 24 hours following application and **KEEP** this record for a minimum of 2 years.

The spray application details that must be recorded are:

- 1- Date of use with start and finish times of application;
 - 2- The specific location which must include address and paddock/s sprayed;
 - 3- Product trade name (full name) of the product being used;
 - 4- Rate of application which must include the amount of product used per hectare and number of hectares applied to;
 - 5- Situation, crop or commodity to which the chemical was applied;
 - 6- Wind speed and direction during application;
 - 7- Air temperature and relative humidity during application;
 - 8- Nozzle brand, model, size, type, and spray system pressure measured during application;
 - 9- Height of spray boom from ground ;
 - 10- Name and contact details of person applying this product
- (Additional record keeping and/or details may be required by the state or territory where this product is used.)

Watch for changes in weather conditions. Stop spraying immediately if a surface temperature inversion occurs or if spraying conditions become unsuitable for any other reason.

ADVISORY FOR USE IN CEREALS, FALLOW AND PASTURE 1st OCTOBER TO 15th APRIL
 USE IN CEREALS, FALLOW AND PASTURES DURING THE PERIOD **3rd OCTOBER TO 15th APRIL**, IT IS ADVISED TO:
 USE NOZZLES THAT PRODUCE **EXTREMELY COARSE (XC) TO ULTRA COARSE (UC) DROPLETS**.
 USE HIGHER WATER RATES PER HA, TO GIVE BETTER EFFICACY.
 USE SLOWER APPLICATION SPEEDS TO ALLOW OPERATORS TO LOWER BOOM HEIGHTS.
 INCREASING DROPLET SIZE AND WATER RATES WHILE REDUCING APPLICATION SPEED WILL ASSIST IN MITIGATING OFF TARGET INVERSION DRIFT DURING SUMMER SPRAYING. EXTREMELY COARSE DROPLETS WILL PRODUCE <3% DRIFTABLE DROPLETS.

Boom Sprayers

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

- Spray droplets not smaller than a VERY COARSE (VC) spray droplet size category (minimum XC, between 3 October and 15 April - advisory).
- Boom heights 0.5 metres or lower above the target canopy (The higher of either the crop canopy or the targeted weeds).
- Minimum distances between the application site and downwind sensitive aquatic and wetland areas including aquacultural ponds, surface streams and rivers (see Aquatic 'Downwind mandatory no-spray zone' section of the following table titled 'Buffer zones for boom sprayers') are observed.
- Minimum distances between the application site and downwind sensitive crops, gardens, landscaping vegetation, protected native vegetation or protected animal habitat (see Terrestrial 'Downwind mandatory no-spray zone' section of the following table titled 'Buffer zones for boom sprayers') are observed. The buffer zones provide guidance but may not always be completely protective of all agricultural crops.

Buffer Zones for Boom Sprayers

Application rate (/ha)	Downwind Mandatory No Spray Zone	
	Aquatic	Terrestrial
Dryland cropping: winter cereals and fallows		
Up to 230 mL (155 g ae/ha)	0 metres	0 metres
Up to 820 mL (560 g ae/ha)	5 metres	15 metres
Dryland cropping: Preparatory spray and harvest aid application		
Up to 1.7 L (1140 g ae/ha)	20 metres	30 metres
Tropical & subtropical uses: Sugarcane		
Up to 2.4 L (1620 g ae/ha)	30 metres	40 metres
Pasture		
Up to 4.7 L (3180 g ae/ha)	45 metres	95 metres
Up to 6.6 L (4488 g ae/ha)	70 metres	160 metres
Horticultural, non-orchard uses: Potatoes		
Up to 1.3 L (780 g ae/ha)	10 metres	25 metres
Up to 2.7 L (1620 g ae/ha)	30 metres	40 metres

AERIAL APPLICATION

DO NOT apply by aerial application unless the following requirements are met:

- Spray droplets not smaller than a VERY COARSE (VC) spray droplet size category.
- Release heights 5 metres or lower above the target canopy.
- Minimum distances between the application site and downwind sensitive aquatic and wetland areas including aquacultural ponds, surface streams and rivers (see Aquatic 'Downwind mandatory no-spray zone' section of the following table titled 'Buffer zones for boom sprayers') are observed.
- Minimum distances between the application site and downwind sensitive crops, gardens, landscaping vegetation, protected native vegetation or protected animal habitat (see Terrestrial 'Downwind mandatory no-spray zone' section of the following table titled 'Buffer

zones for boom sprayers') are observed. The buffer zones provide guidance but may not always be completely protective of all agricultural crops.

Aerial application should not be used between 1st October and 15th April.

BUFFER ZONES FOR AIRCRAFT: 3 metre release height or lower above the target canopy

Application rate (per ha)	Downwind Mandatory No Spray Zone			
	Fixed wing		Helicopter	
	Aquatic	Terrestrial	Aquatic	Terrestrial
Dryland cropping: winter cereals and fallows				
Up to 0.25 L (155 g ae/ha)	20 metres	35 metres	25 metres	35 metres
Up to 0.9 L (560 g ae/ha)	60 metres	90 metres	60 metres	80 metres
Dryland cropping: Preparatory spray and harvest aid application				
Up to 1.9 L (1140 g ae/ha)	100 metres	150 metres	90 metres	140 metres
Tropical & subtropical uses: Sugarcane				
Up to 1.3 L (780 g ae/ha)	75 metres	110 metres	70 metres	100 metres
Up to 2.7 L (1620 g ae/ha)	130 metres	250 metres	120 metres	180 metres

BUFFER ZONES FOR AIRCRAFT: 5 metre release height or lower above the target canopy

Application rate (per ha)	Downwind Mandatory No Spray Zone			
	Fixed wing		Helicopter	
	Aquatic	Terrestrial	Aquatic	Terrestrial
Dryland cropping: winter cereals and fallows				
Up to 0.25 L (155 g ae/ha)	40 metres	65 metres	50 metres	65 metres
Up to 0.9 L (560 g ae/ha)	110 metres	160 metres	95 metres	130 metres
Dryland cropping: Preparatory spray and harvest aid application				
Up to 1.9 L (1140 g ae/ha)	190 metres	350 metres	150 metres	210 metres
Tropical & subtropical uses: Sugarcane				
Up to 1.3 L (780 g ae/ha)	140 metres	220 metres	120 metres	160 metres
Up to 2.7 L (1620 g ae/ha)	300 metres	550 metres	190 metres	300 metres

BUFFER ZONES FOR PASTURE APPLICATION BY AIR – 5.0 m release height

NOTE: some rates ARE NOT SUPPORTED for Fixed Wing aircraft and MUST NOT be applied by fixed wing aircraft.

Application rate 4500 g ae/ha, VERY COARSE droplet size, Aerial application

Aquatic protection

	Downwind no-spray zone	
	Fixed Wing	Helicopter
Wind speed range at time of application		
From 3 to 7 kilometres per hour	750 metres	475 metres
From 7 to 14 kilometres per hour	Not Supported	525 metres

Terrestrial protection

	Downwind no-spray zone	
	Fixed Wing	Helicopter
Wind speed range at time of application		
From 3 to 7 kilometres per hour	Not Supported	750 metres
From 7 to 14 kilometres per hour	Not Supported	Not Supported

Application rate 3180 g ae/ha, VERY COARSE droplet size, Aerial application

Aquatic protection

	Downwind no-spray zone	
	Fixed Wing	Helicopter
Wind speed range at time of application		
From 3 to 7 kilometres per hour	575 metres	350 metres
From 7 to 14 kilometres per hour	650 metres	350 metres

Terrestrial protection

	Downwind no-spray zone	
	Fixed Wing	Helicopter
Wind speed range at time of application		

From 3 to 7 kilometres per hour	Not Supported	575 metres
From 7 to 14 kilometres per hour	Not Supported	625 metres

BUFFER ZONES FOR PASTURE APPLICATION BY AIR – 3.0 m release height

Application rate 4500 g ae/ha, VERY COARSE droplet size, Aerial application

Aquatic protection

Wind speed range at time of application	Downwind no-spray zone	
	Fixed Wing	Helicopter
From 3 to 7 kilometres per hour	475 metres	300 metres
From 7 to 14 kilometres per hour	475 metres	300 metres

Terrestrial protection

Wind speed range at time of application	Downwind no-spray zone	
	Fixed Wing	Helicopter
From 3 to 7 kilometres per hour	750 metres	475 metres
From 7 to 14 kilometres per hour	Not Supported	525 metres

Application rate 3180 g ae/ha, VERY COARSE droplet size, Aerial application

Aquatic protection

Wind speed range at time of application	Downwind no-spray zone	
	Fixed Wing	Helicopter
From 3 to 7 kilometres per hour	325 metres	190 metres
From 7 to 14 kilometres per hour	325 metres	210 metres

Terrestrial protection

Wind speed range at time of application	Downwind no-spray zone	
	Fixed Wing	Helicopter
From 3 to 7 kilometres per hour	575 metres	575 metres
From 7 to 14 kilometres per hour	625 metres	625 metres

DIRECTIONS FOR USE**FIELD CROPS**

Refer to Section 'Spraying Application and Drift Risk Assessment' Before Application

Situation and Crop	Weeds Controlled	State	Rate /ha	Critical Comments	
Wheat, Barley	Refer to Weed Table	Vic only	210 - 800 mL	<p>CROP STAGES: ALL CEREALS</p> <p>Variations between varieties do occur. Check sensitivity and growth stages of varieties before applying. Damage may result if applied too early.</p> <p>Vic only: Apply at tillered to boot stages.</p> <p>NSW, ACT only: Apply after when the first node can be felt at the base of a tiller and before swelling of the head can be felt in a tiller.</p> <p>Qld only: Apply from mid-tillering (5 to 6 fully emerged main stem leaves plus one or more tillers) to before boot stage (visible swelling of the head at the top of the main stem).</p> <p>SA, Tas only: Apply from completion of tillering to early jointing stage.</p> <p>WA only: Apply from the 5-leaf stage up to jointing stage (Zadoks 15 - 33). Apply only at 6 leaf stage for Cranbrook and Jacup wheats (Zadoks 16) to avoid possible damage.</p>	
		SA only	230 - 800 mL		
		Qld, NSW, ACT only	410 - 800 mL		
		Tas only	620 - 800 mL		
		WA only	800 mL		
Triticale	Refer to Weed Table	Qld, NSW, ACT only	410 - 800 mL	<p>Qld only: Apply from mid-tillering (5 to 6 fully emerged main stem leaves plus one or more tillers) to before boot stage (visible swelling of the head at the top of the main stem).</p> <p>SA, Tas only: Apply from completion of tillering to early jointing stage.</p> <p>WA only: Apply from the 5-leaf stage up to jointing stage (Zadoks 15 - 33). Apply only at 6 leaf stage for Cranbrook and Jacup wheats (Zadoks 16) to avoid possible damage.</p>	
		SA only	240 - 820 mL		
		Vic only	210 - 800 mL		
Cereal Rye	Refer to Weed Table	Qld, NSW, ACT only	410 - 800 mL		<p>Qld only: Apply from mid-tillering (5 to 6 fully emerged main stem leaves plus one or more tillers) to before boot stage (visible swelling of the head at the top of the main stem).</p> <p>SA, Tas only: Apply from completion of tillering to early jointing stage.</p> <p>WA only: Apply from the 5-leaf stage up to jointing stage (Zadoks 15 - 33). Apply only at 6 leaf stage for Cranbrook and Jacup wheats (Zadoks 16) to avoid possible damage.</p>
		Vic only	210 - 800 mL		
Sugar Cane	Refer to Weed Table	Qld only	1.15 - 2.4 L	Post-emergence.	
Stubble/Fallow Spray Prior to Direct Drilling or Sowing. Winter Cereals, Grain Legumes (Peanuts Qld only), Canola	Refer to Weed Table	All States	210 - 800 mL	<p>Observe the plant back periods given in the table in this leaflet. Must be tank mixed with a knockdown herbicide such as Agro-Essence Glyphosate 450 Herbicide, paraquat or paraquat/diquat mixtures. Select appropriate rate from the weed table. For Skeleton Weed, spraying should only be done 6 - 8 weeks before anticipated sowing date and subsequent cultivation limited to a minimum.</p>	
		All States	1.7 L		
Harvest Aid or Salvage Spray - Winter Cereals	Broadleaf Weeds	All States	1.7 L	<p>Apply after dough stage of crop. Interval between application and effectiveness is 10 - 20 days. For desiccation of green matter, estimate harvest date and apply spray approximately 14 days earlier. Rain between spraying and actual harvest can negate results.</p> <p>Note: Where thistles are tall and branching above the crop, spraying can turn the branches down into the crop, presenting more stalks to cause header comb blockages. Spraying may increase seed contamination of harvest by accelerating maturity. DO NOT use with undersown legumes that have not set seed.</p>	
Potatoes Pre-harvest Preparation	Broadleaf Weeds such as Clover, Variegated Thistle and Cruciferous weeds	Vic, Tas only	1.15 - 2.4 L		Apply approximately 4 to 5 weeks before harvest after the potato haulms have dried off. Use the highest rate where weeds are more than 30 cm in height. For boom

Situation and Crop	Weeds Controlled	State	Rate /ha	Critical Comments
				spraying at least 100 litres of spray mixture per hectare. If grasses such as Ryegrass and Winter Grass are also present add Amitrole* T Herbicide.
Improve Pasture containing Clovers	Refer to Weed Table	Qld, NSW, ACT, Tas, SA only	410 – 800 mL	Clover must be well covered by the grass or extensive damage may result.
Pastures – Non-legumes, Rights of Way & Industrial		Qld, NSW, ACT, Tas, SA only	800 mL - 4.7 L	Control of most perennial weeds, but due to the rooting habits of most species control may take a number of years. Damage may result to legumes in pasture.
		Vic only	800 mL - 6.5 L	Boom spray.
			70 – 620 mL/100 L	Spot spraying.
Pastures – Direct Drilling or Surface Sowing	Charlock, Clover, Medics, Mustards, Paterson's Curse, Saffron, Slender, Variegated and Spear Thistles, Turnip Weed, Wild Radish, Wild Turnip	Qld, NSW, ACT, Vic, Tas, SA, WA only	800 mL - 1.5 L (Aerial Application)	Applying to young, actively growing weeds. Sowing: DO NOT sow pasture seed for at least 21 days after application. If soil moisture is dry, delay sowing for at least 30 days.
	As Above plus: Capeweed, Wireweed, Storksbill/Erodium, Flatweed, Horehound (seedlings), Skeleton Weed, Nodding or Star Thistles.		800 mL - 1.5 L (Ground Application)	
	St John's Wort		3.3 - 4.7 L (Aerial or Ground)	
	All of above plus grasses		As above plus 2,2 DPA sodium salt or Agro-Essence Glyphosate 450 Herbicide	

SPOT SPRAYING

Situation and Crop	Weeds Controlled	State	Rate /ha	Critical Comments
Spot Spraying (All Situations)	Refer to Weed Table	All States	1/100 th of rate on Weed Table per 10 L water per 100 m ²	Apply through Knapsack. Thorough wetting of weed is essential.

WEED TABLE

NOTE: Where weeds are to be sprayed in a CROP or PASTURE, use only the rates given for the crop in the table below. In most cases this will give control, however some hard to kill weeds or those in advanced stages of growth may only be suppressed e.g. *Rumex* spp. (Docks) and *Polygonum* spp. (Wireweed, Climbing Buckwheat) are killed to ground level only.

APPLICATION RATE PER HECTARE

Weeds Controlled	Crop						Pasture – Non-Legume		Critical Comments
	Vic	SA	Tas	NSW, ACT	Qld	WA	Vic	NSW, ACT, Tas, SA, Qld, WA only	
Amaranthus spp.	-	-	-	800 mL	-	-	-	-	
Angled Onion	-	-	-	-	-	-	3.3 L	0.8 - 1.7 L	Spray when buds are forming or early flowering
Apple Sodom	-	-	-	-	-	-	-	2.9 - 3.3 L	
Bathurst Burr	-	-	-	800 mL	-	-	1.7 - 3.3 L	1.7 - 3.3 L	Spray from seedling to pre-flowering. Use higher rate as plant matures.
Black Knapweed	-	-	-	-	-	-	3.3 L	-	Spray before flowering. DO NOT cultivate these infestations.
Buffalo Burr	-	-	-	-	-	-	-	800 mL - 1.5 L (Not Qld & WA)	Spray from seedling to pre-flowering. Use higher rate as plant matures.
California Burr	-	-	-	800 mL	-	-	1.7 - 3.3 L	1.15 - 1.7 L (Not SA)	Spray from seedling to pre-flowering. Use higher rate as plant matures.
Caltrop	-	-	-	620 mL – 800 mL	-	-	1.7 - 3.3 L	-	Spray from seedling to pre-flowering. Use higher rate as plant matures.
Cape Tulip	-	-	-	-	-	1.15 L	3.3 L	1.7 - 3.3 L	Spray before flowering.
Capeweed	800 mL	800 mL	800 mL	530 – 800 mL	-	-	-	2.5 - 3.3 L	Spray up to rosette stage.
Charlock	410 mL	410 mL	800 mL	410 mL	-	-	-	800 mL	Spray up to rosette stage.
Clover	-	-	-	620 mL – 800 mL	-	-	-	800 mL	
Colocynth	-	-	-	-	-	-	3.3 L	-	Spray at seedling stage only.
Deadnettle	-	-	-	800 mL	-	-	-	-	
Devil's Claw	-	-	-	800 mL	-	-	1.3 L	1.15 - 1.7 L	Spray prior to pods forming.

Weeds Controlled	Crop						Pasture – Non-Legume		Critical Comments
	Vic	SA	Tas	NSW, ACT	Qld	WA	Vic	NSW, ACT, Tas, SA, Qld, WA only (Not SA)	
Dock	800 mL	800 mL	-	-	800 mL	800 mL	-	1.7 - 2.5 L	Spray at rosette stage to kill top growth only.
Fat Hen	-	-	-	410 – 800 mL	-	-	-	-	
Flatweed	-	-	-	800 mL	-	-	-	2.5 - 3.3 L	
Fumitory (red)	-	800 mL	-	800 mL	-	-	-	2.5 - 3.3 L	Spray up to rosette stage.
Fumitory (white)	800 mL	410 mL	-	800 mL	-	-	-	2.5 - 3.3 L	Spray up to rosette stage.
Galvanised Burr	-	-	-	-	-	-	4.7 L	4.7 L (Not Qld & WA)	Spray from seedling to pre-flowering.
Goosefoots	-	-	-	800 mL	-	-	-	-	
Hard Head or Russian Knapweed	-	-	-	-	-	-	3.3 - 5.2 L	-	Spray before flowering.
Hogweed, Wireweed	800 mL	800 mL	-	800 mL	800 mL	-	-	1.15 - 1.7 L (Not SA)	Spray up to rosette stage.
Hoary Cress, Whiteweed	-	800 mL	800 mL	800 mL	-	-	1.7 - 3.3 L	1.7 - 2.1 L	Spray from late rosette to pre-flowering.
Horehound (seedlings)	-	800 mL	-	-	-	840 mL	-	1.7 - 3.3 L	Late Autumn to early Spring.
Ironweed, Corn Gromwell	-	-	-	-	800 mL	-	-	1.15 - 1.7 L	
Khaki Weed	-	-	-	-	-	-	-	800 mL - 1.15 L (Not SA)	Spray young seedlings only.
Lincoln Weed	-	800 mL	-	-	-	-	-	-	Autumn spray before sowing improves control.
London Rocket	-	-	-	-	-	570 mL	-	1.6 - 2.5 L (WA only)	
Lupins	800 mL	-	-	410 – 800 mL	-	-	-	-	Spray up to rosette stage.
Melilotus/ Hexham Scent	800 mL	800 mL	-	-	800 mL	-	-	1.15 - 1.7 L	Spray up to rosette stage.
Melons – camel, paddy	-	-	-	410 – 800 mL	-	-	-	-	
Mustards	330 mL	230 – 800 mL	800 mL	410 - 900m L	620 mL	620 mL	3.3 L	1.7 - 2.5 L	Spray up to rosette stage.
Mexican Poppy	-	2.3 - 3.5 L	-	800 mL	-	840 mL	-	800 mL - 1.15 L	Spray rosette stage and before flowering.

Weeds Controlled	Crop						Pasture – Non-Legume		Critical Comments
	Vic	SA	Tas	NSW, ACT	Qld	WA	Vic	NSW, ACT, Tas, SA, Qld, WA only	
								(1.1 - 1.5 L WA only)	
Mintweed	-	-	-	800 mL	620 mL	-	-	800 mL- 1.15 L	Spray active seedlings only.
Muskweed	800 mL	-	-	-	-	-	-	-	Spray up to rosette stage.
New Zealand Spinach	-	-	-	800 mL	-	-	-	-	
Noogoora Burr	-	-	-	800 mL	-	-	1.7 - 3.3 L	1.7 - 3.3 L	Spray seeding to pre-flowering.
Nut Grass	-	-	-	-	-	-	3.3 - 5.2 L	-	Spray within 4 weeks of foliage emergence, repeat spray necessary.
Paterson's Curse	-	-	-	800 mL	-	840 mL	1.7 - 3.3 L	800 mL - 1.7 L (1.15 - 1.5 L WA only)	Spray seedling to rosette stage.
Poppy Wild	410 mL	-	-	-	-	-	-	2.1 - 2.9 L	Spray up to rosette stage.
Ragwort	-	-	-	-	-	-	3.3 L	3.3 L	Spray at rosette to cabbage stage.
Rapeseed	800 mL	-	-	410 – 800 mL	-	-	-	-	Spray up to rosette stage.
Rapistrum	-	-	-	-	-	570 mL	-	840 mL (WA only)	
Rough Poppy	-	410 mL	-	410 – 800 mL	-	-	-	800 mL	Spray young seedlings only.
St. John's Wort	-	-	-	-	-	-	3.3 - 5.2 L	3.3 - 4.7 L	Spray before flowering. Spray before plants are 40 cm high.
Safflower	-	-	-	410 - 800 mL	-	-	-	-	
Sand Mustard/ Sand Rocket	-	-	-	-	-	-	3.3 L	-	Spray before flowering.
Shepherd's Purse	-	-	-	800 mL	-	-	-	-	
Silver Leaf Nightshade	-	-	-	-	-	-	3.3 L	-	Spray at flowering. Fallow land: controls top growth only.
Skeleton Weed	-	800 mL	-	800 mL	-	-	3.3 L	1.15 - 1.7 L	Spray rosettes before aerial growth commences.
Stingless Nettle (Deadnettle)	-	800 mL	800 mL	-	-	-	-	2.1 - 2.5 L	
Stinging Nettle	800 mL	-	-	-	-	-	-	-	Spray up to rosette stage.

Weeds Controlled	Crop						Pasture – Non-Legume		Critical Comments
	Vic	SA	Tas	NSW, ACT	Qld	WA	Vic	NSW, ACT, Tas, SA, Qld, WA only	
Stinkwort	-	-	-	800 mL	-	-	1.7 - 3.3 L	1.7 - 3.3 L	Spray younger plants. Use higher rate as plants mature.
Storksbill/ Erodium	-	-	-	800 mL	-	-	-	-	
Sunflower Seedlings	800 mL	-	-	410 – 800 mL	620 mL	-	-	-	Spray multiple leaves.
Thistles:									
- Golden	-	-	-	-	-	-	3.3 L	3.3 L	Spray at rosette stage,
- Nodding	-	-	-	-	-	-	3.3 L	1.15 - 1.7 L	Spray at rosette stage to pre-flowering.
- Safron	620 mL	800 mL	-	410 – 800 mL	800 mL	800 mL	800 mL - 1.7 L	840 mL - 3.3 L (WA only)	Spray up to rosette stage.
- Sheep	-	-	-	-	-	840 mL	-	840 mL - 3.3 L (WA only)	
- Slender, Shore	-	-	800 mL	800 mL	-	-	1.7 - 3.3 L	800 mL - 3.3 L	Spray at rosette stage.
- Soldier	-	-	-	-	-	-	3.3 L	-	Spray at rosette stage
- Spear	800 mL	-	800 mL	-	-	-	800 mL - 2.5 L	1.15 - 2.1 L	Spraying at seedling to rosette stage. Use higher rate as plants mature (pastures).
- Stemless	-	-	-	-	-	-	3.3 L	2.5 - 3.3 L	Spray at rosette stage to flowering.
- St Barnaby's	-	-	-	-	-	-	-	1.15 - 1.7 L	
- Star	-	-	-	800 mL	-	-	1.7 - 3.3 L	1.15 - 1.7 L	Spraying at seedling to rosette stage. Use higher rate as plants mature.
- Variegated	-	-	800 mL	410 – 800 mL	620 mL	-	800 mL - 2.5 L	800 mL - 3.3 L	Spray at rosette stage. Can cause stock poisoning.
Thornapple	-	3.5 L	-	410 – 800 mL	-	-	3.3 L	800 mL - 1.7 L	Spray at seedling stage.
Tree Hogweed	800 mL	-	-	-	-	-	-	-	Spray up to rosette stage.
Turnip Weed	-	410 mL	-	410 – 800 mL	410 mL	620 mL	-	800 mL	Spray seedling only.
Vetches/Tar es	800 mL	620 mL	800 mL	-	-	-	-	-	
Wards Weed	-	410 mL	-	-	-	-	-	-	Spray at seedling stage.
Wild Cabbage	800 mL	-	-	-	-	-	-	-	Spray up to rosette stage.
Wild Garlic Only	-	-	-	-	-	-	6.6 L	-	Suppresses aerial growth.
Wild Mignonette	-	-	-	-	-	840 mL	3.3 L	-	Spray at rosette stage.
Wild Mustard	-	-	-	-	-	570 mL	-	1.6 - 2.5 L	

Weeds Controlled	Crop						Pasture – Non-Legume		Critical Comments
	Vic	SA	Tas	NSW, ACT	Qld	WA	Vic	NSW, ACT, Tas, SA, Qld, WA only	
								(WA only)	
Wild Radish	800 mL	800 mL	800 mL	410 – 800 mL	800 mL	570 mL	-	800 mL (840 mL WA only)	Spray up to rosette stage.
Wild Sage	-	-	-	-	-	-	-	2.5 - 3.3 L	
Wild Teasel	-	-	-	-	-	-	1.7 - 3.3 L	-	Spray at rosette stage. Use higher rate as plants mature.
Wild Turnip	210 mL	230 mL	800 mL	410 – 800 mL	-	400 mL	-	800 mL (840 mL WA only)	Spray up to rosette stage.

Plant back days for Agro-Essence 2,4-D Ester 680 Herbicide

CROP	RATES		
	Up to 510 mL/ha	510 mL - 1 L/ha	1 - 1.6 L/ha
Balansa Clover	7	7	10
Barley ¹	1	1	3
Chickpeas ²	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 ⁴	7	14	21
Medics	7	7	10
Narbon Beans	7	7	10
Navy Beans	10	10	14
Oats	3	3	7
Perennial Ryegrass	7	7	10
Persian Clover	7	7	10
Phalaris	7	7	10
Canola/Rapeseed ²	14	21	28
Rice	7	7	14
Safflower ²	7	14	21
Sorghum ³	3	7	10
Soybean	14	14	21
Sub-Clover	7	7	10
Sunflower ³	7	10	14
Triticale ¹	1	3	7
Vetch	7	7	10
Wheat ¹	1	3	7
White Clover	7	7	10

IMPORTANT: WHEN APPLIED TO DRY SOILS AT LEAST 15 mm (1/2 inch) OF RAIN MUST FALL PRIOR TO THE COMMENCEMENT OF THE PLANT BACK PERIOD.

Notes:

1. In Queensland, no rainfall is required to fall prior to commencement of Plant Back Period for wheat, barley and triticale.
2. In Queensland, planting of canola/rapeseed, chickpeas and safflower must be delayed for at least 14 days following rainfall at least 15 mm.

3. In Central Queensland, when using 730 mL/ha or less of Agro-Essence 2,4-D Ester 680 Herbicide, the Plant Back Period for sorghum and sunflower is 1 day irrespective of rainfall.
4. In WA the Plant Back Period for lupins at all rates is 28 days.