

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

QUANTUM

Clethodim 360 EC

HERBICIDE

ACTIVE CONSITITUENT: 360 g/L CLETHODIM

SOLVENT: 500 g/L LIQUID HYDROCARBONS

GROUP **1** HERBICIDE

For the control of certain grass weeds in Beetroot, Cabbage, Canola, Celery, Cotton, Forestry, Lettuce, Non-Bearing Fruit Trees, Onions, Ornamentals, Peanuts, Pulses (including Adzuki Beans, Broad Beans, Chickpeas, Faba Beans, Field Peas, Lentils, Lupins and Mung Beans), Potatoes, Soybeans and Pasture Legume (Lucerne, Clover and Medic) Seed Crops (and Pastures) according to the Directions For Use.

APVMA Approval No.: 94733/148987

EC Formulation Type
**Emulsifiable
Concentrate**

**BE PROUDLY
AUSTRALIAN**

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 **QUANTUM
AGROSCIENCES**

DIRECTIONS FOR USE**RESTRAINTS:**

DO NOT apply without the addition of an oil (see GENERAL INSTRUCTIONS).

DO NOT apply to plants that are stressed by moisture or temperature extremes.

DO NOT apply if rain is expected within one hour of application.

DO NOT apply more than once to any one crop.

SPRAY DRIFT RESTRAINTS

Specific definitions for terms used in this section of the label can be found at 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. 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.

CROP	CROP GROWTH STAGE	WEEDS CONTROLLED	RATE mL/ha
Canola	DO NOT apply after flower buds become visible (green buds)	Annual Ryegrass (<i>Lolium rigidum</i>), Annual Phalaris (<i>Phalaris minor</i>)	100 to 333
		Barley Grass (<i>Hordeum leporinum</i>), Brome Grass (<i>Bromus diandrus</i>), Wild Oats (<i>Avena</i> spp.)	116 to 333
		Volunteer Wheat (<i>Triticum aestivum</i>), Volunteer Oats (<i>Avena sativa</i>)	133 to 333 (116 to 333 in WA only)
		Silver Grass (<i>Vulpia bromoides</i>) suppression only	166 to 333
		Paradoxa Grass (<i>Phalaris Paradoxa</i>)	166 to 250 250 to 333
Pulse crops (including adzuki beans, broad beans, chickpeas, faba beans, field peas, lentils [^] and lupins*). Pasture (1) legume (lucerne, clover and medic) seed crops and pastures (1) (including pastures containing chicory and plantain).	Adzuki beans: DO NOT APPLY after first flower buds are visible. Chickpeas, faba beans, broad beans, field peas: DO NOT APPLY beyond full flowering. Lentils: Apply up to the 7 node/ early branching stage of crop growth. Lupins: DO NOT APPLY after 80% of flowers have opened.	Annual ryegrass (<i>Lolium rigidum</i>), Annual phalaris (<i>Phalaris minor</i>)	100 to 333
		Barley grass (<i>Hordeum leporinum</i>), Brome grass (<i>Bromus diandrus</i>), Wild Oats (<i>Avena</i> spp.)	116 to 333
		Volunteer wheat (<i>Triticum aestivum</i>), Volunteer oats (<i>Avena sativa</i>)	133* to 333* (116 to 333 in WA only)
		Volunteer barley (<i>Hordeum vulgare</i>)	333
		Silver grass (<i>Vulpia bromoides</i>) – suppression only	160 to 333
		Paradoxa grass (<i>Phalaris paradoxa</i>)	166-250 250-333
Cotton (Qld, NSW and NT only) Peanuts, Mung beans, Soybeans Pasture (1) legume (lucerne, clover and medic) seed crops and pastures (1) (including pastures containing chicory and plantain).	Cotton: DO NOT APPLY after full flowering (mid bloom). Peanuts: DO NOT APPLY after the pod fill stage of crop development. Mung beans, Soybeans: DO NOT APPLY after first flower buds are visible.	Barnyard grass (<i>Echinochloa</i> spp.), Blown grass (<i>Agrostis aveacea</i>), Crowsfoot grass (<i>Eleusine indica</i>), Feathertop Rhodes grass (<i>Chloris virgata</i>), Liverseed grass (<i>Urochloa panicoides</i>), Red sprangletop grass (<i>Leptochloa filiformis</i>), Seeding Johnson grass (<i>Sorghum halepense</i>), Summer grass (<i>Digitaria</i> spp.), Volunteer sorghum (<i>Sorghum</i> spp.)	166-250 250-333

STAGE OF WEED GROWTH	STATE	CRITICAL COMMENTS
2-leaf to fully tillered	Qld, NSW, ACT, Vic, Tas, SA, WA only	Always apply with a crop oil. See Adjuvants and Spray Additives for specific instructions. The lower doses will provide effective control if applied under ideal conditions to weeds that are smaller, actively growing and free from temperature or water stress. See COMPATIBILITY and CAUTIONS in GENERAL INSTRUCTIONS for mixture recommendations with insecticides, fungicides and other herbicides.
	NSW, ACT, Vic, Tas only	
2- to 5-leaf stage	Qld, NSW, ACT only	
5-leaf to fully tillered		
2 leaf to fully tillered	Qld, NSW, ACT, Vic, Tas, SA, WA only	
	NSW, ACT, Vic, Tas only	Always apply with a crop oil. See Adjuvants and Spray Additives for specific instructions. The lower doses will provide effective control if applied under ideal conditions to weeds that are smaller, actively growing and free from temperature or water stress. See COMPATIBILITY and CAUTIONS in GENERAL INSTRUCTIONS for mixture recommendations with insecticides, fungicides and other herbicides. [^] Application up to 7-node/early branching crop growth stage only. # NOT Qld. (1) See use of Quantum Clethodim 360 EC Herbicide in pastures under General Instructions.
2-5 leaf stage	Qld, NSW, ACT, only	
5 leaf to fully tillered		
2-5 leaf stage	Qld, NSW, ACT, Vic, WA, NT only	
5 leaf to fully tillered		
		Always apply with a crop oil. See Adjuvants and Spray Additives for specific instructions. The lower doses will provide effective control if applied under ideal conditions to weeds that are smaller, actively growing and free from temperature or water stress. See COMPATIBILITY and CAUTIONS in GENERAL INSTRUCTIONS for mixture recommendations with insecticides, fungicides and other herbicides. (1) See use of Quantum Clethodim 360 EC Herbicide in pastures under General Instructions. (2) Only Johnson Grass seedlings germinating from seed will be controlled. Seedlings that appear later as shoots from underground stems will not be controlled, and more than one application may be required to control emerging shoots. Always apply with a crop oil. See Adjuvants and Spray Additives for specific instructions.

CROP	WEEDS CONTROLLED	RATE mL/ha
Beetroot, Cabbage, Celery, Lettuce, Potatoes, Onions	Barnyard grass (<i>Echinochloa</i> spp.), Blown grass (<i>Agrostis aveacea</i>), Crowsfoot grass (<i>Eleusine indica</i>), Feathertop Rhodes grass (<i>Chloris virgata</i>), Liverseed grass (<i>Urochloa panicoides</i>), Paradoxa grass (<i>Phalaris paradoxa</i>), Red sprangletop grass (<i>Leptochloa filiformis</i>), Seedling Johnson grass ⁽¹⁾ (<i>Sorghum halepense</i>), Summer grass (<i>Digitaria</i> spp.), Volunteer sorghum (<i>Sorghum</i> spp.)	166 to 250 250 - 333
	Annual ryegrass (<i>Lolium rigidum</i>), Annual phalaris (<i>Phalaris minor</i>)	100 to 333
	Barley grass (<i>Hordeum leporinum</i>), Brome grass (<i>Bromus diandrus</i>), Wild oats (<i>Avena</i> spp.)	116 to 333
	Volunteer wheat (<i>Triticum aestivum</i>), Volunteer oats (<i>Avena sativa</i>)	133 to 333 (116 to 333 in WA only)
	Volunteer barley (<i>Hordeum vulgare</i>)	333
	Silver grass (<i>Vulpia bromoides</i>) – suppression only (not Qld, WA)	166 to 333
	Winter grass (<i>Poa annua</i>)	333
Forestry Non-bearing fruit trees and ornamentals	Annual ryegrass (<i>Lolium rigidum</i>), Annual phalaris (<i>Phalaris minor</i>), Barley grass (<i>Hordeum leporinum</i>), Barnyard grass (<i>Echinochloa</i> spp.), Blown grass (<i>Agrostis aveacea</i>), Brome grass (<i>Bromus diandrus</i>), Crowsfoot grass (<i>Eleusine indica</i>), Feathertop Rhodes grass (<i>Chloris virgata</i>), Liverseed grass (<i>Urochloa panicoides</i>), Paradoxa grass (<i>Phalaris paradoxa</i>), Red sprangletop grass (<i>Leptochloa filiformis</i>), Seedling Johnson grass ⁽¹⁾ (<i>Sorghum halepense</i>), Silver grass (<i>Vulpia bromoides</i>) – suppression only (not QLD, WA), Summer grass (<i>Digitaria</i> spp.), Volunteer sorghum (<i>Sorghum</i> spp.), Volunteer wheat (<i>Triticum aestivum</i>), Volunteer oats (<i>Avena sativa</i>), Volunteer barley (<i>Hordeum vulgare</i>), Winter grass (<i>Poa annua</i>)	333

STAGE OF WEED GROWTH	STATE	CRITICAL COMMENTS
2-5 leaf stage	All States	The lower doses will provide effective control if applied under ideal conditions to weeds that are smaller, actively growing and free from temperature or water stress. Use a spray volume of 150 L/ha when spraying dense grass populations. (1) Only Johnson Grass seedlings germinating from seed will be controlled. Seedlings that appear later as shoots from underground stems will not be controlled, and more than one application may be required to control emerging shoots. Always apply with a crop oil. See Adjuvants and Spray Additives for specific instructions.
5 leaf to fully tillered		
2 leaf to fully tillered		
2 leaf to fully tillered	All States	Apply after plants have recovered from transplant shock and are showing signs of active growth. Always apply with a crop oil. See Adjuvants and Spray Additives for specific instructions. Use a spray volume of 150L/ha when spraying dense grass populations. DO NOT use on Gymnosperms (pines, conifers, etc) unless a prior test has been conducted to check safety on the relevant species. See COMPATIBILITY AND CAUTIONS in GENERAL INSTRUCTIONS for particular species. (1) Only Johnson Grass seedlings germinating from seed will be controlled. Seedlings that appear later as shoots from underground stems will not be controlled, and more than one application may be required to control emerging shoots.

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

WITHHOLDING PERIODS

HARVEST

Pasture Legume (Lucerne, Clover and Medic) Seed Crops and Pastures: NOT REQUIRED WHEN USED AS DIRECTED

Canola, Cotton, Peanuts, Pulses (Adzuki Beans, Broad Beans, Chickpeas, Faba Beans, Field Peas, Lentils, Lupins and Mung Beans) and Soybeans: NOT REQUIRED WHEN USED AS DIRECTED

Forestry: NOT REQUIRED WHEN USED AS DIRECTED

Beetroot, Cabbage: DO NOT APPLY LATER THAN 7 DAYS BEFORE HARVEST.

Onions: DO NOT APPLY LATER THAN 14 DAYS BEFORE HARVEST.

Lettuce, Potatoes: DO NOT APPLY LATER THAN 4 WEEKS BEFORE HARVEST.

Celery: DO NOT APPLY LATER THAN 9 WEEKS BEFORE HARVEST

GRAZING

Pasture Legume (Lucerne, Clover and Medic) Seed Crops and Pastures: DO NOT GRAZE OR CUT FOR STOCK FEED FOR 14 DAYS AFTER APPLICATION

Canola, Peanuts, Pulses (Adzuki Beans, Broad Beans, Chickpeas, Faba Beans, Field Peas, Lentils, Lupins and Mung Beans) and Soybeans: DO NOT GRAZE OR CUT FOR STOCK FEED FOR 21 DAYS AFTER APPLICATION.

Cotton: DO NOT GRAZE OR CUT COTTON FORAGE OR STUBBLE FOR STOCKFEED

GENERAL INSTRUCTIONS

CLEANING SPRAY EQUIPMENT

Before using Quantum Clethodim 360 EC Herbicide: Ensure that the recommended clean-out procedure for the previous product (particularly sulfonylurea herbicides) sprayed with the equipment was done properly.

After using Quantum Clethodim 360 EC Herbicide: Empty the tank and drain the whole system. Thoroughly wash inside the tank using a pressure hose, drain the tank and clean all filters in the tank, pump line and nozzles. Use of a household detergent will aid in cleaning the equipment. Add detergent to the part-filled spray tank and thoroughly circulate through pumps, hoses and nozzles. Drain the system and thoroughly rinse twice with clean water.

Rinse water should be discharged onto a designated disposal area, or if this is unavailable, onto land away from desirable plants and water sources.

MIXING

To ensure even mixing, half-fill the spray tank with clean water and add the required amount of product. Add spray additive and agitate thoroughly, then add the remainder of the water. Agitate again before spraying commences.

Adjuvants and Spray Additives

Always apply Quantum Clethodim 360 EC Herbicide with a crop oil. Quantum Clethodim 360 EC Herbicide may be applied with Hasten*, Kwickin*, Activoil*, D-C-Trate Advance or Rocket* at 1 L/100 L water or with Uptake* or Enhance* at 0.5 to 1 L/100L water. (Use the higher rate of oil when weeds are large or if spraying conditions are less than optimal.) Quantum Clethodim 360 EC Herbicide may also be applied with D-C-Trate* at 2 L/100 L water. Quantum Clethodim 360 EC Herbicide is compatible with ammonium sulphate products such as Spraymate* Liase. When mixing Quantum Clethodim 360 EC Herbicide with atrazine use Uptake or Enhance at 1L/100L as the adjuvant. The addition of ammonium sulphate is recommended to improve performance of this tank mix. Quantum Clethodim 360 EC Herbicide is not compatible with Hot-Up* Spray Adjuvant or Freeway* Gold Penetrant.

APPLICATION

Ground Application: Quantum Clethodim 360 EC Herbicide should be applied with calibrated spray equipment producing MEDIUM spray droplets. Apply in a minimum of 50L of water per hectare. Use 150 L/ha when spraying dense populations.

Aerial Application: Quantum Clethodim 360 EC Herbicide can be applied through aircraft fitted with boom or Micronair equipment. A spray volume of 20-30 L/ha is recommended, and equipment should be adjusted to produce MEDIUM spray droplets. Best results will be obtained when aerial applications are made in a light crosswind. Applications should not be made during temperature inversions or in conditions of very low relative humidity. Care should be taken to avoid drift damage to adjoining grass crops.

USE OF QUANTUM CLETHODIM 360 ON PASTURE LEGUME (LUCERNE, CLOVER, AND MEDIC) SEED CROPS AND PASTURES AND PASTURE HERBS

Quantum Clethodim 360 EC Herbicide has been demonstrated to be safe when applied to the following cultivars during early establishment.

- Pasture legumes
- Clover (*Trifolium* spp.)
- **Annual:** Subterranean Clover (Dalkeith, Dalsa, Goulburn, Koala, Nungarrin, Riverina, Seaton Park and York A), Arrowleaf Clover (Zulu II), Balansa Clover (Enduromax, Frontier, Paradana), Berseem Clover (Elite II), Gland Clover (Prima), Persian Clover (Prolific, Leeton), Rose Clover (Hykon).
- **Perennial:** Strawberry Clover (Palestine), White clover (NuSiral).
- Lucerne and Medics (*Medicago* spp.) Lucerne (Aurora, Field, Genesis, Hunterfield, Multileaf, Salado, Sardi SEVEN, Sceptre and Venus), Barrel Medic (Sephi, Jester Paraggio, Caliph), Burr Medic (Scimitar, Santiago), Snail Medic (Silver).
- Serradella (*Ornithopus* spp.), French or Pink Serradella (Cadiz), Yellow Serradella (*Charano, Santorini*).
- **Pasture herbs:** Chicory (Puna II) and Plantain (Tonic) Apply Quantum Clethodim 360 EC Herbicide when plants have reached 2-4 trifoliolate leaf stage, or after 40 days from sowing. Some pasture varieties may exhibit an initial reduction in crop vigour or biomass, however, these symptoms are transient, and crops recover fully with no effect on yield.

COMPATIBILITY

Quantum Clethodim 360 EC Herbicide should not be applied in a tank mix with Bravo* (chlorothalonil), Brodal* (diflufenican), Basagran* (bentazone and MCPA) or Blazer* (acifluofen).

RESISTANT WEEDS WARNING

Quantum Clethodim 360 EC Herbicide is a member of the cyclohexanedione group of herbicides. Quantum Clethodim 360 EC Herbicide has the inhibition of acetyl CoA carboxylase mode of action. For weed resistance management, Quantum Clethodim 360 EC Herbicide is a Group 1 Herbicide. Some naturally occurring weed biotypes resistant to Quantum Clethodim 360 EC Herbicide and other Group 1 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 Quantum Clethodim 360 EC Herbicide or other Group 1 Herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Quantum Agrosiences Holdings Pty Ltd accepts no liability for any losses that may result from the failure of Quantum Clethodim 360 EC Herbicide to control resistant weeds.

GROUP	1	HERBICIDE
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PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS

DO NOT apply Quantum Clethodim 360 EC Herbicide if wind is likely to cause drift onto susceptible crops/plants, cropping lands or pastures. Quantum Clethodim 360 EC Herbicide should not be applied through misting equipment or any other method likely to cause excessive drift. Care should be taken to avoid damage to adjoining native grasses or grass crops.

Ornamentals and Trees: While Quantum Clethodim 360 EC Herbicide is generally selective to broadleaved plants (i.e., it is active against grasses), tests should always be made on a small number of plants not previously tested.

DO NOT use on Gymnosperms (pines, conifers, etc) unless a prior test has been conducted to check safety on the relevant species.

PROTECTIONS OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT

DO NOT contaminate streams, rivers or watercourses with the product or used containers.

STORAGE AND DISPOSAL

Store in the closed, original container in a cool, well-ventilated area out of direct sunlight. Protect from frost. 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.

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

SAFETY DIRECTIONS

Harmful if swallowed. Will irritate the eyes and skin. WHEN USING TOGETHER WITH OTHER PRODUCTS, CONSULT THEIR LABEL SAFETY DIRECTIONS.

When preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist, washable hat, elbow-length PVC gloves and face shield or goggles. 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. If swallowed, DO NOT induce vomiting.

SAFETY DATA SHEET

Additional information is listed in the Safety Data Sheet, which can be obtained from the supplier.

CONDITIONS OF SALE: Quantum Agrosciences Holdings Pty Ltd shall not be liable for any loss injury damage or death whether consequential or otherwise whatsoever or howsoever arising whether 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 condition that the purchaser does not rely on Quantum Agrosciences Holdings Pty Ltd'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 Quantum Agrosciences Holdings Pty Ltd has any authority to add to or alter these conditions.

Additional information required under the Globally Harmonised System (GHS) classification of the substance/mixture: Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye damage. May cause drowsiness or dizziness. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.



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