

POISON

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

Agro-Essence Haloxyfop 520 Herbicide

**ACTIVE CONSTITUENT: 520 g/L HALOXYFOP present as the
haloxyfop-R-methyl ester**

GROUP	A	HERBICIDE
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For the post-emergent control of a wide range of annual and perennial grass weeds in grain legume and oilseed crops, lucerne, medic and clover pasture and seed crops, forestry, bananas, citrus, grapes, pineapples, pome and stone fruit, pyrethrum, tropical fruit and nut crops as specified in the Directions for Use

IMPORTANT: READ THIS LEAFLET BEFORE USE

APVMA Approval No.: 68278/57924

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DIRECTIONS FOR USE**RESTRAINTS:**

DO NOT apply to weeds which may be stressed (not actively growing) due to prolonged periods of extreme cold, moisture stress (waterlogged or drought affected), poor nutrition or previous herbicide treatment as reduced levels of control may result.

DO NOT spray if rain is likely to occur within one hour.

Table 1a. Winter crops – Canola, Chickpeas, Faba beans, Field peas, Lentils, Linola, Linseed, Lupins, Lucerne, Vetch, Medic and Clover pastures or seed crops

Weeds Controlled	Weed Growth Stage	Rate (mL/ha)		Critical Comments
		With Uptake ¹ Spraying Oil	With non-ionic wetter ²	
				^{1 2} See GENERAL INSTRUCTIONS , Spraying oils/wetters section.
Annual Ryegrass	2 to 4 leaf	75	100	<p>FIELD PEAS AND CANOLA: The only oil recommended for use with Agro-Essence Haloxypop 520 is Uptake* Spraying Oil. Agro-Essence Haloxypop 520 + Lontrel 750 SG + Uptake* Spraying Oil are compatible and selective to canola. This tank-mix is also compatible with atrazine and selective to triazine tolerant canola.</p> <p>LUPINS AND FIELD PEAS: Mixtures with Brodal or simazine may cause crop yellowing and separate applications are recommended.</p> <p>CHICKPEAS, FABA BEANS, LENTILS AND VETCH, LINOLA, LINSEED: Broadleaf herbicides should not be added to Agro-Essence Haloxypop 520. Apply Agro-Essence Haloxypop 520 and broadleaf herbicides at least a week apart.</p> <p>LUCERNE, CLOVER OR MEDIC PASTURES: If grazed or cut for hay immediately prior to treatment delay application until all grasses have fully expanded leaves. Use 75 mL + spraying oil or 100 mL + wetter/ha. (See GENERAL INSTRUCTIONS, Spraying Oils/wetters section). If silver grass (<i>Vulpia</i> spp.) is present in pasture, simazine should be tank mixed with the higher rate of Agro-Essence Haloxypop 520 plus a non-ionic wetter.</p>
	early tillering	100	100	
Barley Grass Brome grass Paradoxa grass Volunteer cereals	2 to 4 leaf	50	75	
	early tillering	75	100	
Wild Oats WA, SA, Vic, Tas, southern & central NSW	2 to 4 leaf	37.5	50	
	early tillering	50	75	
Wild Oats northern NSW & Qld	2 to 4 leaf	50	75	
	early tillering	75	100	

Table 1b. Winter crop growth stage application windows

Crop	Crop Growth Stage
Lucerne, Medic and Clover pastures or seed crops.	Apply from 2 nd trifoliolate leaf onwards. For <i>Erodium spp</i> spraying, apply from cotyledon crop stage onwards.
Canola	Apply from 2 nd leaf and prior to bud formation and stem elongation.
Linola, Linseed	Apply from 5cm to flowering.
Chickpeas, Faba beans, Field peas, Lentils, Lupins, Vetch	Apply from 2 nd leaf, 2 nd node or 2 nd branch prior to flowering.

Table 2a. Lucerne, Medic and Clover seed crops and pastures. See table 1b for crop stages.

Weeds Controlled	Weed Growth Stage	Rate (mL/ha) with Uptake ¹ Spraying Oil	Critical Comments
Prairie grass (<i>Bromus catharticus</i>)	Up to early tillering	100	¹ See GENERAL INSRUCTIONS, Spraying oils/wetters section.
Musky or ferny leaf Storksbill: (<i>Erodium moschatum</i>) Common Crowsfoot or Common Storksbill (<i>Erodium cicutarium</i>)	Up to 6 leaf or 5cm diameter	50 – 75 ³	³ Use lower when growing conditions and crop or pastures competition are good and when weed populations are below 100 plants/m2. Use the higher rate when weed population re above 100 plants/m2 or when crop or pasture competition is poor.
Long or shiny leaf Storksbill (E. botrys)	Up to 8 leaf or 5cm diameter	75 - 100	NOTE: Storksbill may not be controlled if simazine or Broadstrike are tank-mixed with Agro-Essence Haloxyfop 520 Herbicide. LUCERNE, CLOVER OR MEDIC PASTURES If grazed or cut for hay immediately prior to treatment delay application until all grasses have fully expanded leaves. Use 75mL + spraying oil or 100mL + wetter/ha. (See GENERAL INSTRUCTIONS, Spraying oils/wetter section). If Silver grass (<i>Vulpia spp.</i>) is presented in pasture, simazine should be tank mixed with the higher rate of Agro-Essence Haloxyfop 520 Herbicide plus a non-ionic wetter.

Table 2b. Lucerne, Medic and Clover seed crops only – not to be used for stockfeed. See table 1b for crop stages

Weeds Controlled	Weed Growth Stage	Rate (mL/ha) with Uptake ¹ Spraying Oil	Critical Comments
Couch grass (suppression), Rhodes grass (control)	Tillering seedlings	150 + 150 ⁴	<p>⁴ For best suppression of couch or control of Rhodes grass, make 2 applications of Agro-Essence Haloxyfop 520 Herbicide 2-4 weeks apart. Time second application to coincide with tillering stage of weeds and just after irrigation or significant rain.</p> <p>Only treat actively growing weeds, which are not moisture stressed. Use these rates for control of couch and Rhodes grass.</p>
Couch grass (control), Rhodes grass (control)	Established stands	400 – 800	

Table 3a. Summer Crops – Cotton, Cowpea, Lucerne, Mung bean, Navy beans, Peanuts, Soybeans, Sunflowers

Weeds Controlled	Weed Growth Stage	Rate (mL/ha) with Uptake ¹ Spraying Oil	Critical Comments
Australian millet	2 leaf to tillering up to 15cm	150	<p>¹ See GENERAL INSTRUCTIONS, Spraying oils/wettors section.</p>
Barnyard grass	2 to 5 leaf	100	
	tillering up to 15cm	150	<p>NAVY BEAN, PEANUTS, SOYBEANS</p> <p>For broadleaf weed control, Agro-Essence Haloxyfop 520 Herbicide at 150ml/ha plus wetter may be tank mixed with Blazer[®] (except on Navy beans) or Basagran. Tank mixes may cause transient leaf spotting on the crop but do not normally affect yield.</p> <p>DO NOT tank mix broadleaf herbicides with Agro-Essence Haloxyfop 520 Herbicide if grasses have begun tillering or if the grasses are under moisture stress.</p> <p>DO NOT add Uptake Spraying Oil with Blazer or Basagran.</p> <p>DO NOT use Blazer or Basagran tank-mixes on Cowpeas.</p>
Crowsfoot grass Green Panic grass Johnson grass (Rhizome)	2 leaf to tillering up to 15cm	150	
Johnson grass (seedling)	2 to 5 leaf	100	
Liverseed grass (seedling) Mossman River grass	tillering up to 15cm	150	
Summer grass	2 leaf to tillering up to 15cm	150	
Volunteer cereals	2 to 4 leaf	100	
	tillering up to 15cm	150	

Table 3b. Summer crop growth stage application windows

Crop	Crop Growth Stage
Lucerne	Apply from 2 nd trifoliolate leaf onwards
Cowpea, Mung beans, Navy beans, Soybeans	Apply from 2 nd leaf to flowering
Peanuts	Apply from 5cm to pegging
Cotton	Apply from 2 nd leaf to before the onset of flowering
Sunflowers	Apply from 2 nd leaf to head initiation

Table 4. Annual and Perennial grasses and Erodium spp. In Orchard, Vine, and Plantation crops, Forestry and Pyrethrum

Crop	Crop Growth Stage	Weeds Controlled	Weed Stage	Rate (mL/ha) with Uptake ¹ Spraying Oil	Critical Comments
Orchard, Vine and plantation	All growth stages	Perennial grasses, Couch, Rhodes grass, Slender Rats Tail grass	Established stands	400 - 800	¹ See GENERAL INSTRUCTIONS , Spraying oils/wetters section. Spray should be directed to the base of the tree or vine avoiding contact with fruit and foliage. Spot spray: Use 25mL to 50mL/100L of water. Use higher rate on late tillering mature grasses. Annual Grasses: Where treated in association with perennial grasses, these annual grasses will be controlled
Crops including: Apples, Avocado, Banana, Blueberry, Citrus, Custard apple, Feijoa, Grapevines, Guava, Kiwifruit, Litchi (Lychee), Longan, Mango, Nashi, Nut trees, Passionfruit, Paw paw, Pear, Persimmon, Pineapple, Rambutan, Stone Fruit		Buffel grass, Green panic, Johnson grass, Kikuyu, <i>Paspalum</i> spp, <i>Setaria</i> spp	Vegetative to early tillering	200	
			Late tillering	400	
Annual grasses; Annual ryegrass, Barley grass, Barnyard grass, Brome grass, Crowsfoot grass, Lesser Canary grass, Liverseed grass, Mossman river grass, Paradoxa grass, Summer grass, Volunteer cereals, Wild Oats		2 leaf to tillering	200		
Forestry: <i>Pinus radiata</i> , <i>Eucalyptus</i> spp.					
Forestry: <i>Pinus pineaster</i>		Annual grasses as above	Vegetative to tillering	125 - 250	Forestry: For annual grasses apply lowest rate to newly emerged grasses, increasing the

Crop	Crop Growth Stage	Weeds Controlled	Weed Stage	Rate (mL/ha) with Uptake ¹ Spraying Oil	Critical Comments
<p>Orchard, Vine and plantation</p> <p>Crops including: Apples, Avocado, Banana, Blueberry, Citrus, Custard apple, Feijoa, Grapevines, Guava, Kiwifruit, Litchi (Lychee), Longan, Mango, Nashi, Nut trees, Passionfruit, Paw paw, Pear, Persimmon, Pineapple, Rambutan, Stone Fruit</p>	<p>All growth stages</p>	<p>Perennial grasses, Couch, Rhodes grass, Slender Rats Tail grass</p>	<p>Established stands</p>	<p>400 - 800</p>	<p>¹ See GENERAL INSRUCTIONS, Spraying oils/wetters section.</p>
		<p>Buffel grass, Green panic, Johnson grass, Kikuyu, <i>Paspalum</i> spp, <i>Setaria</i> spp</p>	<p>Vegetative to early tillering</p>	<p>200</p>	<p>Spray should be directed to the base of the tree or vine avoiding contact with frit and foliage.</p>
		<p>Annual grasses; Annual ryegrass, Barley grass, Barnyard grass, Brome grass, Crowsfoot grass, Lesser Canary grass, Liverseed grass, Mossman river grass, Paradoxa grass, Summer grass, Volunteer cereals, Wild Oats</p>	<p>Late tillering</p> <p>2 leaf to tillering</p>	<p>400</p> <p>200</p>	
<p>Forestry: <i>Pinus radiata</i>, <i>Eucalyptus</i> spp.</p>					<p>rate as they develop.</p>
<p>Pyrethrum</p>		<p>Barley grass, Brome grass, rope Twitch, barnyard grass, <i>Erodium</i> spp, Volunteer cereals</p>	<p>Vegetative to tillering</p>	<p>100 - 250</p>	<p>Pyrethrum (Tasmania only) For <i>Erodium</i> spp apply 75-100 mL/ha if the main weed is <i>E. botrys</i>. Use 50-75 mL/ha if either <i>E. cicutarium</i> or <i>E. moschatum</i> are the main weeds.</p>

Table 5. Agro-Essence Haloxyfop 520 Herbicide and Select Herbicide tank mixes – Canola, Chickpeas, Faba beans, Field peas, Lupins, Lentils

Weeds Controlled	Weed Growth Stage	Rate (mL/ha)		Critical Comments
		Agro-Essence Haloxyfop	Select Herbicide	
FOP/DIM susceptible Annual ryegrass + Volunteer barley, Volunteer wheat, Brome grass, Wild Oats, Barley grass, Phalaris	2 to 4 leaf	25	150	¹ See GENERAL INSTRUCTIONS, Spraying oils/wetters section. Use Uptake Spraying Oil at 500mL/100L or Hasten at 1L/100L.
	Early tillering	38	150	
FOP resistant Annual ryegrass + Volunteer barley, Volunteer wheat, Brome grass, Wild Oats, Barley grass, Phalaris	2 to 4 leaf	25	200	Apply at the same crop growth stages as those in Table 1b Winter Crops. Lentils: Apply up to 7 node-early branching crop growth stage. Lupins: Not for Qld.
	Early tillering	38	250	

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

HARVESTING WITHHOLDING PERIODS

NOT REQUIRED WHEN USED AS DIRECTED FOR:

Canola, Chickpeas, Cotton, Cowpea, Faba beans, Field peas, Lentils, Linola, Linseed, Lupins, Mung beans, Navy beans, Peanuts, Soybeans, Sunflowers and Vetch

DO NOT HARVEST FOR:

Medic and Clover seed crops

7 DAYS AFTER APPLICATION

STOCK FOOD WITHHOLDING PERIODS

DO NOT GRAZE OR CUT FOR STOCK FOR:

Canola, Chickpeas, Cotton, Cowpea, Faba beans, Field peas, Lentils, Linola, Linseed, Lupins, Mung beans, Navy beans, Peanuts, Soybeans, Sunflowers and Vetch

28 DAYS AFTER APPLICATION

Lucerne

21 DAYS AFTER APPLICATION

Medic and Clover pasture

7 DAYS AFTER APPLICATION

COTTON GIN TRASH MUST NOT BE FED TO ANIMALS

GENERAL INSTRUCTIONS

MIXING

- Add water to the spray tank to 10cm above the level of agitation and ensure the agitation device is working vigorously (There must be a minimum of 100L of water in the tank before any pesticide is added).
- If tank mixing, firstly add any soluble liquid formulations (e.g. Lontrel Herbicide) and allow agitation for approximately 1 minute
- Then add Agro-Essence Haloxypop 520 Herbicide at the pot where the agitation is the strongest (do not add Agro-Essence Haloxypop 520 Herbicide through a strainer or sieve). Allow further agitation for 1 minute.
- Half fill spray tank.
- If using wettable powder or water dispersible granules, or other emulsifiable concentration formulations (e.g. Lorsban 750 WG or Le-Mat), these should be added after the Agro-Essence Haloxypop 520 Herbicide to the half full spray tank to ensure vigorous agitation.
- Finally add Uptake Spraying Oil or approved alternate spraying oil/wetter (see section on spraying oils/wetters) and continue filling the tank to the required volume maintaining agitation at all times
- Only mix sufficient solution for immediate use. Agro-Essence Haloxypop 520 Herbicide and any other tank mixes should be applied immediately for best results.

Spraying Oils/Wetters

* **Spraying Oils:** It is essential to add an adjuvant to Agro-Essence Haloxypop 520 Herbicide. Best results will be achieved with Uptake Spraying Oil at 0.5L/100L of spray solution. Alternatively, other oils plus non-ionic wetter may be used. When other crop spraying oils are used, mix at 1.0L/100L and add a non-ionic wetter (surfactant) at 200mL/100L of spray solution. Use of an oil is not always recommended. See Critical Comments for specific situation recommendations.

† **Non-Ionic Wetters:** When Uptake or other oils are not used, a 100% concentrate non-ionic wetting agent such as BS-1000 at 200mL/100L must be used along with the higher rate of Agro-Essence Haloxypop 520 Herbicide as specified in the Directions for Use.

Where water volumes of less 50L/ha are used, DO NOT use less than 250mL/ha of Uptake or 500mL/ha for oils other than Uptake or less than 100mL of wetter.

CANOLA, LUCERNE, MEDIC AND CLOVER PASTURES AND SEED CROPS

When tank mixing Agro-Essence Haloxypop 520 Herbicide with Lontrel herbicides (canola only) or Broadstrike (lucerne, clover and medics), use Uptake Spraying Oil with lower rates of Agro-Essence Haloxypop 520 Herbicide or a wetting agent with the higher rates of Agro-Essence Haloxypop 520 Herbicide unless otherwise specified. When mixing Agro-Essence Haloxypop 520 Herbicide with other broadleaf herbicides on these crops, DO NOT use an oil use a wetter instead.

FIELD PEAS AND CANOLA

The oil recommended is Uptake Spraying Oil. Hasten is also recommended for use with tank-mixtures of Agro-Essence Haloxypop 520 Herbicide and Select Herbicide.

For canola, Agro-Essence Haloxypop 520 Herbicide + Lontrel 750SG + Uptake Spraying Oil are compatible and selective to canola. This tank-mixture is also compatible with atrazine or simazine and selective to triazine tolerant canola.

NAVY BEANS, PEANUTS AND SOYBEANS

When mixing with Blazer or Basagran DO NOT add spraying oil to these mixtures. DO NOT use these tank-mixtures on cowpea.

COMPATIBILITY - Ground Use Only

Insecticides: dimethoate, endosulfan, Lorsban 500EC Insecticide, Lorsban 750WG Insecticide, omethoate

Herbicides: atrazine, Basagran, Blazer, Broadstrike Herbicide, Lontrel Herbicide, Lontrel 750SG, MCPA Ester (LVE) – (Do not exceed 700mL/ha of MCPA LVE), oryzalin, Select Herbicide, simazine, Starane 200 Herbicide

Fungicides: Dithane DF, Dithane Rainshield Fungicide

Trace elements: magnesium sulphate, zinc sulphate

Agro-Essence Haloxyfop 520 Herbicide is not compatible with 2,4-D or MPA as sodium or amine salts.

Aerial Use

No product other than a recommended crop oil or wetter should be mixed with Agro-Essence Haloxyfop 520 Herbicide when applied by air except for the addition of Lontrel Forestry Herbicide for use in forestry and Lontrel 750SG for use in canola only.

APPLICATION

Apply Agro-Essence Haloxyfop 520 Herbicide in sufficient water to obtain good coverage. It should be applied by an accurately calibrated ground rig or aircraft delivering droplets with a VMD of 200-300 microns.

The following spray volumes are recommended;

Ground Application: 50-150 L/ha

Aerial application: 30 L/ha minimum

Use higher water volumes in orchards and in dense crops where the weeds may be shielded by the crop canopy.

CLEANING SPRAY EQUIPMENT

Before using Agro-Essence Haloxyfop 520 Herbicide

If broadleaf herbicides, particularly sulfonylureas, have been used in the spray equipment at any time prior to the use of Agro-Essence Haloxyfop 520 Herbicide. Particular care should be taken to follow the directions on the relevant broadleaf herbicide label for equipment cleaning, or damage to susceptible crops may occur.

After using Agro-Essence Haloxyfop 520 Herbicide

Empty the tank and drain the whole system. Thoroughly wash inside the tank using a pressure hose, drain the tank and clean filters in the tank, pump line and nozzles.

To rinse: After cleaning the tank as above, quarter fill the tank with clean water and circulate through the pump, lines hoses and nozzles. Drain and repeat the rinsing procedure twice.

To decontaminate: Before spraying cereals, maize, sorghum or other sensitive crops, wash the tank and rinse the system as above. Then quarter fill the tank and add an alkali detergent (e.g. SURF, Cold Water SURF Concentrate, DynamoMatic Concentrate, OMO or Drive) at 500mL/100L of water or the powder equivalent at 500g/100L of water, and circulate throughout the system for at least fifteen minutes. Drain

the whole system. Remove filters and nozzles and clean separately. Finally flush the system with clean water and allow to drain. Chlorine based cleaners are not recommended. Rinse water should be discharged onto a designated disposal area, or if this is unavailable, onto unused land away from desirable plants and water sources.

RESISTANT WEEDS WARNING

GROUP	A	HERBICIDE
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Agro-Essence Haloxyfop 520 Herbicide is a member of the cyclohexanedione group of herbicides. Agro-Essence Haloxyfop 520 Herbicide has the inhibition of acetyl CoA carboxylase mode of action. For weed resistance management, Agro-Essence Haloxyfop 520 Herbicide is a Group A herbicide. Some naturally occurring weed biotypes resistant to Agro-Essence Haloxyfop 520 Herbicide and other Group A 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 Haloxyfop 520 Herbicide or other Group A 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 Haloxyfop 520 Herbicide to control resistant weeds.

PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

Agro-Essence Haloxyfop 520 Herbicide damages cereals and grasses.

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

Cereal crops or grasses planted within twelve weeks of application may be damaged by the residual effects of Agro-Essence Haloxyfop 520 Herbicide, particularly on light and red soils.

PROTECTION OF LIVESTOCK

DO NOT graze or cut treated crops for stock food except as specified under withholding periods.

PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

Agro-Essence Haloxyfop 520 Herbicide is toxic to fish. DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

STORAGE AND DISPOSAL

Store in the closed, original container in a dry, cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Do not store near feedstuffs, fertilisers or seeds.

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 500 mm 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.

SMALL SPILL MANAGEMENT

Wear protective equipment (see SAFETY DIRECTIONS). Apply absorbent material such as earth, sand, cat litter or clay granules to the spill. When absorption is complete, sweep up material and contain in a refuse vessel for disposal (see STORAGE AND DISPOSAL section). If necessary wash the spill area with an alkali detergent and water and absorb this wash liquid for disposal as directed above.

SAFETY DIRECTIONS

Harmful if swallowed. Will irritate the eyes and skin. Avoid contact with eyes and skin. When opening container, preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and washable hat, elbow-length PVC gloves and face shield or goggles. After each day's use, wash gloves and face shield or goggles and contaminated clothing. Wash hands after use.

FIRST AID

If poisoning occurs contact a doctor or Poisons Information Centre. Phone Australia 13 11 26. If in eyes, hold eyes open, flood with water for at least 15 minutes and see a doctor.

MSDS

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

CONDITIONS OF SALE

The use of Agro-Essence Haloxyfop 520 Herbicide being beyond the control of the manufacturer, no warranty expressed or implied is given by Agro-Alliance (Australia) Pty Ltd regarding its suitability, fitness or efficiency for any purpose for which it is used by the buyer, whether in accordance with the directions or not and Agro-Alliance (Australia) Pty Ltd accepts with no responsibility for any consequences whatsoever resulting from the use of this product.