

87290-11

8 | 9 | 2012

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON D C 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

Michael Kellogg  
Willowood LLC  
c/o Pyxis Regulatory Consulting Inc  
4110 136<sup>th</sup> Street NW  
Gig Harbor WA 98332

AUG - 9 2012

Subject      Label Notification per PRN 98 10  
                 Product Name Willowood Clethodim 2EC  
                 EPA Registration Number 87290 11  
                 Submission Date July 26 2012

Dear Mr Kellogg

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98 10 for Willowood Clethodim 2EC (EPA Reg No 87290 11) dated July 26 2012 The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98 10 and finds that the action requested falls within the scope of PRN 98 10 The label submitted with the application has been stamped Notification and will be placed in our records

If you have any questions please contact Emily Hartman via email at [hartman.emily@epa.gov](mailto:hartman.emily@epa.gov) or by phone at (703) 347 0189

Sincerely

*Kathryn V. Montague*  
Kathryn V Montague Project Manager 23  
Herbicide Division  
Registration Division  
Office of Pesticide Programs

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United States  
Environmental Protection Agency  
Washington DC 20460

☐ Registration  
☐ Amendment  
☒ Other

OPP Identifier Number

**Application for Pesticide Section I**

1 Company/Product Number 87290 11	2 EPA Product Manager K Montague	3 Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4 Company/Product (Name) Willowood LLC / Willowood Clethodim 2EC	PM# 23	
5 Name and Address of Applicant (Include ZIP Code) Willowood LLC c/o Pyxis Regulatory Consulting Inc 4110 136th St NW Gig Harbor WA 98332 <input type="checkbox"/> Check if this is a new address	6 Expedited Review In accordance with FIFRA Section 3(c)(3) (b)(i) my product is similar to <b>NOTIFICATION</b> composition and labeling to EPA Reg No <b>AUG - 9 2012</b> Product Name	

**Section II**

<input type="checkbox"/> Amendment Explain below	<input type="checkbox"/> Final printed labels in response to Agency letter dated
<input type="checkbox"/> Resubmission in response to Agency letter dated	<input type="checkbox"/> Me Too Application
<input checked="" type="checkbox"/> Notification Explain below	<input type="checkbox"/> Other Explain below

**Explanation** Use additional page(s) if necessary (For section I and Section II)

Notification of a minor label revision per PRN 98 10 This notification is consistent with the provisions of PR Notice 98 10 and EPA regulations at 40 CFR 152.46 and no other changes have been made to the labeling or the confidential statement of formula of this product I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA I further understand that if this notification is not consistent with the terms of PR Notice 98 10 and 40 CFR 152.46 this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA

**Section III**

1 Material This Product Will Be Packaged In				2 Type of Container	
Child Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify)		
* Certification must be submitted		If Yes Unit Packaging wgt	No per container	If Yes Package wgt	No per container
3 Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4 Size(s) Retail Container 1 2 5 30 55 gallon		5 Location of Label Directions <input checked="" type="checkbox"/> O L b l <input type="checkbox"/> O L b l g m p y g p d t	
6 Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph Paper glued Stenciled		<input type="checkbox"/> Other			

**Section IV**

1 Contact Point (Complete items directly below for identification of individual to be contacted if necessary to process this application)			
Name Michael Kellogg		Title Agent	
		Telephone No. (Include Area Code) (253) 853 7369	
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true accurate and complete I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law			6 Date Application Received  (Stamped)
2 Signature 		3 Title Agent	
4 Typed Name Michael Kellogg		5 Date 7/26/12	

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PYXIS REGULATORY CONSULTING, INC

4110 136<sup>th</sup> St NW  
Gig Harbor WA 98332

Phone 253 853 7369  
Fax 253 853 5516  
www.PyxisRC.com

July 26 2012

COURIER DELIVERY

Kathryn Montague/Grant Rowland (Team 23)  
Document Processing Desk (**NOTIF**)  
Office of Pesticide Programs (7504P)  
U S Environmental Protection Agency  
Room S 4900 One Potomac Yard  
2777 S Crystal Drive  
Arlington VA 22202 4501

RE Willowood LLC Willowood Clethodim 2EC (EPA Reg No 87290 11)  
Notification of a Minor Label Revision per PRN 98 10

Dear Ms Montague/Mr Rowland

On behalf of Willowood LLC and pursuant to email correspondence with Mr Rowland on July 25 2012 please find the enclosed label notification to correct an error on the EPA stamped approved label for Willowood Clethodim 2EC

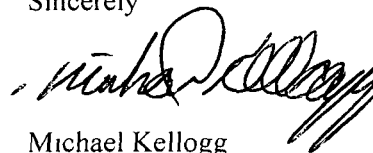
Upon review of the Willowood Clethodim 2EC EPA approved label dated July 5 2012 we discovered an erroneous rate on p 18 for Peach in the Use Rates Per Acre column The rate of 6 16 fl oz is not in agreement with the restrictive language Do not apply more than 8 fl oz /A in a single application from the Special Use Instructions column In addition the 6 16 fl oz rate is not in agreement with the me too label used in the amendment preparation Albaugh s Clethodim 2E (EPA Reg No 42750 72) EPA approved label dated April 13 2011 Therefore the 6 16 fl oz rate has been changed to 6 8 fl oz on the enclosed label which agrees with both Albaugh s label as well as the rate restrictive language applicable to Peaches

In support of this notification please find the enclosed documents

- 1 Completed Application for Registration (EPA Form 8570 1)
- 2 One (1) copy of the Willowood Clethodim 2EC label with changes tracked
- 3 One (1) copy of the Willowood Clethodim 2EC label with changes incorporated
- 4 Certification with Respect to Label Integrity
- 5 One (1) copy of the Willowood Clethodim 2EC label on CD
- 6 Letter of Authorization

Please feel free to call me if you have any questions or need any additional information

Sincerely

  
Michael Kellogg

Enclosures

AUG - 9 2012

**Willowood Clethodim 2EC****ACTIVE INGREDIENT**

Clethodim

**By Wt**

26.4%

**OTHER INGREDIENTS**

73.6%

**TOTAL**

100.0%

Contains Petroleum Distillates

(E) 2 [1(((3 chloro 2 propenyl) oxy)imino)propyl] 5 [2 (ethylthio)propyl] 3 hydroxy 2 cyclohexen 1 one

Contains 2.0 lbs clethodim per gallon

**KEEP OUT OF REACH OF CHILDREN****WARNING – AVISO**

Si usted no entiende la etiqueta busque a alguien para que se la explique a usted en detalle  
(If you do not understand the label find someone to explain it to you in detail )

FIRST AID	
<b>If in eyes</b>	<ul style="list-style-type: none"><li>Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>Call a poison control center or doctor for treatment advice.</li></ul>
<b>If on skin or clothing</b>	<ul style="list-style-type: none"><li>Take off contaminated clothing.</li><li>Rinse skin immediately with plenty of water for 15-20 minutes.</li><li>Call a poison control center or doctor for treatment advice.</li></ul>
<b>If swallowed</b>	<ul style="list-style-type: none"><li>Immediately call a poison control center or doctor.</li><li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>Do not give <b>any</b> liquid to the person.</li><li>Do not give anything by mouth to an unconscious person.</li></ul>
<b>If inhaled</b>	<ul style="list-style-type: none"><li>Move person to fresh air.</li><li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>Call a poison control center or doctor for further treatment advice.</li></ul>
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information concerning this product, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 seven days a week, 6:30 am to 4:30 pm Pacific Time, or your poison control center at 1-800-222-1222.	
NOTE TO PHYSICIAN	
Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid, which can cause pneumonitis. If ingested, probable mucosal damage may contraindicate the use of gastric lavage.	

EPA Reg No. 87290-11

EPA Est. No.

Manufactured for  
Willowood LLC1600 NW Garden Valley Blvd #120  
Roseburg, OR 97471

Net Contents

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS  
WARNING**

Causes substantial but temporary eye irritation. Avoid contact with skin. Do not get in eyes, on skin or on clothing. Harmful if swallowed or inhaled. Avoid breathing vapors or spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical resistant to this product are listed below. If you want more options follow the instructions for category G on an EPA chemical resistance category selection chart.

**Applicators and other handlers must wear** long sleeved shirt and long pants, chemical resistant gloves such as Barrier Laminate or Viton ≥ 14 mils, shoes plus socks, and protective eyewear.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

**USER SAFETY RECOMMENDATIONS**

**Users should**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply where runoff is likely to occur. Do not apply where weather conditions favor drift from areas treated. Do not contaminate water when disposing of equipment washwater or rinsate.

The use of this product may pose a hazard to the federally designated endangered species of Solano Grass and Wild Rice. Use of this product is prohibited in the following areas where the species are known to exist:

Solano Grass	Solano County, California: the vernal lakes are bounded by the Union Pacific Railroad and Hastings Road to the north, Highway 113 to the east, Highway 12 to the south, and Travis Air Force Base to the west.
Wild Rice	Hays County, Texas

**PHYSICAL OR CHEMICAL HAZARDS**

**Combustible** Do not use or store near heat or open flame.

**DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

**READ THE ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS, AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is coveralls, chemical resistant gloves such as Barrier Laminate or Viton  $\geq$  14 mils, shoes plus socks, and protective eyewear.

### NON AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forest, nurseries, or greenhouses.

Keep all unprotected persons out of operating areas or vicinity where there may be drift. Do not enter treated areas without protective clothing until sprays have dried.

### TANK MIXES

**NOTICE:** Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator, and/or application advisor.

Read and follow the entire label of each product to be used in the tank with this product.

### THE FOLLOWING STATEMENT ON CHEMIGATION WILL BE USED ONLY IF A SUPPLEMENTAL LABEL IS CREATED

#### CHEMIGATION

[Do not apply this product through any irrigation system unless the supplemental labeling on chemigation is followed. Refer to supplemental labeling entitled "Application of Willowood Clethodim 2EC Onions (dry bulbs and green) and Garlic by Chemigation" for use directions for chemigation.]

May be applied to onions and garlic by sprinkler irrigation systems. Do not apply by chemigation to any other crop or to this crop using any other type of irrigation system.

### PRODUCT INFORMATION

FOR USE ON: Alfalfa, Artichoke (Globe), Asparagus, Bean and Pea (dry shelled)<sup>1</sup>, Bean and Pea (succulent)<sup>2</sup>, Broccoli, Bushberry<sup>3</sup>, Cabbage, Caneberry<sup>4</sup>, Canola, Carrot, Cauliflower (and other Head and Stem Brassica Vegetables)<sup>5</sup>, Celery, Clover (grown in Idaho, Oregon, and Washington only), Conifers, Cotton, Cranberry, Cucumber, Eggplant (and other Fruiting Vegetables)<sup>6</sup>, Fallow Land (and other non-producing agricultural areas), Flax, Field Corn<sup>7</sup>, Garden Beet, Garlic, Herbs<sup>8</sup>, Hops, Horseradish (and other Root Vegetables)<sup>9</sup>, Legume Vegetables (edible podded)<sup>10</sup>, Lettuce, Head and Leaf (and other leafy greens)<sup>11</sup>, Melons (including Cantaloupes and Watermelons)<sup>12</sup>, Mustard Greens (and other leafy brassica greens)<sup>13</sup>, Mustard Seed, Non-Bearing Food Crops, Non-Crop or Non

Planted Areas Onions (dry bulb and green) Ornamentals Peaches Peanut (including perennial)  
Peppers (bell and non bell) Potato Radish Rhubarb (and other Leaf Petioles)<sup>14</sup> Safflower Sesame  
Shallots (dry bulbs and green) Soybeans Squash (including Pumpkins) Strawberry Sugar Beet  
Sunflower Sweet Potato Tomato Turnip Greens Yam (and other Tuberous and Corm Vegetables)<sup>15</sup>

**Not for use in California**

- <sup>1</sup> Other Dry Shelled Bean and Pea crops approved for use with Willowood Clethodim 2EC include Bean (*Lupinus* spp ) grain sweet white and white sweet Bean (*Phaseolus* spp ) field kidney lima (dry) navy pinto and tepary Bean (*Vigna* spp ) adzuki bean black eyed pea catjang cowpea crowder pea moth bean mung bean rice bean Southern pea urd bean broad (dry) chickpea (garbanzo) guar lablab bean and lentil Pea (*Pisum* spp ) field and pigeon
- <sup>2</sup> Other Succulent Bean and Pea crops approved for use with Willowood Clethodim 2EC includes Bean (*Lupinus* spp ) grain sweet white and white sweet Bean (*Phaseolus* spp ) field kidney lima (dry) navy pinto and tepary Bean (*Vigna* spp ) adzuki bean black eyed pea catjang cowpea crowder pea moth bean mung bean rice bean Southern pea urd bean broad (dry) chickpea (garbanzo) guar lablab bean and lentil Pea (*Pisum* spp ) field and pigeon
- <sup>3</sup> Other bushberry crops approved for use with Willowood Clethodim 2EC include Aronia Berry Blueberry (highbush) Black Currant Buffalo Currant Chilean Guava Cranberry (highbush) Elderberry European Barberry Gooseberry Honeysuckle (edible) Huckleberry (edible) Jostaberry Juneberry (Saskatoon berry) Native Currant Salal Sea Buckthorn Red Currant cultivars varieties and/or hybrids of these
- <sup>4</sup> Other caneberry crops approved for use with Willowood Clethodim 2EC include Blackberry Loganberry Raspberry (black and red) Wild Raspberry cultivars varieties and/or hybrids of these
- <sup>5</sup> Other head and stem brassica vegetables approved for use with Willowood Clethodim 2EC include Chinese broccoli Brussels sprouts Chinese (napa) cabbage Chinese mustard cavalo broccoli and kohlrabi
- <sup>6</sup> Other Fruiting Vegetables (except tomato) approved for use with Willowood Clethodim 2EC include eggplant groundcherry pepino peppers (all) and tomatillo
- <sup>7</sup> For burndown of existing stand of Roundup Ready field corn or volunteer Roundup Ready field corn prior to replanting field corn
- <sup>8</sup> Other Herb crops approved for use with Willowood Clethodim 2EC include angelica balm basil borage burnet chamomile catnip chervil (dried) chive Chinese chive clary coriander (leaf) costmary cilantro (leaf) curry (leaf) dill (dillweed) horehound hyssop lavender lovage (leaf) marigold marjoram (*organum* spp ) nasturtium parsley (dried) pennyroyal rosemary rue sage and savory summer and winter
- <sup>9</sup> Other root vegetables approved for use with Willowood Clethodim 2EC include burdock edible celeriac chervil turnip rooted chicory ginseng parsley turnip rooted parsnip radish oriental rutabaga salsify black salsify Spanish skirret and turnip
- <sup>10</sup> Other Edible Podded Legume Vegetable crops approved for use with Willowood Clethodim 2EC include Bean (*Phaseolus* spp ) runner snap and wax Bean (*Vigna* spp ) asparagus Chinese longbean moth yardlong jackbean Pea (*Pisum* spp ) dwarf edible pod snow sugar snap pigeon and sword bean
- <sup>11</sup> Other Leafy Greens crops approved for use with Willowood Clethodim 2EC include amaranth (Chinese spinach leafy amaranth and tampala) arugula (roquette) chervil chrysanthemum (edible leaved and garland) corn salad cress (garden yellow rock and winter) dandelion dock (sorrel) endive (escarole) lettuce (head and leaf) orach parsley purslane (garden and winter) radicchio (red chicory) spinach (New Zealand and Vine (Indian and Malabar))
- <sup>12</sup> Other cucurbit crops approved for use with Willowood Clethodim 2EC include Chayote (fruit) Chinese Wax Gourd Citron Melon Edible Gourd Gherkin and Muskmelons (all) including Honeydew Melon
- <sup>13</sup> Other leafy brassica greens approved for use with Willowood Clethodim 2EC include broccoli raab Chinese (bok choy) cabbage collards kale mizuna mustard greens mustard spinach and rape greens
- <sup>14</sup> Other leaf petiole crops approved for use with Willowood Clethodim 2EC include cardoon celtuce Chinese celery Florence fennel and Swiss chard
- <sup>15</sup> Other tuber and corm vegetables approved for use with Willowood Clethodim 2EC include arracacha arrowroot Chinese artichoke Jerusalem artichoke edible burdock edible canna bitter and sweet

cassava chayote (root) chufa dasheen (taro) ginger leren tanier turmeric and bean yam

Willowood Clethodim 2EC is not recommended for use on vegetable crops being grown for seed production unless specific use directions are provided

Willowood Clethodim 2EC is a selective postemergence herbicide for control of annual and perennial grasses Willowood Clethodim 2EC does not control sedges or broadleaf weeds

Repeated use of Willowood Clethodim 2EC (or similar postemergence grass herbicides with the same mode of action) may lead to the selection of naturally occurring biotypes that are resistant to these products in some grass species

If poor performance occurs and cannot be attributed to adverse weather or application conditions a resistant biotype may be present This is most likely to occur in fields where other control strategies such as crop rotation mechanical removal and other classes of herbicides are not used from year to year

Do not allow Willowood Clethodim 2EC to come in contact with desirable grass crops such as corn rice sorghum small grains or turf as these and other grass crops will be injured or killed Minor leaf spotting may occur on treated plants under certain environmental conditions New foliage is not affected

### Control Symptoms

Treated grass weeds show a reduction in vigor and growth Early chlorosis/necrosis of younger plant tissue is followed by a progressive collapse of the remaining foliage Symptoms will generally be observed in 7 to 14 days after application depending on grass species treated and environmental conditions

## APPLICATION INFORMATION

### Timing of Applications

Apply Willowood Clethodim 2EC postemergence to actively growing grasses according to rate table instructions Applications made to grass plants stressed by insufficient moisture or hot or cold temperatures or to grass plants exceeding listed growth stages may result in unsatisfactory control Do not apply under these conditions

In arid regions where irrigation is used to supplement limited rainfall Willowood Clethodim 2EC should be applied as soon as possible after irrigation (within 7 days) In arid regions a second application of Willowood Clethodim 2EC will generally provide more effective control of perennial grass weeds than a single application Make second application to actively growing grass 2 to 3 weeks after emergence of new growth

Cultivation of treated grasses 7 days prior to or within 7 days after application of Willowood Clethodim 2EC may reduce weed control DO NOT APPLY Willowood Clethodim 2EC if rainfall is expected within one hour since control may be reduced

### ADDITION OF ADJUVANT OR CROP OIL CONCENTRATE

CROP	ADJUVANT USE INSTRUCTIONS
	Always use a crop oil concentrate at 1.0 qt /A by ground or 1% v/v (but not less than 1 pt /A) in the finished spray volume by air
Alfalfa Cotton Dry Shelled Bean & Pea Edible Poddled Legume Vegetable Peanuts (including perennial) Potato Soybean Succulent Bean & Pea Sugar Beet and Sunflower	1 to 2 qts /A of liquid fertilizer (10-34-0 28%N or 32%N) or an equivalent amount (2.5 to 4.0 lbs /A) of spray grade ammonium sulfate (AMS) may be added to Willowood Clethodim 2EC applications in addition to the recommended rate of crop oil concentrate The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice wild oats volunteer cereals and volunteer corn



Artichoke (Globe) Asparagus Bushberry Caneberry Canola Carrot Clover Cranberry Cucurbits Flax Fruiting Vegetables (except Tomato) Garden Beet Garlic Head & Stem Brassica Vegetables Herbs Hops Leaf Petioles Leafy Brassica Greens Leafy Greens Mint Mustard Seed Onion (Dry Bulb & Green) Peaches Root Vegetables Safflower Sesame Shallots (Dry Bulb & Green) Strawberry Sweet Potato (Yam & other Tuberous and Corm Vegetables except Potato) and Tomato	Always use a crop oil concentrate at 1% v/v in the finished spray volume unless tank mix instructions indicate otherwise  Addition of liquid fertilizer is not recommended for these crops
Non Bearing Food Crops Ornamental Plants	Add a non ionic surfactant containing at least 80% active ingredient at the rate of 1 pt per 50 gals (0.25% v/v) Use of crop oil concentrate is not recommended since it may injure flowers and foliage
Conifer Trees Fallow Land (and other non producing agricultural areas) and Non Crop or Non Planted Areas	Always use a crop oil concentrate containing at least 15% emulsifier at 1% v/v (but not less than 1 pt /A) in the finished spray volume

Acceptable crop oil concentrates would be those that contain a minimum of 80% oils and 15% emulsifier. A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet all the following criteria: be non phytotoxic, contain only EPA exempt ingredients, provide good mixing quality, and be successful in local experience. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils.

### Ground Application

Use of sufficient spray volumes and pressure is essential to ensure complete coverage. Use a minimum of 5 gals and a maximum of 40 gals of spray solution per acre. Under the following conditions a minimum of 10 gals per acre is required: ultra narrow row cotton, narrow row soybeans, broadleaf herbicide tank mixes, perennial grasses, volunteer corn, drought or stress conditions, heavy grass pressure or when grasses are at or near maximum height. Failure to use a minimum of 10 gals per acre under these conditions can result in poor coverage and reduced grass control requiring repeat applications. Spray pressures should reflect a minimum of 30 psi and a maximum of 60 psi at the nozzle. Do not use flood nozzles.

Applications to onions (dry bulbs and green), garlic, and shallots (dry bulbs and green) should be made in a minimum of 20 gals of spray solution per acre.

### Air Application

Use a minimum of 3 gals of spray solution per acre unless otherwise directed in this label. Increase spray volumes up to 10 gals as grass or crop foliage becomes dense. For onions (dry bulbs and green), garlic, or shallots (dry bulbs and green) when applying by air do not exceed 8 fl oz /A in a single application. In California, air applications to onions, garlic, or shallots should be made in a minimum of 20 gals of spray solution per acre. In states other than California, air application to onions, garlic, or shallots should be made in a minimum of 10 gals of spray solution per acre.

**NOTE: Crop injury may occur when Willowood Clethodim 2EC is applied to onions, garlic, or shallots with aerial equipment.**

### Spot Treatment

When using hand sprayers or high volume sprayers utilizing hand guns, mix 1/4% to 1/2% (0.33 oz to 0.65 oz per gal) Willowood Clethodim 2EC and treat to wet vegetation while not allowing runoff of spray solution. For uses requiring crop oil concentrate, include crop oil concentrate at 1% (1.3 oz per gal, v/v volume). For uses requiring non ionic surfactant, include non ionic surfactant at 1.4% (0.33 oz per gal, v/v volume).

**NOTE** If Willowood Clethodim 2EC is applied as a spot treatment care should be taken to not exceed the maximum rate allowed on a per acre basis or crop injury may occur

### **CHEMIGATION – ONION (Dry Bulb and Green) AND GARLIC SPRINKLER IRRIGATION APPLICATION**

- **Do not apply Willowood Clethodim 2EC by chemigation in the states of Idaho Montana Oregon and Washington**

Apply Willowood Clethodim 2EC at the high rate recommended for annual grasses (16 fl oz per acre) when the grass height is at the low end of the range (application to larger grasses may not provide adequate control) Add a crop concentrate containing at least 15% emulsifier at 1 quart per acre

Apply Willowood Clethodim 2EC in 0.1 to 0.2 acre inch of water either at the end of a regular irrigation set or as a separate application not associated with a regular irrigation using the least amount of water that provides proper distribution and coverage. Application of more than label recommended quantities of irrigation water per acre may result in decreased product performance by removing the chemical from the zone of effectiveness. Use a metering device to inject the Willowood Clethodim 2EC into the irrigation water at a constant flow. Constant agitation must be maintained in the chemical supply tank during the entire period of herbicide application. Inject the product with a positive displacement pump into the main line ahead of a right angle turn to ensure adequate mixing. Allow time for all lines to flush the herbicide through all nozzles before turning off irrigation water. To ensure the lines are flushed and free of remaining herbicide a dye indicator may be injected into the lines to mark the end of the application period.

It is not recommended that Willowood Clethodim 2EC be applied through an irrigation system connected to a public water system. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

#### **Use Precautions**

1. Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, travelers, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.
2. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from non-uniform distribution of treated water.
3. If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.
4. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label prescribed safety devices for public water supplies are in place.
5. A person knowledgeable of the chemigation system and responsible for its operation or under supervision of the responsible person shall shut the system down and make necessary adjustments should the need arise.
6. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
7. The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
8. The pesticide injection pipeline must also contain a functional, normally closed solenoid operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
9. The system must contain functional interlocking controls to automatically shut off the pesticide

- injection pump when the water pump motor stops
- 10 The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected
  - 11 Systems must use a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock
  - 12 Do not apply when wind speed favors drift beyond the area intended for treatment

### RESTRICTIONS AND LIMITATIONS

Do not apply if rain is expected within 1 hour of application as control may be unsatisfactory

Do not apply a postemergence broadleaf herbicide within one day following application of Willowood Clethodim 2EC or reduced grass control may result

Willowood Clethodim 2EC is not recommended for use on vegetable crops being grown for seed production unless specific use directions are provided

For canola do not apply more than 6 fl. oz. of Willowood Clethodim 2EC per acre per season. For clover, flax, mustard seed and radish crops do not apply more than 16 fl. oz. of Willowood Clethodim 2EC (0.25 lb. ai) per acre per season. For all other crops do not apply more than 32 fl. oz. of Willowood Clethodim 2EC (0.50 lb. ai) per acre per season. Application on Long Island, New York is restricted to no more than 16 fl. oz. of Willowood Clethodim 2EC (0.25 lb. ai) per acre per season.

Do not apply more than 8 fl. oz. /A of Willowood Clethodim 2EC **per application** to the following crops: asparagus, brassica vegetables (head and stem), bean (succulent), carrot, cranberry, cucurbits, flax, fruiting vegetables (except tomato), garden beet, green onion, herbs, hops, leaf petioles, leafy brassica, greens, leafy greens, legume vegetables (edible podded), non bearing food crops, pea (dry shelled), pea (succulent), root vegetables, safflower, sesame and strawberry. Do not apply more than 6 fl. oz. /A of Willowood Clethodim 2EC per application to canola or mustard seed. For all other crops do not apply more than 16 fl. oz. of Willowood Clethodim 2EC (0.25 lb. ai) per acre per application. **Exceeding these rates may result in unacceptable crop injury.**

Do not apply under conditions of stress. Applying Willowood Clethodim 2EC under conditions that do not promote active grass growth will reduce herbicide effectiveness. These conditions include drought, excessive water, extremes in temperature, low humidity and grasses either partially controlled or stunted from prior pesticide applications. Grasses under these kinds of stressful conditions will not absorb and translocate Willowood Clethodim 2EC effectively and will be less susceptible to herbicide activity.

Optimal perennial grass control can be obtained if rhizomes or stolons are cut up by preplant tillage practices (discing, plowing, etc.) to stimulate maximum emergence of grass shoots. Cultural practices such as continuous no tillage in which the perennial grass rhizomes or stolons are not cut up result in a very staggered, non uniform weed emergence. Due to this non uniform weed emergence, no fewer than two Willowood Clethodim 2EC applications per season per year are recommended at the appropriate weed growth stage rate under continuous no till conditions.

Grass crops such as corn, rice, sorghum, small grains, or turf, etc. are highly sensitive to Willowood Clethodim 2EC.

While all the vegetable crops on this label have been tested and are tolerant to Willowood Clethodim 2EC, not all specialty varieties of these crops have been tested. It is advised that before applying Willowood Clethodim 2EC to specialty varieties of vegetable crops on this label, crop tolerance be investigated first using a small section of the field. It is possible that injury symptoms can occur. Symptoms may appear as leaf speckling or stunting.

Always read and follow the restrictions and limitations for all products whether used alone or in a tank mix. The most restrictive labeling of any product used applies in tank mixtures, including all crop rotational and other crop restrictions.

Tank mixes of Willowood Clethodim 2EC and broadleaf herbicides may result in reduced grass control. If grass regrowth occurs, an additional application of Willowood Clethodim 2EC may be necessary. **AVOID SPRAY DRIFT**

Do not allow spray from ground or aerial equipment to drift onto adjacent land or crops. When drift may be a problem, do everything possible to reduce spray drift, including:

- Do not spray if wind speeds are or become excessive
- Do not spray if wind speed is 10 mph or greater. If sensitive crops or plants are downwind, extreme caution must be used under all conditions.
- Do not spray if winds are gusty
- Use extreme caution when conditions are favorable for drift (high temperatures, drought, low relative humidity), especially when sensitive plants are located nearby.
- Do not apply when a temperature inversion exists. If inversion conditions are suspected, consult with local weather services before making an application.
- Further reductions in drift can be obtained by:
  1. Using large droplet size sprays. Do not use nozzles that produce small droplets. Orient nozzles downward and slightly backward as needed to reduce drift for ground applications.
  2. Orienting nozzles straight back with windstream, using straight stream orifices for aerial applications. Use the lowest number of nozzles practical with the largest possible orifice size to obtain the minimum 3 GPA volume. Application height and boom length should be set according to manufacturer's instructions to minimize drift.
  3. Increasing the volume of spray mixture (for example, a minimum of 10 GPA for ground applications) by using higher flow rate nozzles. Using lower pressure with the appropriate nozzle to obtain higher volumes will also reduce drift.
  4. Applying as close to target plants as practical while maintaining a good spray pattern for adequate coverage.

**Do not apply under conditions involving possible drift to food, forage, or other plantings that might be damaged or the crops thereof rendered unfit for sale, use, or consumption.**

#### CROP SPECIFIC RESTRICTIONS AND LIMITATIONS FOR WILLOWOOD CLETHODIM 2EC

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
<b>Alfalfa</b> including Sainfoin Holy Clover Birdsfoot trefoil <sup>(3)</sup>	15 days before grazing, feeding, or harvesting (cutting) for forage or hay	6-16 fl oz <sup>(4)</sup>	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air <sup>(5)</sup>	Refer to tank mix partners for feeding, grazing, and harvesting restrictions <sup>(5,6)</sup> .  The addition of AMS has shown improved grass control for difficult to control species including quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
<b>Artichoke (Globe)</b>	5 days	6.8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  For repeat applications make on a minimum of a 14 day interval  Do not apply more than 32 fl oz /A (0.5 lb ai/A) per season
<b>Asparagus</b>	1 day	6.8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  For repeat applications make on a minimum of a 14 day interval
<b>Bean Dry Shelled</b> including Bean ( <i>Lupinus</i> spp ) Grain Sweet White White Sweet Bean ( <i>Phaseolus</i> spp ) Field Kidney Lima (dry) Navy Pinto Tepary Bean ( <i>Vigna</i> spp ) Adzuki Bean Black eyed Pea Catjang Cowpea Crowder Pea Moth Bean Mung Bean Rice Bean Southern Pea Urd Bean Broad (dry) Chickpea (garbanzo) Guar Lablab Bean Lentil	30 days	6.16 fl oz	1 qt. by ground or 1% v/v (but not less than 1 pt /A) by air <sup>(5)</sup>	Do not apply more than 16 fl oz /A per application  For repeat applications make on a minimum of 14 day interval  Refer to appropriate Table for reduced rate directions for the control of small annual grasses  The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice wild oats volunteer cereals and volunteer corn
<b>Bean Succulent</b> including Bean ( <i>Phaseolus</i> spp ) Broad Bean (succulent)	21 days	6.8 fl oz	1 qt. by ground or 1% v/v (but not less than 1 pt /A) by air <sup>(5)</sup>	Refer to appropriate Table for reduced rate directions for the control of small annual grasses

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
Lima Bean (green) Bean ( <i>Vigna</i> spp) Black eyed Pea Cowpea Southern Pea				Do not apply more than one (1) application per acre per season  The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice wild oats volunteer cereals and volunteer corn
<b>Beet Garden</b>	30 days	6.8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  For repeat applications make on a minimum of a 14 day interval
<b>Brassica Vegetables Head &amp; Stem</b> including Broccoli Brussels sprouts Cabbage Cauliflower	30 days	6.8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  For repeat applications make on a minimum of a 14 day interval
<b>Bushberry</b> including Aronia berry Blueberry highbush Chilean Guava Cranberry Highbush Currant Black Currant Buffalo Currant native Currant Red Elderberry European Barberry Gooseberry Honeysuckle edible Huckleberry Jostaberry Juneberry Saskatoon berry Native currant Salal Sea Buckthorn Cultivars varieties and/or hybrids of these	14 days	6.8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  Do not apply more than 32 fl oz (0.5 lb ai/A) per season  For repeat applications make on a minimum of a 14 day interval  Apply at the base of the plant where grassy weeds are growing near the ground  Do not apply to low growing berries  Do not apply to Bushberry grown for root stock
<b>Caneberry</b> including Blackberry	7 days	6.8 fl oz	1% v/v in the finished spray	Do not apply more than 8 fl oz /A in a single

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
Loganberry Raspberry black Raspberry red Raspberry wild Cultivars varieties and/or hybrids of these			volume	application  Do not apply more than 32 fl oz /A (0.5 lb ai/A) per season  For repeat applications make on a minimum of a 14 day interval  Apply at the base of the plant where grassy weeds are growing near the ground  Do not apply to low growing berries  Do not apply to Caneberry grown for root stock
<b>Canola</b>	70 days	4-6 fl oz	1% v/v in the finished spray volume	Do not apply after crop has begun bolting. Crop injury may occur when Willowood Clethodim 2EC is applied during the bloom period  Do not apply more than 6 fl oz /A in a single application  Do not exceed 6 fl oz/A in a season
<b>Carrot</b>	30 days	6-8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  For repeat applications make on a minimum of a 14 day interval
<b>Clover</b>	15 days before grazing, feeding or harvesting (cutting) for forage or hay	6-16 fl oz	1% v/v in the finished spray volume	For use on clover grown in the states of Idaho, Oregon and Washington only  Do not exceed 16 fl oz/A in a season
<b>Corn Field</b> For burndown of existing stand of Roundup Ready field corn or volunteer Roundup Ready field corn prior to replanting field corn	90 days	3 fl oz	Do not use COC or MSO with Willowood Clethodim 2EC in this use pattern	Do not make more than 1 application per season  Do not apply more than 3 fl oz /A per season  To control the existing stand, replant no earlier than 6 days after

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Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
See Directions for Use in Roundup Ready Field Corn (Burndown) table				application
<b>Cotton</b>	60 days	6 16 fl oz	1 qt. by ground or 1% v/v (but not less than 1 pt /A) by air <sup>(5)</sup>	Do not graze treated fields or feed treated forage or hay to livestock  The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice wild oats volunteer cereals and volunteer corn
<b>Cranberry</b>	30 days	6 8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  Do not apply between the hook stage and full fruit set  For repeat applications make on a minimum of a 14 day interval
<b>Cucurbits</b> including Chayote (fruit) Chinese Wax Gourd Citron Melon Cucumber Gherkin Gourd Edible Muskmelons (all) including Cantaloupes Honeydew Melon Pumpkin Squash (all) Watermelon	14 days	6 8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  For repeat applications make on a minimum of a 14 day interval
<b>Fallow Land</b> <b>Conifer Trees</b> (and other non producing agricultural areas)  <b>Non Crop or Non Planted Areas</b>	N/A	6 16 fl oz	1% v/v (but not less than 1 pt /A) in the finished spray volume using a crop oil concentrate containing at least 15% emulsifier	Do not plant any crop for 30 days after application unless clethodim is registered for use on that crop



17/94

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
<b>Flax</b>	60 days	6.8 fl oz	1% v/v in the finished spray volume	<p>Apply prior to bloom. Crop injury may occur when Willowood Clethodim 2EC is applied during the bloom period.</p> <p>Do not apply more than 8 fl oz /A in a single application.</p> <p>Do not exceed 16 fl oz /A in a season.</p>
<b>Fruiting Vegetable</b> (except Tomato) including Eggplant Groundcherry Pepino Peppers (all) Tomatillo	20 days	6.8 fl oz	1% v/v in the finished spray volume	<p>Do not apply more than 8 fl oz /A in a single application.</p> <p>For repeat applications make on a minimum of a 14 day interval.</p>
<b>Herbs</b> including Angelica Balm Basil Borage Burnet Camomile Catnip Chervil (dried) Chive Chive Chinese Clary Coriander (leaf) Costmary Cilantro (leaf) Curry (leaf) Dill (dillweed) Horehound Hyssop Lavender Lovage (leaf) Marigold Marjoram ( <i>Origanum</i> spp.) Nasturtium Parsley (dried) Pennyroyal Rosemary Rue Sage Savory Summer and Winter	14 days	6.8 fl oz	1% v/v in the finished spray volume	<p>Willowood Clethodim 2EC has not been tested on all herbs and herb varieties. It is the responsibility of the user to test Willowood Clethodim 2EC on a small portion of the crop to be treated before treating the entire field.</p> <p>Crop tolerance should be verified to Willowood Clethodim 2EC on a small area of the herb crop at the desired Willowood Clethodim 2EC rate and with the same crop oil concentrate that will be used on the herb field. If no crop response is evident seven (7) days after treatment, Willowood Clethodim 2EC may be used on the entire field at the rate tested and with the same crop oil used in the tolerance test.</p> <p>Do not apply more than 8 fl oz /A in a single application.</p> <p>For repeat applications make on a minimum of a</p>

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
				14 day interval
<b>Hops</b>	21 days	6.8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  For repeat applications make on a minimum of a 14 day interval
<b>Leaf Petioles</b> including Cardoon Celery Celtuce Chinese Celery Fennel Florence (finocchio) Rhubarb Swiss Chard	30 days	6.8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  For repeat applications make on a minimum of a 14 day interval
<b>Leafy Brassica Greens</b> including Broccoli Raab Cabbage Chinese (bok choy) Collards Kale Mizuna Mustard Greens Mustard Spinach Rape Greens	14 days	6.8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in the single application  For repeat applications make on a minimum of a 14 day interval
<b>Leafy Greens</b> including Amaranth Chinese Spinach Leafy Amaranth Tampala Arugula (roquette) Chervil Chrysanthemum Edible leaved Chrysanthemum Garland Corn Salad Cress Garden Upland (yellow rock and winter) Dandelion Dock (sorrel) Endive (escarole) Lettuce Head and Leaf	14 days	6.8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  For repeat applications make on a minimum of a 14 day interval

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
Orach <sup>1</sup> Parsley Purslane Garden Winter Radicchio (red chicory) Spinach New Zealand Vine (Indian and malabar)				
<b>Legume Vegetables Edible Podded</b> including Bean ( <i>Phaseolus</i> spp ) Runner Snap Wax Bean ( <i>Vigna</i> spp ) Asparagus Chinese Longbean Moth Yardlong Jackbean Pea ( <i>Pisum</i> spp ) Dwarf Edible pod Snow Sugar Snap Pigeon Sword Bean	21 days	6 8 fl oz	1 qt by ground or 1% v/v (but not less than 1 pt /A) by air <sup>(5)</sup>	Do not apply more than 8 fl oz /A in a single application  Do not apply more than one (1) application per acre per season  For peas apply before bloom but no later than 21 days before harvest  Refer to appropriate Table for reduced rate directions for the control of small annual grasses  The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice wild oats volunteer cereals and volunteer corn
<b>Mint</b>	21 days	6 16 fl oz <sup>(4)</sup>	1 qt by ground or 1% v/v (but not less than 1 pt /A by air )	Do not apply more than 16 fl oz /A in a single application  For repeat applications make on a minimum of a 14 day interval
<b>Mustard Seed</b>	75 days	4 6 fl oz	1% v/v in the finished spray volume	Do not apply after crop has begun bolting Crop injury may occur when Willowood Clethoam 2EC is applied during the bloom period  Do not apply more than 6 fl oz /A in a single application

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
				Do not exceed 16 fl oz /A in a season
<b>Onion</b> (Dry Bulb Only) <b>Garlic</b> <b>Shallot</b> (Dry Bulb Only)	45 days	6 16 fl oz <sup>(7)</sup> <sup>(8)</sup>	1% v/v in the finished spray volume	Minimum of 20 gals /A spray volume by ground in entire U S  Minimum of 20 gals /A spray volume by air in California <sup>(9)</sup>  In states other than California air application to onions garlic or shallots should be made in a minimum of 10 gals /A
<b>Onion Green</b> including Green Eschalot Japanese Bunching Onion Leeks Scallion or Spring Onion	14 days	6 8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  For repeat applications make on a minimum of a 14 day interval
<b>Ornamentals</b>  <b>Non Bearing Food Crops</b>	N/A  N/A	6 16 fl oz  6 8 fl oz <sup>(8)</sup>	Use of crop oil concentrate is not recommended since it may injure flowers and foliage See Special Use Instructions	Add a non ionic surfactant containing at least 80% active ingredient at the rate of 1 pt per 50 gals (0.25% v/v)  Sugar maples cannot be tapped for syrup within one year of Willowood Clethodim 2EC application  Do not apply more than 8 fl oz /A in a single application to non bearing food crops
<b>Pea Dry Shelled</b> including Pea ( <i>Pisum</i> spp ) Field Pigeon	30 days	6 8 fl oz	1 qt by ground or 1% v/v (but not less than 1 pt /A) by air <sup>(5)</sup>	Do not apply more than 8 fl oz /A per application  Do not apply more than one (1) application per acre per season  Apply before bloom but not later than 30 days prior to harvest <sup>(10)</sup>  Refer to appropriate Table for reduced rate directions for the control of small annual grasses

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
				The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice wild oats volunteer cereals and volunteer corn
<b>Pea Succulent</b> including Pea ( <i>Pisum</i> spp ) English Pea Garden Pea Green Pea Pigeon Pea	21 days	6.8 fl oz	1 qt. by ground or 1% v/v (but not less than 1 pt /A) by air <sup>(5)</sup>	Do not apply more than 8 fl oz /A per application  Do not apply more than one (1) application per acre per season  Apply before bloom but not later than 21 days prior to harvest <sup>(10)</sup>  Refer to appropriate Table for reduced rate directions for the control of small annual grasses  The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice wild oats volunteer cereals and volunteer corn
<b>Peach</b>	14 days	6.8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  Do not apply more than 32 fl oz /A (0.5 lb ai/A) per season  For repeat applications make on a minimum of a 14 day interval  Do not apply to Peach grown for root stock
<b>Peanut (including Perennial)</b>	40 days	6.16 fl oz	1 qt. by ground or 1% v/v (but not less than 1 pt /A) by air <sup>(5)</sup>	The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
				wild oats volunteer cereals and volunteer corn
Potato	30 days	8 16 fl oz	1 qt by ground or 1% v/v (but not less than 1 pt /A) by air <sup>(5)</sup>	The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice wild oats volunteer cereals and volunteer corn
Radish	15 days	6 8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application Do not apply more than 16 fl oz /A (0 25 lb ai) per acre in a season For repeat applications make on a minimum of a 14 day interval
Root Vegetable (except Radish) including Chicory Ginseng Horseradish Turnip	30 days	6 8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application For repeat applications make on a minimum of a 14 day interval
Safflower	70 days	6 8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application For repeat applications make on a minimum of a 14 day interval
Sesame	14 days	6 8 fl oz	1% v/v in the finished spray volume	Do not apply during flowering Do not apply more than 8 fl oz /A in a single application For repeat applications make on a minimum of a 14 day interval
Soybean	60 days	6 16 fl oz	1 qt by ground or 1% v/v (but not less than 1 pt /A) by air <sup>(5)</sup>	Do not graze treated fields or feed treated forage or hay to livestock Refer to appropriate Table for reduced rate directions for the control of small

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
				annual grasses The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice wild oats volunteer cereals and volunteer corn
<b>Strawberry</b>	4 days	6 8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application For repeat applications make on a minimum of a 14 day interval
<b>Sugar Beet</b>	40 days	6 16 fl oz	1 qt by ground or 1% v/v (but not less than 1 pt /A) by air <sup>(5)</sup>	Refer to appropriate Table for reduced rate directions for the control of small annual grasses The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice wild oats volunteer cereals and volunteer corn
<b>Sunflower</b>	70 days	6 16 fl oz	1 qt by ground or 1% v/v (but not less than 1 pt /A) by air <sup>(5)</sup>	The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice wild oats volunteer cereals and volunteer corn
<b>Sweet Potato</b> Yam and Other Tuberous and Corm Vegetables (except Potato) including Artichoke Chinese Jerusalem Cassava Bitter Sweet	30 days	6 16 fl oz	1% v/v in the finished spray volume	The addition of AMS has shown improved grass control for difficult to control species including quackgrass rhizome Johnsongrass red rice wild oats volunteer cereals and volunteer corn

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
Ginger				
<b>Tomato</b>	20 days	6 16 fl oz	1% v/v in the finished spray volume	For repeat applications make on a minimum of a 14 day interval
<b>Turnip Greens</b>	14 days	6 8 fl oz	1% v/v in the finished spray volume	Do not apply more than 8 fl oz /A in a single application  For repeat applications make on a minimum of a 14 day interval

N/A = Not Applicable

- <sup>1</sup> Willowood Clethodim 2EC is not recommended for use on vegetable crops being grown for seed production unless specific use directions are provided
- <sup>2</sup> Acceptable crop oil concentrates would be those which contain a minimum of 80% oils and 15% emulsifier. A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet all the following criteria: be non phytotoxic, contain only EPA exempt ingredients, provide good mixing quality and be successful in local experience. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oils. See the Addition of Adjuvant and Crop Oil Concentrate section for further information.
- <sup>3</sup> Willowood Clethodim 2EC may be applied to seedling or established alfalfa grown for seed, hay, silage, green crop or direct grazing.
- <sup>4</sup> For weed control in established alfalfa and mint, the minimum use rate is 10 fl oz /A.
- <sup>5</sup> 1 to 2 qts /A of liquid fertilizer (10-34-0, 28%N or 32%N) or an equivalent amount (2.5 to 4.0 lbs /A) of spray grade ammonium sulfate (AMS) may be added to Willowood Clethodim 2EC applications in addition to the recommended rate of crop oil concentrate.
- <sup>6</sup> Do not apply Willowood Clethodim 2EC plus 2,4-DB as a tank mix to alfalfa unless the 60 day feeding, grazing, and harvesting restriction on the 2,4-DB label can be observed.
- <sup>7</sup> For ground applications to garlic or shallot, do not exceed 8 fl oz /A in a single application. For air applications to onion, garlic or shallot, do not exceed 8 fl oz /A in a single application. For garlic and shallot, do not exceed 2 applications per season. In CA for air applications to onion, do not exceed 2 applications per season.
- <sup>8</sup> If Willowood Clethodim 2EC is applied as a spot treatment to onion, garlic, shallot, or non bearing food crops, care should be taken to not exceed the maximum rate allowed on a per acre basis or crop injury may occur.
- <sup>9</sup> In California, do not apply Willowood Clethodim 2EC to onion, garlic, or shallot until the crop has at least two full leaves. In California, 14 day spray intervals are recommended between the application of Willowood Clethodim 2EC and liquid nitrogen or other herbicide applications. Injury to crop may occur when shorter intervals are observed.
- <sup>10</sup> Applications of Willowood Clethodim 2EC to peas during the bloom period could result in severe crop injury, including loss of yield and delayed maturity.

#### IMPORTANT

Plant tolerance to Willowood Clethodim 2EC at labeled rates has been found to be acceptable for the indicated genera and species listed below. Due to variability within species, crop growth stage, environmental conditions, and application techniques, it is recommended that the user determine if the herbicide can be used safely on a few plants prior to widespread



application Neither the seller nor the manufacturer of Willowood Clethodim 2EC have investigated the safety factor to plants not listed on the label

### NON BEARING FOOD CROPS

#### WILLOWOOD CLETHODIM 2EC SHOULD NOT BE APPLIED TO NON BEARING FRUIT OR NUT CROPS WHICH ARE GROWN FOR ROOT STOCK

Crop injury to non bearing fruit and nut crops can occur if Willowood Clethodim 2EC is improperly applied Willowood Clethodim 2EC should not be applied directly over the top of these plant types Instead spray should be directed at the base of the plant where grassy weeds are growing near the ground

Non bearing fruit and nut crops are plants which will not bear fruit or nuts for at least one year following Willowood Clethodim 2EC application

COMMON NAME	SCIENTIFIC NAME
Apples	<i>Malus</i> spp
Berries	<i>Vaccinium</i> spp <i>Rubus</i> spp
Cherry Sweet	<i>Prunus avium</i>
Citrus Fruits	<i>Citrus</i> spp
Grapes	<i>Vitis</i> spp
Olives	<i>Olea</i> spp
Peach	<i>Prunus persica</i>
Pears	<i>Pyrus communis</i>
Prunes	<i>Prunus</i> spp
Stone Fruits	<i>Prunus</i> spp
Strawberries	<i>Fragaria</i> spp
Tree Nuts	
Almond	<i>Prunus triloba</i>
Filbert	<i>Corylus maxima</i>
Pecan	<i>Carya illinoensis</i>
Pistachio	<i>Pistacia vera</i>
Walnut	<i>Juglans</i> spp

### CONIFER TREES

Willowood Clethodim 2EC can be used to control labeled grasses in Christmas tree farms conifer nurseries and conifer plantations (but not in forests)

COMMON NAME	SCIENTIFIC NAME
Arborvitae American	<i>Thuja occidentalis</i>
Cedars	<i>Cedrus</i> spp
Cypress	<i>Taxodium</i> spp
Fir Douglas	<i>Pseudotsuga menziesii</i>
Firs	<i>Abies</i> spp
Hemlock Canadian/Eastern	<i>Tsuga Canadensis</i>
Hemlock Western	<i>Tsuga heterophylla</i>
Pines	<i>Pinus</i> spp
Spruces	<i>Picea</i> spp
Yew	<i>Taxus</i> spp

### NON CROP OR NON PLANTED AREAS

The following areas are considered non crop or non planted areas rights of way including railroads highways roads dividers medians pipelines public utility lines pumping stations transformer stations and substations Around airports electric utilities commercial buildings manufacturing plants storage yards rail yards fence lines parkways and post harvest croplands Also beneath green house benches

and around golf courses

**ANNUAL GRASSES  
(EXCEPT FOR IN ESTABLISHED ALFALFA AND MINT)**

- Apply only to actively growing grasses at recommended weed heights
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height
- Do not apply more than 8 fl oz /A of Willowood Clethodim 2EC **per application** to the following crops asparagus carrot cranberry cucurbits flax fruiting vegetables (except tomato) garden beets green onion head and stem brassica vegetables herbs hops leafy brassica greens leafy greens non bearing food crops root vegetables safflower sesame and strawberry Do not apply more than 6 fl oz /A of Willowood Clethodim 2EC per application to canola or mustard seed

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT (inches)	RATE FL OZ / ACRE	HIGH RATE <sup>(1)</sup>
Barnyardgrass	<i>Echinochloa crus galli</i>	2 to 8	6	8
Broadleaf Signalgrass	<i>Brachiaria platyphlla</i>	2 to 6	6	8
Brome				
California	<i>Bromus carinatus</i>	2 to 6	6	8
Cheat	<i>Bromus secalinus</i>	2 to 6	6	8
Downy	<i>Bromus tectorum</i>	2 to 6	6	8
Ripgut	<i>Bromus diandrus</i>	2 to 6	6	8
Canarygrass	<i>Phalaris canariensis</i>	1 to 4	6	8
Crabgrass				
Hairy	<i>Digitaria adscendens</i>	2 to 6	6	8
Large	<i>Digitaria sanguinalis</i>	2 to 6	6	8
Smooth	<i>Digitaria ischaemum</i>	2 to 6	6	8
Southern	<i>Digitaria ciliaris</i>	2 to 6	6	8
Crowfootgrass	<i>Dactyloctenium aegyptium</i>	2 to 6	6	8
Fall Panicum	<i>Panicum dichotomiflorum</i>	2 to 8	6	8
Field Sandbur	<i>Cenchrus incertus</i>	2 to 6	6	8
Foxtail				
Giant	<i>Setaria feberi</i>	2 to 12	6	8
Green	<i>Setaria viridis</i>	2 to 8	6	8
Yellow	<i>Setaria glauca</i>	2 to 8	6	8
Goosegrass	<i>Eleusine indica</i>	2 to 6	6	8
Itchgrass	<i>Rottboellia cochinchinensis</i>	2 to 6	6	8
Junglerice	<i>Echinochloa colona</i>	2 to 6	6	8
Lovegrass (Stinkgrass)	<i>Eragrostis cilianensis</i>	2 to 6	6	8
Rabbitsfootgrass	<i>Polypogon monspeliensis</i>	1 to 4	6	8
Red Rice	<i>Oryza sativa</i>	1 to 3	6	8
Ryegrass				
Hardy	<i>Lolium remotum</i>	2 to 6	6	8
Italian	<i>Lolium multiflorum</i>	2 to 6	6	8
Seedling Johnsongrass	<i>Sorghum halepense</i>	4 to 10	6	8
Shattercane	<i>Sorghum bicolor</i>	6 to 18	6	3
Southwestern Cupgrass	<i>Eriochloa gracilis</i>	2 to 6	6	3
Sprangle top				
Amazon	<i>Leptochloa panicoides</i>	2 to 6	6	8
Bearded	<i>Leptochloa fascicularis</i>	2 to 6	6	8
Mexican	<i>Leptochloa uninervia</i>	2 to 6	5	8
Red	<i>Leptochloa filiformis</i>	2 to 6	3	8

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT (inches)	RATE FL OZ / ACRE	HIGH RATE <sup>(1)</sup>
Texas Panicum	<i>Panicum texanum</i>	2 to 6	6	8
Volunteer Cereals <sup>(2)</sup>				
Barley	<i>Hordeum vulgare</i>	2 to 6	6	8
Oats	<i>Avena sativa</i>	2 to 6	6	8
Rye	<i>Secale cereal</i>	2 to 6	6	8
Wheat	<i>Triticum aestivum</i>	2 to 6	6	8
Volunteer Corn <sup>(3)</sup>	<i>Zea mays</i>	4 to 12	4	6
Volunteer Corn <sup>(3)</sup>	<i>Zea mays</i>	12 to 24	6	8
Volunteer Corn (S R ) <sup>(4)</sup>	<i>Zea mays</i>	4 to 12	8 (suppression only)	
Volunteer Grain Sorghum	<i>Sorghum bicolor</i>	8 to 12	6	8
Wild Oats	<i>Avena fatua</i>	2 to 6	6	8
Wild Proso Millet	<i>Panicum miliaceum</i>	2 to 10	6	8
Witchgrass	<i>Panicum capillare</i>	2 to 8	6	8
Woolly Cupgrass	<i>Eriochloa villosa</i>	2 to 8	6	8

Generally occurs between 3 leaf stage and tillering

Length of lateral growth

- (1) Rates higher than 8 fl oz /A may be applied in certain geographic areas cropping situations or environmental conditions where experience has shown that higher rates are needed for satisfactory control of annual grasses. In these situations rates from 8 to 16 fl oz /A may be applied. Do not apply more than 8 fl oz /A of Willowood Clethodim 2EC per application to the following crops: asparagus, carrot, cranberry, cucurbits, flax, fruiting vegetables (except tomato), garden beet, green onion, head and stem brassica vegetables, herbs, hops, leaf petioles, leafy brassica greens, leafy greens, non bearing food crops, root vegetables, safflower, sesame and strawberry.
- (2) When a cereal grain crop (such as wheat) is interseeded for crop establishment or is planted as wind breaks to aid crop establishment, the minimum Willowood Clethodim 2EC use rate for control is 8 fl oz /A.
- (3) Includes Roundup Ready®, Liberty Link®, and IMI CORN® volunteer corn.
- (4) Sethoxydim resistant volunteer corn.

#### ANNUAL & PERENNIAL GRASS CONTROL IN ESTABLISHED ALFALFA AND MINT WITH WILLOWOOD CLETHODIM 2EC

GRASS SPECIES	WEED STAGE	RATE FL OZ / ACRE	HIGH RATE
Annual & Perennial Grasses Listed in Grass Table	See Table	10	16
<p><b>Mowing</b> The best control of annual grasses can be achieved by applying Willowood Clethodim 2EC before grass weeds are mowed. Once grass is mowed it becomes tougher to control, as much of the available leaf surface has been removed. In areas without a killing frost, some annuals can overwinter after having been mowed multiple times. These grasses form large crowns and may contain many viable buds. These grasses, even though they may be an annual grass, may require repeated applications of Willowood Clethodim 2EC for partial or complete control.</p> <p><b>Irrigated Alfalfa and Mint</b> Irrigation practices can be very critical to the successful use of Willowood Clethodim 2EC in established alfalfa and mint and may be necessary to initiate active growth of the weeds prior to application. Generally, applications 2 to 4 days after irrigation are most effective. Irrigate or make shortly after application (2 days) can be effective, but more consistent grass control occurs when the irrigation is made before the application.</p> <p><b>Aerial Application</b> Apply Willowood Clethodim 2EC in a minimum of 10 GPA in established alfalfa and</p>			

mint when applying by air

**Annual Grass Control** Apply Willowood Clethodim 2EC at the grass sizes indicated in the Annual Grass Table and rates indicated. If a grass has been cut, apply Willowood Clethodim 2EC after active growth has resumed and regrowth has reached the minimum height and before it reaches the maximum height indicated. Apply before the alfalfa/mint canopy covers the grasses and interferes with the spray coverage. Some annual grasses are spring and summer germinating plants, while others are fall germinating plants, and the time they are actively growing and most susceptible to Willowood Clethodim 2EC may vary from region to region. Also, some annuals germinate over an extended period of time, and because control of small grasses is desired, applications after each weed flush may be required. As a general rule, spray spring and summer germinating grasses as early in the season as possible, after initial green up. Spray fall germinating weeds in the fall soon after they begin growing but before any damage is done due to frost. Late fall applications may be less effective due to environmental conditions, such as frost, slower plant growth, or the onset of flowering.

**Perennial Grass Control** Willowood Clethodim 2EC effectively controls perennial grasses such as Bermudagrass, Johnsongrass, quackgrass, wirestem muhly, tall fescue, foxtail, barley, and orchardgrass. Due in part to lack of tillage, perennial grasses are more difficult to control in a perennial crop such as established alfalfa or mint. A program of repeated applications is usually necessary for best results. The best way to control perennial grasses is to do so in the year of stand establishment before rhizomes and stolons become large and difficult to kill.

Use the high rate under heavy grass pressure and/or when grasses are at or near maximum height.

Always add a crop oil concentrate at 1 qt /A by ground or 1% v/v (but not less than 1 pt /A) to the finished spray volume by air.

### ANNUAL BLUEGRASS CONTROL WITH WILLOWOOD CLETHODIM 2EC

GRASS SPECIES	WEED STAGE	RATE FL OZ / ACRE	HIGH RATE
Annual Bluegrass ( <i>Poa annua</i> )	to 4 leaf	6	16

Apply under favorable soil moisture and humidity, which exists within a few days after rainfall or within 7 days after irrigation. Grass needs to be actively growing at time of application(s).

Apply at weed stage indicated on the label, as reduced control can be expected with more mature annual bluegrass.

Use the high rate under heavy grass pressure and/or when annual bluegrass is more mature.

Always add a crop oil concentrate at 1 qt /A by ground to the finished spray volume.

Use a minimum of 10 fl oz /A to control annual bluegrass in seedling and established alfalfa and mint.

### FOR USE IN ROUNDUP READY FIELD CORN (BURNDOWN)

GRASS SPECIES	WEED SIZE (inches)	Rate when applied alone or with glyphosate
Field Corn	Up to 12	3 fl oz /A

For control of existing stand of Roundup Ready field corn or volunteer Roundup Ready field corn prior to replanting corn.

Care must be taken to avoid in-field boom (spray) overlaps or excessive crop injury may occur.

Replant no sooner than 6 days after application.

Adjuvant recommendations: NIS at 0.25% v/v plus AMS at 2.5 to 4 lbs /A.

Do not use COC or MSO with Willowood Clethodim 2EC in this use pattern.

**DIRECTIONS FOR REDUCED RATE TO CONTROL SMALL ANNUAL GRASSES IN CANOLA DRY SHELLLED BEAN & PEA (INCLUDING SOYBEAN) EDIBLE PODDED LEGUME VEGETABLES FLAX MUSTARD SEED SUCCULENT BEAN & PEA AND SUGAR BEET (REDUCED RATE DIRECTIONS NOT FOR USE IN CALIFORNIA)**

- Apply only to actively growing grasses at recommended weed heights
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment
- Regrowth by tillering may occur if application is made when plants are stressed by lack of moisture excessive moisture low or high temperatures and/or under very low humidity

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT (inches)	RATE FL OZ / ACRE <sup>(1)</sup>
Barnyardgrass	<i>Echinochloa crus galli</i>	1 to 4	4
Broadleaf Signalgrass	<i>Brachiaria platyphlla</i>	1 to 4	5
Crabgrass			
Large	<i>Digitaria sanguinalis</i>	1 to 3	4
Large	<i>Digitaria sanguinalis</i>	1 to 4	5
Smooth	<i>Digitaria ischaemum</i>	1 to 3	4
Smooth	<i>Digitaria ischaemum</i>	1 to 4	5
Southern	<i>Digitaria ciliaris</i>	1 to 4	5
Fall Panicum	<i>Panicum dichotomiflorum</i>	1 to 4	4
Foxtail			
Giant	<i>Setaria faberi</i>	1 to 4	4
Green	<i>Setaria viridis</i>	1 to 4	4
Millet	<i>Setaria italic</i>	1 to 4	5
Yellow	<i>Setaria glauca</i>	1 to 4	4
Seedling Johnsongrass	<i>Sorghum halepense</i>	1 to 6	5
Shattercane	<i>Sorghum bicolor</i>	4 to 10	4
Texas Panicum	<i>Panicum texanum</i>	1 to 4	5
Volunteer Cereals			
Barley	<i>Hordeum vulgare</i>	1 to 4	5
Oats	<i>Avena sativa</i>	1 to 4	5
Wheat	<i>Triticum aestivum</i>	1 to 4	5
Volunteer Corn	<i>Zea mays</i>	4 to 12	4
Wild Proso Millet	<i>Panicum miliaceum</i>	1 to 6	4
Wild Oats	<i>Avena fatua</i>	1 to 4	5

Length of lateral growth

Not S R Corn

<sup>(1)</sup> Always add a crop oil concentrate at 1 qt /A by ground application to the finished spray volume

**PERENNIAL GRASSES**

- Apply only to actively growing grasses at recommended weed heights
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height
- Do not apply more than 8 fl oz /A of Willowood Clethodim 2EC per application to the following crops asparagus carrot cranberry cucurbits flax fruiting vegetables (except tomato) garden beet green onion head & stem brassica vegetables herbs hops leaf petioles leafy brassica greens leafy greens non bearing food crops root vegetables safflower sesame and strawberry Do not apply more than 6 fl oz /A of Willowood Clethodim 2EC per application to canola or mustard seed

GRASS SPECIES	WEED HEIGHT (inches)	RATE FL OZ / ACRE	HIGH RATE
Bermudagrass ( <i>Cynodon dactylon</i> )			
First Application	3 (or up to 6 runners)	8	16
Repeat Application(s) (if regrowth occurs)	3 (or up to 6 runners)	8	16
Fescue Tall ( <i>Festuca arundinacea</i> )			
First Application	4 to 8	8	16
Repeat Application(s) (if regrowth occurs)	4 to 8	8	16
Foxtail Barley ( <i>Hordeum jubatum</i> )			
First Application	2 to 6	8	16
Repeat Application(s) (if regrowth occurs)	2 to 6	8	16
Orchardgrass ( <i>Dactylis glomerata</i> )			
First Application	4 to 8	8	16
Repeat Application(s) (if regrowth occurs)	4 to 8	8	16
Quackgrass ( <i>Elytrigia repens</i> )			
First Application	4 to 12	8	16
Repeat Application(s) (if regrowth occurs)	4 to 12	8	16
Rhizome Johnsongrass ( <i>Sorghum halepense</i> )			
First Application	12 to 24	8	16
Repeat Application(s) (if regrowth occurs)	6 to 18	6	8
Wirestem Muhly ( <i>Muhlenbergia frondosa</i> )			
First Application	4 to 8	8	16
Repeat Application(s) (if regrowth occurs)	4 to 8	8	16
Perennial Bluegrass Roughstalk ( <i>Poa trivialis</i> ) Kentucky ( <i>Poa prantensis</i> )			
First Application	2 to 4	8	16
Repeat Application(s) (if regrowth occurs)	2 to 4	8	16
Bentgrass ( <i>Agrostis</i> spp )			
First Application	2 to 4		16
Repeat Application(s) (if regrowth occurs)	2 to 4		16

Control of quackgrass perennial bluegrass and bentgrass with Willowood Clethodim 2EC may be enhanced by adding AMS at 2.5 to 4.0 lbs /A

#### TANK MIXES INFORMATION

The labels for each of the herbicides recommended for tank mixing with Willowood Clethodim 2EC are unique to the characteristics of those products and contain restrictions and limitations that may be more restrictive than the Willowood Clethodim 2EC label in certain considerations. Those concerns may include but are not limited to:

1. Geographic restrictions – all products are not registered for use in all areas and rates may vary from one region of labeled use to another
2. Crop rotation restrictions
3. Applicator certification requirements

- 4 Worker safety rules (e g protective clothing reentry time posting)
- 5 Soil type or soil characteristics (e g pH OM)
- 6 Maximum dosage or number of applications per season
- 7 Rain free period required or
- 8 Application timing (e g pre harvest interval)
- 9 Do not exceed the total season rates

**THE MOST RESTRICTIVE LABELING OF ANY PRODUCT USED IN A TANK MIX MUST BE FOLLOWED**

**TANK MIX APPLICATION OF WILLOWOOD CLETHODIM 2EC AND BROADLEAF HERBICIDES FOR CONTROL OF GRASSES AND BROADLEAF WEEDS**

- Apply only to actively growing grass and broadleaf weeds at recommended height or growth stage listed on each label
- Apply when the first grass or broadleaf weed species in a mixed population reaches the recommended height or growth stage for treatment
- Apply under favorable soil moisture and humidity that exist a few days after rainfall or within seven days after irrigation
- Always add the appropriate adjuvant to the spray mix at the rate recommended for each specific tank mix combination
- Tank mix applications may sometimes result in reduced grass control and possible increases in crop injury as compared to either product used alone If regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC as specified in the respective size and rate tables
- Do not tank mix Willowood Clethodim 2EC when broadleaf weeds are tall and/or dense enough to prevent proper grass coverage

**MIXING INSTRUCTIONS**

- 1 Fill clean spray tank 1/2 to 2/3 of desired level with clean water
- 2 While agitating add the correct amount of Willowood Clethodim 2EC Agitation should create a rippling or rolling action on the water surface
- 3 If tank mixing Willowood Clethodim 2EC with other labeled herbicides add water soluble bags first followed by dry formulations flowables emulsifiable concentrates and then solutions Prepare no more spray mixture than is required for the immediate spray operation
- 4 Add any required adjuvants (crop oil concentrate non ionic surfactant and/or nitrogen solution)
- 5 Fill spray tank to desired level with water **Agitation should continue until all spray solution has been applied**

Failure to agitate the spray solution may result in improper mixing of the herbicides and unsatisfactory weed control Mixing and compatibility qualities should be verified by a jar test

**INFORMATION ON ANTAGONISM**

Tank mixes of Willowood Clethodim 2EC with postemergence broadleaf herbicides have shown some reduction or failure to control certain grass species which would have otherwise been controlled when Willowood Clethodim 2EC is applied alone Activity of the postemergence broadleaf herbicide in the tank mix is not affected

**ALFALFA**

**Table 1 WILLOWOOD CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR ALFALFA**

(Refer to tables above for specific grasses and growth stages)

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup>	
	ANNUAL GRASSES	PERENNIAL GRASSES	(V/V)	
			GROUND	AIR
Willowood			1%	1%

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup> (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
Clethodim 2EC + 2 4 DB <sup>(4)</sup>	10 to 16 fl oz + Refer to 2 4 DB label	10 to 16 fl oz + Refer to 2 4 DB label		
Willowood Clethodim 2EC + PURSUIT DG <sup>(5)</sup> or PURSUIT <sup>(5)</sup>	10 to 16 fl oz + 1 08 to 2 16 oz or 3 to 6 fl oz		1%	1%
Willowood Clethodim 2EC + BUCTRIL® 2L <sup>(6)</sup> or BUCTRIL GEL <sup>(6 7)</sup>	10 to 16 fl oz + 1 0 to 1 5 pts or 0 5 to 0 75 pt		0 5%	0 5%

<sup>(1)</sup> If grass regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC alone (without a tank mix herbicide) according to the appropriate size and rate recommendations

<sup>(2)</sup> Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage Tank mixing is not recommended in these situations

<sup>(3)</sup> Always use a crop oil concentrate at the listed rate (but not less than 1 pt /A) in the finished spray volume

<sup>(4)</sup> Willowood Clethodim 2EC plus 2 4 DB may increase the severity of crop injury when tank mixed Alfalfa plants will generally outgrow this temporary crop injury within a few weeks

<sup>(5)</sup> Before using this tank mix read and understand the PURSUIT or PURSUIT DG labels for geographical restrictions and restrictions regarding alfalfa growth stage and type Failure to do so can result in crop injury to alfalfa Do not feed graze or harvest alfalfa for 30 days following an application of PURSUIT to alfalfa

<sup>(6)</sup> In the states of Washington Oregon Idaho Montana Wyoming Colorado Utah Nevada and the western halves of North Dakota South Dakota Nebraska and Kansas The Willowood Clethodim 2EC plus BUCTRIL or BUCTRIL GEL tank mix must be applied in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 2 trifoliates Unacceptable crop injury may occur to alfalfa seedlings less than the 2 trifoliolate leaf stage Willowood Clethodim 2EC plus BUCTRIL or BUCTRIL GEL applications made when temperatures are expected to exceed 80 F at (and 3 days following) application can result in unacceptable crop injury In the states not listed above apply in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 4 trifoliolate leaves When the alfalfa stand is uneven and conditions favor leaf burn unacceptable crop injury may occur to alfalfa in the 2 trifoliolate or smaller stage of growth Willowood Clethodim 2EC plus BUCTRIL or BUCTRIL GEL applications made when temperatures are expected to exceed 70 F at (and 3 days following) application can result in unacceptable crop injury Crop leaf burn can occur following Willowood Clethodim 2EC plus BUCTRIL or BUCTRIL GEL application Warm humid conditions may enhance leaf burn New crop growth will not be affected

<sup>(7)</sup> Do not apply when alfalfa is under moisture temperature insect or disease stress or has been stressed by other pesticide carryover or application



## CANOLA

**Table 2 REDUCED RATE WILLOWOOD CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR CANOLA**

(Refer to the tables above for specific grasses and growth stages )

PRODUCT	APPLICATION RATES/ACRE		AMMONIUM SULFATE	
	ANNUAL GRASSES <sup>(1)</sup>	PERENNIAL GRASSES	GROUND	AIR
Willowood Clethodim 2EC <sup>(2)</sup> + LIBERTY <sup>(3)</sup>	4 to 5 fl oz + 34 fl oz		3 0 lbs	3 0 lbs

<sup>(1)</sup> Annual grasses and sizes controlled with these tank mixtures are those that are identified in the DIRECTIONS FOR REDUCED RATE TO CONTROL SMALL ANNUAL GRASSES table

<sup>(2)</sup> Do not apply Willowood Clethodim 2EC tank mix during or after bolting or flowering or crop injury may occur

<sup>(3)</sup> For use only on LibertyLink® canola

## COTTON

**Table 3 WILLOWOOD CLETHODIM 2EC TANK MIXED WITH COBRA® AND MSMA APPLIED POST DIRECTED TO COTTON**

PRODUCT <sup>(1)</sup>	APPLICATION RATES/ACRE <sup>(2)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup> V/V	COMMENTS
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	
Willowood Clethodim 2EC <sup>(4)</sup> + COBRA + MSMA (4 0 lbs /gal ) or MSMA (6 6 lbs /gal )	6 to 8 fl oz	8 to 16 fl oz	1%	Reduce broadcast rate in proportion to the band area actually treated
	See COBRA label for rates to control broadleaf weeds and height limitations for cotton Refer to the Willowood Clethodim 2EC label for weed height and species controlled			
	See MSMA label for rates to control broadleaf weeds and height limitations for cotton Refer to the Willowood Clethodim 2EC label for weed height and species controlled			

<sup>(1)</sup> Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage Tank mixing is not recommended in these situations

<sup>(2)</sup> If grass regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC alone (without a tank mix herbicide) according to the appropriate size and rate recommendations

<sup>(3)</sup> Always use a crop oil concentrate at the listed rate (but not less than 1 pt /A) in the finished spray volume

<sup>(4)</sup> If at the time of application grass height is so tall that post directed applications cannot get good coverage over the top of the grassy weeds then poor control may result and a second (non post directed) application of Willowood Clethodim 2EC may be necessary

**Table 4 WILLOWOOD CLETHODIM 2EC TANK MIXED WITH BUCTRIL 4 EC TO CONTROL EMERGED WEEDS IN BXN COTTON AS A BROADCAST APPLICATION**

PRODUCT <sup>(1)</sup>	APPLICATION RATES/ACRE <sup>(2)</sup>	CROP OIL CONCENTRATE PER ACRE <sup>(3)</sup>	COMMENTS <sup>(7)</sup>
	ANNUAL GRASSES		
Willowood Clethodim 2EC + BUCTRIL 4 EC <sup>(4 5 6)</sup>	8 to 16 fl oz  See BUCTRIL 4 EC label for rates to control broadleaf weeds and height limitations for cotton	1 qt	See charts for grasses controlled

<sup>(1)</sup> Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage

<sup>(2)</sup> If grass regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC at the recommended rate with the appropriate amount of crop oil concentrate in a non BUCTRIL tank mix

<sup>(3)</sup> Always add a crop oil concentrate at 1 qt /A by ground in the finished spray solution

<sup>(4)</sup> Applications of BUCTRIL 4 EC can be made only to cotton that has been genetically modified for crop tolerance to postemergence over the top application of bromoxynil

<sup>(5)</sup> Do not apply the Willowood Clethodim 2EC plus BUCTRIL tank mix within 75 days of harvest

<sup>(6)</sup> Do not exceed 2 applications of BUCTRIL before cotton is 12 inches tall and one application after 12 inches tall

<sup>(7)</sup> Use a minimum of 10 gals of spray solution per acre

**Table 5 WILLOWOOD CLETHODIM 2EC TANK MIXED WITH GLYPHOSATE TO CONTROL EMERGED GRASSES IN COTTON AS A BROADCAST APPLICATION**

PRODUCT	APPLICATION RATES/ACRE <sup>(1)</sup>		ADJUVANT		COMMENTS
	ANNUAL GRASSES	PERENNIAL GRASSES	Glyphosate formulation <b>with</b> built in adjuvant	Glyphosate formulation <b>without</b> built in adjuvant	
Willowood Clethodim 2EC + GLYPHOSATE	6 to 8 fl oz  See glyphosate label for rates to control broadleaf weeds and height limitations for cotton	8 to 16 fl oz	Non ionic surfactant @ 0.125 to 0.25% v/v plus ammonium sulfate @ 8.5 to 17 lbs per 100 gals of carrier	Crop oil concentrate @ 1 pt /A plus ammonium sulfate @ 8.5 to 17 lbs per 100 gals of carrier	See charts for grasses controlled  Use a minimum of 10 gals of spray solution per acre

<sup>(1)</sup> If grass regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC at the recommended rate with the appropriate amount of crop oil concentrate

## DRY SHELLED AND SUCCULENT BEANS

**Table 6 WILLOWOOD CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR DRY SHELLED AND SUCCULENT BEANS**

(Refer to the tables above for specific grasses and growth stages )

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup>	
	ANNUAL GRASSES	PERENNIAL GRASSES	(V/V)	
			GROUND	AIR
Willowood Clethodim 2EC + BASAGRAN®	8 to 10 fl oz + 1 0 to 2 0 pts	10 to 16 fl oz + 1 to 2 pts	1%	1%

<sup>(1)</sup> If grass regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC alone (without a tank mix herbicide) according to the appropriate size and rate recommendations

<sup>(2)</sup> Broadleaf weed control may be reduced when grass populations are tall enough or dense enough to intercept the spray pattern and prevent them from receiving complete coverage Tank mixing is not recommended in these situations

<sup>(3)</sup> Always use a crop oil concentrate at the listed rate (but not less than 1 pt /A) in the finished spray volume

## FLAX

**Table 7 REDUCED RATE WILLOWOOD CLETHODIM 2EC TANK MIXED WITH BROADLEAF HERBICIDES FOR FLAX**

(Refer to the tables above for specific grasses and growth stages)

PRODUCT	APPLICATION RATES/ACRE		CROP OIL CONCENTRATE	
	ANNUAL GRASSES <sup>(1)</sup>	PERENNIAL GRASSES		
			GROUND	AIR
Willowood Clethodim 2EC + BRONATE ADVANCED™ <sup>(2 3)</sup>	4 to 5 fl oz + 11 4 fl oz		1 pt	1 pt
Willowood Clethodim 2EC + BRONATE® <sup>(2 3)</sup>	4 to 5 fl oz + 0 9 pt		1 pt	1 pt
Willowood Clethodim 2EC + BUCTRIL <sup>(2 3)</sup>	4 to 5 fl oz + 1 0 pt		1 pt	1 pt
Willowood Clethodim 2EC + RHONOX® <sup>(2 3)</sup>	4 to 5 fl oz + 0 25 to 0 5 pt		1 pt	1 pt

<sup>(1)</sup> Annual grasses and sizes controlled with these tank mixtures are those that are identified in the DIRECTIONS FOR REDUCED RATE TO CONTROL SMALL ANNUAL GRASSES table

<sup>(2)</sup> Do not apply Willowood Clethodim 2EC tank mix during or after the bud stage or to ornamental flax or crop injury may occur

<sup>(3)</sup> Do not apply tank mixes if temperatures are expected to exceed 85 F at (or 3 days following) application or crop injury may occur

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## SOYBEAN

**Table 8 WILLOWOOD CLETHODIM 2EC TANK MIXES<sup>(3)</sup> TO CONTROL ANNUAL GRASSES WHEN USED AS A BURNDOWN IN NO TILL SOYBEAN**

PRODUCT	PRODUCT RATE/ACRE <sup>(1)</sup>	GRASS HEIGHT (inches)	CROP OIL CONCENTRATE /ACRE <sup>(2)</sup>	28%N OR 32%N QTS /A OR 25 TO 40 LBS AMS
Willowood Clethodim 2EC + 24 D ester <sup>(3)</sup>	3 fl oz	Foxtail 1 to 3 Fall Panicum 1 to 3	1 qt	1 to 2 qts or 25 to 40 lbs AMS
	4 fl oz	Foxtail 1 to 4 Fall Panicum 1 to 4	1 qt	1 to 2 qts or 25 to 40 lbs AMS
	6 to 8 fl oz + 0.5 lb ai	(See Grass Chart for grasses claimed)	1 qt	1 to 2 qts or 25 to 40 lbs AMS

24 D ester should not be used where drift sensitive crops may be grown

<sup>(1)</sup> If regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC according to the appropriate size and rate recommendations

<sup>(2)</sup> Always use a crop oil concentrate at the listed rate in the finished spray volume

<sup>(3)</sup> The following products can be tank mixed with Willowood Clethodim 2EC plus 24 D ester: VALOR<sup>®</sup>, AUTHORITY<sup>®</sup>, BROADLEAF, CANOPY XL<sup>®</sup>, DUAL<sup>®</sup> 8 E, DUAL II<sup>®</sup>, DUAL MAGNUM<sup>®</sup>, PROWL<sup>®</sup>, SENCOR<sup>®</sup>, SENCOR plus the DUAL products and TURBO<sup>®</sup>

**Table 9 WILLOWOOD CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN**

(Refer to the tables above for specific grasses and growth stages)

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup> (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
Willowood Clethodim 2EC + COBRA	6 to 8 fl oz + 12.5 fl oz	8 to 16 fl oz + 12.5 fl oz	0.5 to 1%	1%
Willowood Clethodim 2EC + BASAGRAN 4 SL	8 to 10 fl oz + 1 to 2 pts	10 to 16 fl oz + 1 to 2 pts	1%	1%
Willowood Clethodim 2EC + Glyphosate (For use on Roundup Ready soybean only)	6 to 8 fl oz + 0.75 to 3.0 lb ai	8 to 16 fl oz + 0.75 to 3.0 lb ai	0.5 to 1% <sup>(4)</sup>	1% <sup>(4)</sup>
Willowood Clethodim 2EC + ULTRA BLAZER <sup>®</sup>	6 to 8 fl oz + 1 to 1.5 pts	6 to 8 fl oz + 1 to 1.5 pts	0.5% to 1%	1%
Willowood Clethodim 2EC	6 to 8 fl oz Refer to the	8 to 16 fl oz Refer to the	1%	1%

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup> (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
+ FLEXSTAR® HL <sup>(6)</sup>	FLEXSTAR HL label for specific application rates	FLEXSTAR HL label for specific application rates		
Willowood Clethodim 2EC + CLASSIC® 25 DG	8 to 10 fl oz + 0.5 to 0.75 oz	10 to 16 fl oz + 1.44 oz	1%	1%
Willowood Clethodim 2EC <sup>(4)</sup> + PURSUIT® 70 DG	6 to 8 fl oz + 1.44 oz	8 to 16 fl oz + 1.44 oz	1%	1%
Willowood Clethodim 2EC <sup>(5)</sup> + COBRA + CLASSIC 25 DG	8 to 10 fl oz + 6 to 8 fl oz + 0.5 to 0.75 oz		0.5%	1%
Willowood Clethodim 2EC <sup>(5)</sup> + COBRA + BASAGRAN 4 SL	8 to 10 fl oz + 6 to 10 fl oz + 1 to 1.5 pts		0.5%	1%
Willowood Clethodim 2EC <sup>(5)</sup> + COBRA + PURSUIT 70 DG	8 to 10 fl oz + 6 to 10 fl oz + 1.44 oz		0.5%	1%
Willowood Clethodim 2EC <sup>(5)</sup> + STORM®	8 to 10 fl oz + 1.5 pts		0.5%	1%
Willowood Clethodim 2EC <sup>(5)</sup> + RESOURCE® + PURSUIT 70 DG	8 to 10 fl oz + 4 fl oz + 1.44 oz		1%	1%
Willowood Clethodim 2EC <sup>(5)</sup> + RESOURCE + BASAGRAN	8 to 10 fl oz + 4 fl oz + 1 pt		1%	1%
Willowood Clethodim 2EC <sup>(5)</sup> + RESOURCE + CLASSIC	8 to 10 fl oz + 4 fl oz + 0.5 oz		1%	1%

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup> (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
Willowood Clethodim 2EC <sup>(5)</sup> + COBRA + RESOURCE	6 to 8 fl oz + 6 fl oz + 4 fl oz		0.5%	1%
Willowood Clethodim 2EC <sup>(5)</sup> + FIRSTRATE®	6 to 8 fl oz + 0.3 oz	8 to 16 fl oz + 0.3 oz	1%	
Willowood Clethodim 2EC <sup>(5)</sup> + COBRA + FIRSTRATE	6 to 8 fl oz + 6 to 8 fl oz + 0.3 oz	8 to 16 fl oz + 6 to 8 fl oz + 0.3 oz	1%	
Willowood Clethodim 2EC <sup>(5)</sup> + RAPTOR® (1 AS)	6 to 8 fl oz + 4 to 5 fl oz		1%	
Willowood Clethodim 2EC <sup>(5)</sup> + COBRA + RAPTOR (1 AS)	6 to 8 fl oz + 6 to 8 fl oz + 4 to 5 fl oz		1%	
Willowood Clethodim 2EC <sup>(5)</sup> + SYNCHRONY® STS™	6 to 8 fl oz <sup>(7)</sup> + 0.5 oz /A		1 qt	
Willowood Clethodim 2EC <sup>(5)</sup> + COBRA Herbicide + SYNCHRONY STS™	6 to 8 fl oz <sup>(7)</sup> + 4 to 8 fl oz + 0.5 oz		1 pt	
Willowood Clethodim 2EC <sup>(5)</sup> + RESOURCE	6 to 8 fl oz + 4 to 12 fl oz		1 qt	
Willowood Clethodim 2EC <sup>(5)</sup> + FRONTROW™	8 to 10 fl oz + Refer to FRONTROW label for use rates		1%	
Willowood Clethodim 2EC + FIRSTRATE +	6 to 8 fl oz + 0.3 oz +	8 to 16 fl oz + 0.3 oz +	1%	

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup> (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
FLEXSTAR HL <sup>(5)</sup>	Refer to the FLEXSTAR HL label for specific application rates	Refer to the FLEXSTAR HL label for specific application rates		

<sup>(1)</sup> If grass regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC alone (without a tank mix herbicide) according to the appropriate size and rate recommendations

<sup>(2)</sup> Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage Tank mixing is not recommended in these situations

<sup>(3)</sup> Always use a crop oil concentrate at the listed rate (but not less than 1 pt /A) in the finished spray volume

<sup>(4)</sup> The addition of 2.5 lb of ammonium sulfate is required when Willowood Clethodim 2EC is tank mixed with glyphosate If the glyphosate formulation has a stand alone built in adjuvant add 0.125% v/v non ionic surfactant in place of crop oil concentrate If the glyphosate formulation does not have a built in adjuvant add 0.5 to 1% crop oil concentrate for ground application and 1% v/v for aerial application

<sup>(5)</sup> The addition of 1 to 2 qts /A of liquid fertilizer (10-34-0 28%N or 32%N) is recommended when Willowood Clethodim 2EC is tank mixed with PURSUIT RESOURCE STORM FIRSTRATE SYNCHRONY RAPTOR FRONTROW COBRA plus CLASSIC COBRA plus BASAGRAN COBRA plus PURSUIT COBRA plus FIRSTRATE COBRA plus SYNCHRONY and COBRA plus RAPTOR An equivalent amount (2.5 to 4.0 lbs /A) of spray grade ammonium sulfate (AMS) may be added in place of liquid fertilizer Fertilizer adjuvants are to be added in addition to the crop oil concentrate

<sup>(6)</sup> Refer to FLEXSTAR HL label for geographic and rotational restrictions

<sup>(7)</sup> Annual grasses and sizes controlled with these tank mixes are those that are identified in the DIRECTIONS FOR REDUCED RATE TO CONTROL SMALL ANNUAL GRASSES table

### SOYBEAN (continued)

**Table 10 REDUCED RATE WILLOWOOD CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN (Refer to table for reduced rate use in canola dry shelled bean & pea edible podded legume vegetables flax mustard seed soybean succulent bean & pea and sugar beet for small annual grasses for specific grasses and growth stages)**

PRODUCT	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE <sup>(3,4)</sup> (V/V)	
	ANNUAL GRASSES <sup>(2)</sup>	PERENNIAL GRASSES	GROUND	AIR
Willowood Clethodim 2EC + FIRSTRATE	4 to 8 fl oz + 0.3 oz		1%	1%
Willowood Clethodim 2EC + PURSUIT 70 DG	4 to 6 fl oz + 1.44 oz		1%	1%

<sup>(1)</sup> If grass regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC alone (without a tank mix herbicide) according to the appropriate size and rate recommendations

<sup>(2)</sup> Annual grasses and sizes controlled with these tank mixtures are those that are identified in the DIRECTIONS FOR REDUCED RATE TO CONTROL SMALL ANNUAL GRASSES table

<sup>(3)</sup> Always use a crop oil concentrate at the listed rate (but not less than 1 pt /A) in the finished spray volume

<sup>(4)</sup> The addition of 1 to 2 qts /A of liquid fertilizer (10-34-0 28%N or 32%N) is required when Willowood

Clethodim 2EC is tank mixed at reduced rates. An equivalent amount (2.5 to 4.0 lbs /A) of spray grade ammonium sulfate (AMS) may be added in place of liquid fertilizer. Fertilizer adjuvants are to be added in addition to the crop oil concentrate.

### PEANUT (INCLUDING PERENNIAL)

**Table 11 WILLOWOOD CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR PEANUT (INCLUDING PERENNIAL)**

(Refer to the tables above for specific grasses and growth stages.)

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup> (V/V)	
	ANNUAL GRASSES <sup>(2)</sup>	PERENNIAL GRASSES	GROUND	AIR
Willowood Clethodim 2EC + BASAGRAN	8 to 10 fl oz + 1.0 to 2.0 pts		1%	1%
Willowood Clethodim 2EC + ULTRA BLAZER	8 to 10 fl oz + 0.5 to 1.5 pts		1%	1%
Willowood Clethodim 2EC + STORM	8 to 10 fl oz + 1.5 pts		1%	1%

<sup>(1)</sup> If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Willowood Clethodim 2EC alone (without a tank mix herbicide) according to the appropriate size and rate recommendations.

<sup>(2)</sup> Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not recommended in these situations.

<sup>(3)</sup> Always use a crop oil concentrate at the listed rate (but not less than 1 pt /A) in the finished spray volume.

GRASS SUPPRESSION FOR HARVEST EFFICIENCY IN PEANUT (INCLUDING PERENNIAL) WITH WILLOWOOD CLETHODIM 2EC			
GRASS SPECIES	WEED STAGE	RATE FL OZ / ACRE	HIGH RATE
Annual and perennial grasses that exceed height claimed for control on height charts <b>ANNUAL GRASSES &amp; PERENNIAL GRASSES</b>	Up to and including grasses in the seed head stage	16	32
Do not apply as part of a tank mix when apply Willowood Clethodim 2EC for grass suppression. Add a crop oil concentrate at 1 qt /A by ground to the finished spray volume.			



## SUGAR BEET

**Table 12 WILLOWOOD CLETHODIM 2EC TANK MIXED WITH STINGER® APPLIED TO SUGAR BEET**

(Refer to the tables above for specific grasses and growth stages)

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup> (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
Willowood Clethodim 2EC + STINGER	6 to 8 fl oz	8 to 16 fl oz	1%	1%
	See STINGER label for rates			

<sup>(1)</sup> If grass regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC alone (without a tank mix herbicide) according to the appropriate size and rate recommendations

<sup>(2)</sup> Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage Tank mixing is not recommended in these situations

<sup>(3)</sup> Always use a crop oil concentrate at the listed rate (but not less than 1 pt /A) in the finished spray volume

**Table 13 WILLOWOOD CLETHODIM 2EC TANK MIXED WITH BETAMIX® or BETANEX® APPLIED TO SUGAR BEET**

PRODUCT <sup>(1)</sup>	WEEDS CONTROLLED		WEED HEIGHT (inches)	APPLICATION RATE/ACRE <sup>(2)</sup>
	COMMON NAME	SCIENTIFIC NAME		
Willowood Clethodim 2EC <sup>(3)</sup> + BETAMIX or BETANEX	Barnyardgrass	<i>Echinochloa crus galli</i>	1 to 3	8 fl oz
	Foxtail	<i>Setaria</i> spp	1 to 3	
	Foxtail Millet	<i>Setaria italic</i>	1 to 3	
	Wild Oat	<i>Avena fatua</i>	1 to 3	
	Wild Proso Millet	<i>Panicum miliaceum</i>	1 to 3	
			See BETAMIX label for rates to control broadleaf weeds <b>No additives are recommended in the tank mix</b>	
		See BETANEX label for rates to control broadleaf weeds <b>No additives are recommended in the tank mix</b>		

<sup>(1)</sup> Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage Tank mixing is not recommended in these situations

<sup>(2)</sup> Do not use crop oil concentrate No additives are recommended in the tank mix If grass regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC alone (without a tank mix herbicide) according to the appropriate size and rate recommendations

<sup>(3)</sup> If grass regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC at full label rate with appropriate rate of crop oil concentrate

**Table 14 WILLOWOOD CLETHODIM 2EC PLUS BETANEX OR BETAMIX TANK MIX FOR THREE SEQUENTIAL APPLICATIONS FOR ANNUAL GRASS CONTROL (MICRO RATE APPLICATION)**

PRODUCT	APPLICATION RATES/ACRE <sup>(1)</sup>		METHYLATED SEED OIL <sup>(2)</sup> (V/V)	
	ANNUAL GRASSES	GRASSES CONTROLLED (inches)	GROUND	AIR
Willowood Clethodim 2EC + BETANEX or BETAMIX	2 to 3 fl oz + 8 to 12 fl oz <sup>(3)</sup> or 8 to 12 fl oz <sup>(3)</sup>	Green Foxtail (1 2) Yellow Foxtail (1 2) Barnyardgrass (1 2) Wild Oat (1 2) Volunteer Cereals (1 2)	1 5%	1 5%

<sup>(1)</sup> Broadleaf weed control may be reduced when grass populations are tall or dense enough to intercept the spray pattern and prevent them from receiving complete coverage. Tank mixing is not recommended in these situations.

<sup>(2)</sup> Always use a methylated seed oil at the listed rate (but not less than 1 pt /A) in the finished spray volume.

<sup>(3)</sup> Use 8 fl oz /A rate when sugar beet are in the cotyledon to 4 leaf stage. Rate can be increased up to 12 fl oz /A when the smallest sugar beet plants in the field are in the 4 true leaf stage or larger.

#### **Directions for Use for Micro Rate Applications to Sugar Beet**

##### **Application Information**

Multiple micro rate applications of Willowood Clethodim 2EC in tank mixtures with reduced rates of BETANEX or BETAMIX and methylated seed oils may be applied by air or ground equipment to sugar beet to control early germinating annual grasses listed above. The rate of BETANEX or BETAMIX must not exceed 0.12 lb ai /A (broadcast application) when in combination with these spray adjuvants. Note that maximum rate allowed varies depending on crop growth stage. The use of wetting agents or spray adjuvants with conventional rates (0.73 to 1.22 lb ai /A) or multiple low rate (0.24 to 0.73 lb ai /A) applications of BETANEX or BETAMIX is prohibited on the BETANEX and BETAMIX master label. Favorable climatic conditions (good conditions for plant growth and development) are essential for adequate weed control. All use precautions and restrictions on the BETANEX and BETAMIX master labels must be followed.

##### **Directions for Using Micro Rate Multiple Applications of Willowood Clethodim 2EC Tank Mixes**

Apply Willowood Clethodim 2EC in broadcast applications only at a rate of 2 to 3 fl oz /A in tank mixture with either BETANEX or BETAMIX following the directions for use on the tank mix partner label. A minimum of three sequential applications of 2 fl oz /A or a minimum of 2 sequential applications of 3 fl oz /A should be utilized for Willowood Clethodim 2EC tank mixtures. A minimum of 3 sequential applications of BETAMIX or BETANEX should be used. Accurate timing is essential. Make initial application immediately after weeds emerge and make repeat applications on 5 to 7 day intervals. If weed control is not adequate due to climatic conditions, spray coverage or other factors, return to conventional application rates of Willowood Clethodim 2EC (6 to 8 fl oz /A) and add rates of BETANEX or BETAMIX as directed on their label. When using conventional rates of BETANEX or BETAMIX in tank mixtures with Willowood Clethodim 2EC, a spray adjuvant is not recommended.

##### **Use Precautions for Micro Rate Applications (See Willowood Clethodim 2EC BETANEX and BETAMIX master label for further use precautions)**

Not all weeds will be adequately controlled even with favorable climatic conditions. Conventional rates of Willowood Clethodim 2EC, BETANEX or BETAMIX and/or hand labor may be required if multiple micro rate applications do not adequately control weeds. Plugging of spray nozzles may be encountered due to the potential for formation of a precipitate in the spray solution that is often associated with micro rate applications. Willowood LLC will not be responsible for any nozzle plugging that may occur with the use of multiple micro rate applications. Methylated seed oils must not be added if the BETANEX or BETAMIX rate exceeds 0.12 lb ai /A broadcast, as the addition of methylated seed oils could increase the possibility of crop injury at dosage rates greater than 0.12 lb ai /A.

**GROUND APPLICATION**

Use of sufficient spray volumes and pressure is essential to ensure complete coverage. Use a minimum of 10 gals and a maximum of 20 gals of spray solution per acre. Spray pressures should reflect a minimum of 30 psi and a maximum of 60 psi at the nozzle. Do not use flood nozzles.

**AERIAL APPLICATION**

Use of sufficient spray volumes is essential to ensure complete coverage. Use a minimum of 5 gals and a maximum of 15 gals of spray solution per acre.

**Table 15 TANK MIX APPLICATION OF WILLOWOOD CLETHODIM 2EC AND FUNGICIDES FOR CONTROL OF GRASS WEEDS AND DISEASES IN SUGAR BEET**

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup> (V/V)
	ANNUAL GRASSES	PERENNIAL GRASSES	
Willowood Clethodim 2EC + EMINENT®	6 to 8 fl oz + 13 fl oz	8 to 16 fl oz + 13 fl oz	1%

<sup>(1)</sup> If grass regrowth occurs or an additional flush of new grass emerges, make a second application of Willowood Clethodim 2EC alone (without a tank mix fungicide) according to the appropriate size and rate recommendations.

<sup>(2)</sup> Refer to Willowood Clethodim 2EC and fungicide label for rates and weeds and diseases controlled.

<sup>(3)</sup> Always use a crop oil concentrate at the listed rate (but not less than 1 pt/A) in the finished spray volume.

**Table 16 TANK MIX APPLICATION OF WILLOWOOD CLETHODIM 2EC AND INSECTICIDES FOR CONTROL OF GRASS WEEDS AND INSECTS IN ALFALFA COTTON MINT PEANUT (INCLUDING PERENNIAL) SOYBEAN AND SUNFLOWER**

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE (V/V) <sup>(3)</sup>	CROP					
	ANNUAL GRASSES	PERENNIAL GRASSES		Alfalfa <sup>(4)</sup>	Cotton	Mint <sup>(4,5)</sup>	Peanut	Soybean	Sunflower
Willowood Clethodim 2EC + ORTHENE® 75 S or ORTHENE 97	6 to 8 fl oz + 0.33 to 1.33 lbs or 0.25 to 1.0 lb	6 to 8 fl oz + 0.33 to 1.33 lbs or 0.25 to 1.0 lb	1%		X	X	X		
Willowood Clethodim 2EC + ORTHENE 90 S <sup>(6)</sup>	6 to 8 fl oz + 0.25 to 1 lb	8 to 16 fl oz + 0.25 to 1 lb	1%		X	X	X	X	
Willowood Clethodim 2EC + DANITOL® 2.4 EC	6 to 8 fl oz + 10.2/3 to 16 fl oz	8 to 16 fl oz + 10.2/3 to 16 fl oz	1%		X		X		
Willowood Clethodim 2EC + ASANA XL®	6 to 8 fl oz + Refer to ASANA XL label	8 to 16 fl oz + Refer to ASANA XL label	1%						X
Willowood Clethodim 2EC + WARRIOR®	6 to 8 fl oz + Refer to WARRIOR label	8 to 16 fl oz + Refer to WARRIOR label	1%						Y

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE (V/V) <sup>(3)</sup>	CROP					
	ANNUAL GRASSES	PERENNIAL GRASSES		Alfalfa <sup>(4)</sup>	Cotton	Mint <sup>(4,5)</sup>	Peanut	Soybean	Sunflower
Willowood Clethodim 2EC + WARRIOR	10 to 16 fl oz <sup>(7)</sup> + Refer to WARRIOR label	10 to 16 fl oz + Refer to WARRIOR label	1%	X					
Willowood Clethodim 2EC + BAYTHROID®	10 to 16 fl oz <sup>(7)</sup> + Refer to BAYTHROID label	10 to 16 fl oz + Refer to BAYTHROID label	1%	X					
Willowood Clethodim 2EC + DIMETHOATE®	10 to 16 fl oz <sup>(7)</sup> + Refer to DIMETHOATE label	10 to 16 fl oz <sup>(7)</sup> + Refer to DIMETHOATE label	1%	X					
Willowood Clethodim 2EC + LORSBAN®	10 to 16 fl oz <sup>(7)</sup> + Refer to LORSBAN label	10 to 16 fl oz + Refer to LORSBAN label	1 to 2 pt <sup>(8)</sup>	X					
Willowood Clethodim 2EC + POUNCE®	10 to 16 fl oz <sup>(7)</sup> + Refer to POUNCE label	10 to 16 fl oz + Refer to POUNCE label	1%	X					

<sup>(1)</sup> If grass regrowth occurs or an additional flush of new grass emerges make a second application of Willowood Clethodim 2EC alone (without a tank mix fungicide) according to the appropriate size and rate recommendations

<sup>(2)</sup> Refer to Willowood Clethodim 2EC and fungicide label for rates and weeds and diseases controlled

<sup>(3)</sup> Always use a crop oil concentrate at the listed rate (but not less than 1 pt /A) in the finished spray volume

<sup>(4)</sup> Certain insecticides may cause temporary phytotoxic symptoms on alfalfa and mint foliage Refer to the insecticide label for further information It is suggested that prior to using any of these insecticides/herbicide tank mixtures that a small area of the field be treated first and observations for crop injury be made prior to treating the whole field

<sup>(5)</sup> The Willowood Clethodim 2EC rate should be 6 to 8 fl oz /A for annual grass control in baby mint minimum of 8 fl oz /A for annual grass control in established mint and 8 to 16 fl oz /A for perennial grass control Crop oil concentrate should be added at the rate of 1 0 to 2 0 pts /A

<sup>(6)</sup> Insecticide tank mix use with ORTHENE 90 S in soybean is permitted only in a state having an approved Section 24(c) registration for ORTHENE 90 S use in soybean

<sup>(7)</sup> The Willowood Clethodim 2EC rate should be 6 to 8 fl oz /A for annual grass control in seedling alfalfa

<sup>(8)</sup> For the Willowood Clethodim 2EC plus LORSBAN tank mix reduce the adjuvant rate down to 1 0 pt /A when the LORSBAN rate is 1 0 pt /A or higher

**Table 17 ROUNDUP READY VOLUNTEER CORN CONTROL IN ROUNDUP READY SOYBEAN WITH WILLOWOOD CLETHODIM 2EC HERBICIDE TANK MIX**

Roundup Ready Volunteer Corn Height (Inches)	Willowood Clethodim 2EC Rate fl oz /A	Glyphosate <sup>(1)</sup> rate for formulations with built in adjuvant	Adjuvant
<12	4	1 0 to 2 0 lb ai /A	Non ionic surfactant @ 0 125

Roundup Ready Volunteer Corn Height (Inches)	Willowood Clethodim 2EC Rate fl oz /A	Glyphosate <sup>(1)</sup> rate for formulations <b>with</b> built in adjuvant	Adjuvant
12 to 18	5	(Approximately equivalent to 22 to 44 fl oz /A of ROUNDUP Weather MAX)	to 0.25% v/v plus ammonium sulfate @ 8.5 to 17 lbs per 100 gals /of carrier
18 to 24	6		

Roundup Ready Volunteer Corn Height (Inches)	Willowood Clethodim 2EC Rate fl oz /A	Glyphosate <sup>(1)</sup> rate for formulations <b>without</b> built in adjuvant	Adjuvant
<12	4	Up to 2.0 lb ai /A (Equivalent to 32 to 64 fl oz /A of ROUNDUP Original)	Crop oil concentrate @ 1 pt /A plus ammonium sulfate @ 8.5 to 17 lbs per 100 gals of carrier
12 to 18	5		
18 to 24	6		

<sup>(1)</sup> Glyphosate formulation must be labeled for use on Roundup Ready soybean

#### THE MOST RESTRICTIVE LABELING OF ANY PRODUCT USED IN A TANK MIX MUST BE FOLLOWED

- Apply only to actively growing grass and broadleaf weeds at recommended height or growth stage listed on each label
- Apply under favorable soil moisture and humidity which exist a few days after rainfall or within seven days after irrigation
- Tank mix applications may sometimes result in reduced grass control. If regrowth occurs or an additional flush of new grass emerges, make a second application of Willowood Clethodim 2EC as specified in the respective size and rate tables
- Do not tank mix Willowood Clethodim 2EC when broadleaf weeds are tall and/or dense enough to prevent proper grass coverage
- This tank mix may be applied postemergence to ROUNDUP READY soybean up through the full flowering stage. Do not apply less than 60 days before harvest
- Avoid contact with foliage, green stems, or fruit of crops or any desirable plants and trees other than soybean with the ROUNDUP READY gene as severe injury or destruction will result
- Do not allow the Willowood Clethodim 2EC plus ROUNDUP to mist, drip, drift or splash onto desirable vegetation as minute quantities of the tank mix can cause severe damage or destruction to the crops, plants or other areas on which treatment was not intended. The likelihood of injury occurring from drift of this product is greatest when winds are gusty or in excess of 5 miles per hour. Even under lesser wind velocities, avoid conditions that allow spray drift to occur such as combinations of spray pressure and nozzle type that will result in fine particles (mist) that are likely to drift.

#### FALLOW LAND

##### DIRECTIONS FOR USE

Willowood Clethodim 2EC may be used to control annual and perennial grasses in land that has been left fallow the previous year and other non-producing agricultural areas. Apply Willowood Clethodim 2EC at 6 to 8 fl oz /A for annual grasses and 8 to 16 fl oz /A for perennial grasses. When both grass and broadleaf weeds are the target pest, Willowood Clethodim 2EC may be tank mixed with 2,4-D ester or BANVEL® SGF for broad spectrum control. When both annual and perennial grasses occur in the same field, use a minimum of 8 fl oz /A Willowood Clethodim 2EC rate.

## PRODUCT INFORMATION

- Use a minimum spray volume of 5 gals /A for aerial applications and 15 gals /A for ground applications
- Apply only to actively growing grasses when the first grass reaches the recommended weed height as specified by the Annual and Perennial Grasses section of this label
- Annual grasses that emerge after the Willowood Clethodim 2EC application will not be controlled and a second application may be necessary
- The control of perennial grasses may require more than 1 application in non tilled areas
- Do not plant any crop for 30 days after application unless clethodim is registered for use in that crop
- Do not apply to grasses that have tillered formed seedheads or exceeded recommended growth stage
- Do not use flood jet nozzles
- Do not apply to drought stressed grasses
- Do not mow area for 2 weeks prior to or after the Willowood Clethodim 2EC application

**Table 18 WILLOWOOD CLETHODIM 2EC IN TANK MIXES TO CONTROL ANNUAL AND PERENNIAL GRASSES IN FALLOW LAND**

PRODUCT	APPLICATION RATES/ACRE <sup>(1)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup> (V/V)	
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
Willowood Clethodim 2EC + 2 4 D ester or BANVEL SGF	6 to 8 fl oz + 0.5 lb /A or See BANVEL SGF label for rates	8 to 16 fl oz	1%	1%

<sup>(1)</sup> Refer to Willowood Clethodim 2EC label for weed height and species control. Review BANVEL SGF and 2 4 D labels for crop restrictions, use rates and weeds controlled.

<sup>(2)</sup> Always use a crop oil concentrate or methylated seed oil containing at least 15% emulsifier at the listed rate (but not less than 1 pt /A) in the finished spray volume.

GRASS SUPPRESSION IN NON CROP AREAS WITH WILLOWOOD CLETHODIM 2EC			
GRASS SPECIES	WEED STAGE	RATE FL OZ / ACRE	HIGH RATE
Annual and perennial grasses that exceed height claimed for control on height charts above	Up to and including grasses in the seed head stage	12	16
Do not apply as part of a tank mix when applying Willowood Clethodim 2EC for grass suppression. Add a crop oil concentrate at 1 qt /A by ground to the finished spray volume.			

**Table 19 WILLOWOOD CLETHODIM 2EC FOR THE CONTROL AND/OR SUPPRESSION OF TALL FESCUE IN NATIVE PRAIRIE WARM SEASON GRASS RESTORATION PROJECTS**

PRODUCT	PRODUCT RATES	GRASS WEEDS CONTROLLED/SUPPRESSED		WEED STAGES
		Common Name	Scientific Name	
Willowood Clethodim 2EC	10 to 12 fl oz /A	Tall Fescue	<i>Festuca arundinacea</i>	4 to 6 inches tall (40 to 60 % green up)
<b>Adjuvant</b> Willowood Clethodim 2EC must be applied with crop oil concentrate at 1 qt /A plus a surfactant.				

grade ammonium sulfate at 2.5 to 4 lbs /A. **Mixing Order** Thoroughly mix spray grade ammonium sulfate in water add Willowood Clethodim 2EC then add crop oil concentrate

### SPECIAL APPLICATION INSTRUCTIONS/PRECAUTIONS

Burn or mow fields a minimum of 3 weeks prior to application to remove excess crop residue. Apply in the spring at 40 to 60% tall fescue green up prior to emergence of warm season grasses. Do not mow area for 2 weeks after the Willowood Clethodim 2EC application.

Apply in a minimum of 15 to 20 gals of water per acre at a spray pressure of 40 to 60 PSI at the nozzle. Apply using flat fan or hollow cone nozzles. Do not use flood jet nozzles.

Apply only to fields that have warm season grasses established for 2 years. Applications of Willowood Clethodim 2EC to emerged warm season grasses may cause injury. Do not apply to warm season grasses grown for seed.

Do not graze treated fields or feed treated forage and or hay to livestock. Do not plant any crop for 30 days after application unless clethodim is registered for use in that crop.

**NOTE** Willowood Clethodim 2EC applications are most effective if applied when average nighttime temperatures are consistently greater than or equal to 47 F.

**Table 20 WILLOWOOD CLETHODIM 2EC FOR THE SUPPRESSION OF TALL FESCUE SEED HEADS IN NON PRODUCING AGRICULTURAL AREAS**

PRODUCT	PRODUCT RATE	SUPPRESSION	APPLICATION TIMING
Willowood Clethodim 2EC	1 1/2 to 2 fl oz /A	Tall Fescue Seed Heads ( <i>Festuca arundinacea</i> )	(50 to 90% Tall Fescue green up)
ADJUVANT Willowood Clethodim 2EC must be applied with crop oil concentrate at 1 qt /A plus a spray grade ammonium sulfate at 2.5 to 4 lb /A. <b>Mixing Order</b> Thoroughly mix spray grade ammonium sulfate in water add Willowood Clethodim 2EC Herbicide then add crop oil concentrate			

### SPECIAL APPLICATION INSTRUCTIONS/PRECAUTIONS

Apply at 50 to 90% tall fescue green up.

Use the higher Willowood Clethodim 2EC rate if less tall fescue green matter is present.

Do not mow area for two weeks after the Willowood Clethodim 2EC application.

Apply in a minimum of 15 to 20 gals of water per acre at a spray pressure of 40 to 60 psi at the nozzle. Apply using flat fan or hollow cone nozzles. Do not use flood nozzles.

2,4-D ester may be added to this tank mix for broadleaf control (see 2,4-D ester label for weeds controlled).

Do not graze treated fields or feed treated forage and/or hay to livestock. Do not plant any crop for 30 days after application unless clethodim is registered for use in that crop.

### DIRECTIONS FOR USE IN ORNAMENTALS

For ornamental plant uses Willowood Clethodim 2EC can be used to control labeled grass weeds in greenhouses, bathhouses, shadehouses, and around outdoor ornamentals including nurseries, parks, roadside plantings, and structure landscapes.

### IMPORTANT

Willowood Clethodim 2EC successfully controls weeds in newly transplanted and established non grassy ornamentals. Plant tolerance to Willowood Clethodim 2EC at labeled rates has been found to be acceptable for the indicated genera and species listed below. Due to variability within species, crop growth stage, environmental conditions, and application techniques, it is recommended that the user determine if herbicide can be used safely on a few plants prior to widespread application. Neither the seller nor the manufacturer of Willowood Clethodim 2EC have investigated the safety factor to ornamental plants not listed on the label.

The following plants have shown a tolerance for Willowood Clethodim 2EC applications

### ORNAMENTAL TREES

COMMON NAME	SCIENTIFIC NAME
Alder Red	<i>Alnus rubra</i>
Ash	<i>Fraxinus</i> spp
Basswood	<i>Tilia</i> spp
Birch European White	<i>Betula pendula</i>
Birch River	<i>Betula nigra</i>
Birch White	<i>Betula papyrifera</i>
Crabapple Flowering	<i>Malus halliana</i>
Dogwood Flowering	<i>Cornus florida</i>
Golden Chain Tree	<i>Laburnum anagyroides</i>
Maples	<i>Acer</i> spp
Mulberry White	<i>Morus alba</i>
Oaks	<i>Quercus</i> spp
Olive Wild	<i>Elaeagnus angustifolia</i>
Redbud Eastern	<i>Cercis Canadensis</i>
Sweet Gum American	<i>Liquidambar styraciflua</i>

### GROUND COVERS

COMMON NAME	SCIENTIFIC NAME
Bugleweed Carpet	<i>Ajuga reptans</i>
Ivy English	<i>Hedera helix</i>
Japanese Spurge	<i>Pachysandra terminalis</i>
Lilyturf	<i>Liriope muscari</i>
Moneywort	<i>Lysimachia nummularia</i>
Mondo Grass White	<i>Ophiopogon jaburan</i>
Mondo Grass Dwarf	<i>Ophiopogon japonicas</i>
Periwinkle Lesser	<i>Vinca minor</i>

### GARDEN FLOWERS AND PLANTS

COMMON NAME	SCIENTIFIC NAME
Ageratum	<i>Ageratum</i> spp
Alyssum Sweet	<i>Lobularia maritima</i>
Asparagus Fern	<i>Asparagus setaceus</i>
Bleeding Heart	<i>Dicentra spectabilis</i>
Cast Iron Plant	<i>Aspidistra elatior</i>
Chrysanthemum	<i>Chrysanthemum</i> spp
Cinquefoil	<i>Potentilla</i> spp
Coleus	<i>Coleus</i> spp
Coralbells	<i>Heuchera sanguinea</i>
Cranesbill	<i>Geranium</i> spp
Dahlia	<i>Dahlia</i> spp



COMMON NAME	SCIENTIFIC NAME
Daisy Trailing African	<i>Osteospermum fruticosum</i>
Daylily	<i>Hemerocallis</i> spp
Dusty Miller	<i>Senecio cineraria</i>
Euonymus	<i>Euonymus</i> spp
Gazania	<i>Gazania</i> spp
Geranium House	<i>Pelargonium hortorum</i>
Heather False	<i>Cuphea hyssopifolia</i>
Hosta	<i>Hosta fortunei</i>
Iris	<i>Iris</i> spp
Jasmine Tobacco	<i>Nicotiana glauca</i>
Loosestrife	<i>Lythrum salicaria</i>
Marigold	<i>Tagetes</i> spp
Partridgeberry	<i>Mitchella repens</i>
Petunia	<i>Petunia hybrida</i>
Phlox	<i>Phlox</i> spp
Pinks	<i>Dianthus</i> spp
Portulaca	<i>Portulaca grandiflora</i>
Salvia	<i>Salvia</i> spp
Saxifrage	<i>Saxifrage</i> spp
Sedum	<i>Sedum</i> spp
Selloum	<i>Philodendron selloum</i>
Snapdragon	<i>Antirrhinum majus</i>
Sweet Flag	<i>Acorus gramineus</i>
Tickseed	<i>Coreopsis grandiflora</i>
Touch Me Not	<i>Impatiens</i> spp
Verbena	<i>Verbena</i> spp
Violet	<i>Viola</i> spp
Yarrow Common	<i>Achillea millefolium</i>
Zinnia	<i>Zinnia elegans</i>

Slight foliage or flower speckling has been observed on these species

#### SHRUBS

COMMON NAME	SCIENTIFIC NAME
Abelia	<i>Abelia</i> spp
Anise Purple	<i>Illicium floridanum</i>
Aucuba	<i>Aucuba</i> spp
Azalea	<i>Rhododendron</i> spp
Bamboo	<i>Bambusa</i> spp
Barberry Japanese	<i>Berberis thunbergii</i>
Barberry Magellan	<i>Berberis buxifolia</i>
Bayberry	<i>Myrica pensylvanica</i>
Bottlebrush	<i>Callistemon citrinus</i>
Boxwood Common	<i>Buxus sempervirens</i>
Camellia Common	<i>Camellia japonica</i>
Candytuft	<i>Iberis sempervirens</i>
Cleyera	<i>Cleyera japonica</i>
Coralberry	<i>Ardisia crenata</i>
Crape Myrtle	<i>Lagerstroemia indica</i>
Coyote Brush	<i>Baccharis pilularis</i>
Fig Creeping	<i>Ficus pumila</i>
Gardenia	<i>Gardenia</i> spp
Holly	<i>Ilex</i> spp
Honeysuckle	<i>Lonicera</i> spp

COMMON NAME	SCIENTIFIC NAME
Indian Hawthorn	<i>Raphiolepis indica</i>
Jasmine	<i>Jasminum</i> spp
Jasmine Asiatic	<i>Trachelospermum asiaticum</i>
Jasmine Star	<i>Trachelospermum jasminoides</i>
Juniper	<i>Juniperus</i> spp
Lantana	<i>Lantana</i> spp
Nandina Bamboo Heavenly	<i>Nandinia domestica</i>
Oleander Common	<i>Nerium oleander</i>
Oregon Grape	<i>Mahonia aquifolium</i>
Photinia	<i>Photinia</i> spp
Pittosporum	<i>Pittosporum</i> spp
Podocarpus	<i>Podocarpus</i> spp
Privet	<i>Ligustrum</i> spp
Pyracantha	<i>Pyracantha</i> spp
Rhododendron	<i>Rhododendron</i> spp
Rose	<i>Spiraea bumalda</i>
Sweet Olive	<i>Osmanthus fragrans</i>
Viburnum	<i>Viburnum tinus</i>
Wisteria	<i>Wisteria</i> spp
Yellow Sage/Shrub Verbena	<i>Lantana camara</i>

Slight foliage or flower speckling has been observed on these species

#### ANNUAL GRASSES IN ORNAMENTALS

- Apply only to actively growing grasses at recommended weed heights
- Apply when the first grass weed species in a mixed grass and weed population reaches the recommended growth stage for treatment
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT INCHES	RATE FL OZ /ACRE <sup>(1)</sup>	HIGH RATE <sup>(2)</sup>
Barnyardgrass	<i>Echinochloa crus galli</i>	2 to 8	8	16
Broadleaf Signalgrass	<i>Brachiaria platyphylla</i>	2 to 6	8	16
Brome				
California	<i>Bromus carinatus</i>	2 to 6	8	16
Cheat	<i>Bromus secalinus</i>	2 to 6	8	16
Downy	<i>Bromus tectorum</i>	2 to 6	8	16
Ripgut	<i>Bromus diandrus</i>	2 to 6	8	16
Canarygrass	<i>Phalaris canariensis</i>	1 to 4	8	16
Crabgrass				
Hairy	<i>Digitaria adscendens</i>	2 to 6	8	16
Large	<i>Digitaria sanguinalis</i>	2 to 6	8	16
Smooth	<i>Digitaria ischaemum</i>	2 to 6	8	16
Southern	<i>Digitaria ciliaris</i>	2 to 6	8	16
Crowfootgrass	<i>Dactyloctenium aegyptium</i>	2 to 6	8	16
Fall Panicum	<i>Panicum dichotomiflorum</i>	2 to 8	8	16
Field Sandbur	<i>Cenchrus incertus</i>	2 to 6	8	16
Foxtail				
Giant	<i>Setaria faberi</i>	2 to 12	8	16
Green	<i>Setaria viridis</i>	2 to 8	8	16
Yellow	<i>Setaria glauca</i>	2 to 8	8	16
Goosegrass	<i>Eleusine indica</i>	2 to 6	8	16
Itchgrass	<i>Rottboellia cochlin</i>	2 to 6	8	16
Junglerice	<i>Echinochloa colona</i>	2 to 6	8	0

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT INCHES	RATE FL OZ /ACRE <sup>(1)</sup>	HIGH RATE <sup>(2)</sup>
Lovegrass (Stinkgrass)	<i>Eragrostis cilianensis</i>	2 to 6	8	16
Rabbitsfootgrass	<i>Polypogon monspeliensis</i>	1 to 4	8	16
Red Rice	<i>Oryza sativa</i>	1 to 3	8	16
Ryegrass				
Hardy	<i>Lolium remotum</i>	2 to 6	8	16
Italian	<i>Lolium multiflorum</i>	2 to 6	8	16
Seedling Johnsongrass	<i>Sorghum halepense</i>	4 to 10	8	16
Shattercane	<i>Sorghum bicolor</i>	6 to 18	8	16
Southwestern Cupgrass	<i>Eriochloa gracilis</i>	2 to 6	8	16
Sprangletop				
Amazon	<i>Leptochloa panicoides</i>	2 to 6	8	16
Bearded	<i>Leptochloa fascicularis</i>	2 to 6	8	16
Mexican	<i>Leptochloa uninervia</i>	2 to 6	8	16
Red	<i>Leptochloa filiformis</i>	2 to 6	8	16
Texas Panicum	<i>Panicum texanum</i>	2 to 6	8	16
Volunteer Cereals				
Barley	<i>Hordeum vulgare</i>	2 to 6	8	16
Oats	<i>Avena sativa</i>	2 to 6	8	16
Rye	<i>Secale cereale</i>	2 to 6	8	16
Wheat	<i>Triticum aestivum</i>	2 to 6	8	16
Volunteer Corn	<i>Zea mays</i>	4 to 12	6	8
Volunteer Corn	<i>Zea mays</i>	12 to 24	8	16
Volunteer Grain Sorghum	<i>Sorghum bicolor</i>	8 to 12	8	16
Wild Oats	<i>Avena fatua</i>	2 to 6	8	16
Wild Proso Millet	<i>Panicum miliaceum</i>	2 to 10	8	16
Witchgrass	<i>Panicum capillare</i>	2 to 8	8	16
Woolly Cupgrass	<i>Eriochloa villosa</i>	2 to 8	8	16

Generally occurs between 3 leaf stage and tillering

Length of lateral growth

<sup>(1)</sup> 8 fl oz /A = approximately 0.2 fl oz /1000 sq ft

<sup>(2)</sup> 16 fl oz /A = approximately 0.4 fl oz /1000 sq ft

Add a non ionic surfactant containing at least 80% active ingredient at the rate of 1 pt per 50 gals (0.25% v/v)

ANNUAL BLUEGRASS CONTROL WITH WILLOWOOD CLETHODIM 2EC IN ORNAMENTALS				
GRASS SPECIES	WEED STAGE	RATE FL OZ / ACRE	HIGH RATE	
Annual Bluegrass ( <i>Poa annua</i> )	to 4 leaf	6	16	
<p>Apply under favorable soil moisture and humidity that exists within a few days after rainfall or within 7 days after irrigation. Grass needs to be actively growing at time of application(s).</p> <p>Apply at weed stage indicated on the label as reduced control can be expected with more mature annual bluegrass.</p> <p>Use the high rate under heavy grass pressure and/or when annual bluegrass is more mature.</p> <p>Add a non ionic surfactant containing at least 80% active ingredient at the rate of 1 pt per 50 gals (0.25% v/v).</p>				

## PERENNIAL GRASSES

- Apply only to actively growing grasses at recommended weed heights
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height

GRASS SPECIES	WEED HEIGHT (inches)	RATE FL OZ / ACRE <sup>(1)</sup>	HIGH RATE <sup>(2)</sup>
<b>Bermudagrass (<i>Cynodon dactylon</i>)</b>			
First Application	3 (or up to 6 runners)	8	16
Repeat Application(s) (if regrowth occurs)	3 (or up to 6 runners)	8	16
<b>Quackgrass (<i>Elytrigia repens</i>)</b>			
First Application	4 to 8	8	16
Repeat Application(s) (if regrowth occurs)	4 to 8	8	16
<b>Rhizome Johnsongrass (<i>Sorghum halepense</i>)</b>			
First Application	12 to 24	8	16
Repeat Application(s) (if regrowth occurs)	6 to 18	6	8
<b>Wirestem Muhly (<i>Muhlenbergia frondosa</i>)</b>			
First Application	4 to 8	8	16
Repeat Application(s) (if regrowth occurs)	4 to 8	8	16

<sup>(1)</sup> 8 fl oz /A = approximately 0.2 fl oz /1000 sq ft

<sup>(2)</sup> 16 fl oz /A = approximately 0.4 fl oz /1000 sq ft

Add a non ionic surfactant containing at least 80% active ingredient at the rate of 1 pt per 50 gals (0.25% v/v)

## STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage, disposal or cleaning of equipment.  
Open dumping is prohibited.

### PESTICIDE STORAGE

Keep pesticide in original container. Do not put concentrate or dilute into food or drink containers. Store in cool, dry place. Do not store diluted spray.

### PESTICIDE DISPOSAL

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

### CONTAINER HANDLING

#### [NONREFILLABLE CONTAINERS]

Nonrefillable container: Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying.

(Nonrefillable plastic container ≤ 5 gallons) Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning; if burned, stay out of smoke.

(Nonrefillable plastic container > 5 gallons) Triple rinse as follows: Empty the remaining contents into

application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth ensuring at least one complete revolution for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by incineration or if allowed by state and local authorities by burning. If burned stay out of smoke.

(Nonrefillable metal container > 5 gallons) Triple rinse as follows. Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth ensuring at least one complete revolution for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

#### **[REFILLABLE CONTAINERS]**

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

To clean the container before final disposal empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill or by incineration or if allowed by state and local authorities by burning. If burned stay out of smoke.

#### **CONDITION OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

**NOTICE** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable return the product at once unopened and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather, presence of other materials or other influencing factors in the use of the product which are beyond the control of Willowood LLC or Seller. To the extent consistent with applicable law all such risks shall be assumed by Buyer and User and Buyer and User agree to hold Willowood LLC and Seller harmless for any claims relating to such factors.

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