

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

Mr.Bill Washburn **Product Registration** Arysta Lifescience NA Corporation 15401 Weston Parkway Suite 150 Cary, NC 27513

FEB 2 9 2008

SUBJECT:

Application for Pesticide Notification (PRN 98-10)

Request General Label Change (Correct Typo)

EPA Reg. No. 66330-353

Application Dated January 28, 2008

Dear Registrant:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 01/28/08 for the above product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall 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 call me directly at 703-305-6249 or Owen F. Beeder of my staff at 703-308-8899.

Sincerely,

Linda Arrington

Notifications & Minor Formulations Team Leader

Registration Division (7505P)

Office of Pesticide Programs

January 28, 2008

VIA FEDEX DELIVERY (Tracking No. 7997 9161 3862)

Mr. Erik Kraft
Acting Product Manager 23
Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504P)
U.S. Environmental Protection Agency
Room S-4900, One Potomac Yard
2777 South Crystal Drive
Arlington, VA 22202-4501

Dear Mr. Kraft:

Subject:

Clethodim 2EC Herbicide2

EPA Registration Number 66330-353 Notification to Correct Typo to Peas PHI

Please find enclosed a notification from Arysta LifeScience North America Corporation (ALSNA) to alert the Agency to the correction of the typographical error identified in the Agency letter (attached) dated January 10, 2008. The following enclosures and attachments are included in this registration application:

1. EPA Form 8570-1 (Application for Registration Amendment)

One copy of EPA Form 8570-1 (*Application for Registration Amendment*) dated January 28, 2008 is enclosed. This notification is not subject to PRIA.

2. <u>Draft Label for Clethodim 2EC Herbicide</u>₂ (Filename: ASNA Clethodim 2EC(353-012808).doc

Five copies of a draft label for Clethodim 2EC Herbicide $_2$ (Filename: ASNA Clethodim 2EC(353-012808).doc are enclosed. One opp is highlighted showing the typographical error correction. Coe page 18)

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 USC 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 may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Please call on me at the e-mail address or telephone number shown below if you require any additional information or assistance in this matter. Thank you for your time and assistance in the registration of this product.

Very truly yours,

Bill Washburn

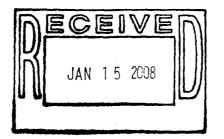
Regulatory Manager

Phone: (901) 432-5118
E-Mail: bill.washburn@arystalifescience.com

Please read instructions on reverse before completing for	orm	Form Approve	ed, OMB No. 2070-0	0060, Approval expires 05-31-98
Unite	ed States	☐ Registra		OPP Identifier Number
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4. Company/Product (Name) Clethodim 2EC Herbicide2	PM# Acting I	PM 23		None Restricted
5. Name and Address of Applicant (Include ZIP Code	e) 6. Expe	dited Review. In		ith FIFRA Section 3(c)(3)
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Resubmission in response to Agency letter dat	ed <u>1/10/08</u>	"Me Too" Applic		
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Notification of correction of typo on Phnotification is consistent with the provision changes have been made to the labeling violation of 18 USC Sec 1001 to willfully made consistent with the terms of PR Notice 98-enforcement action and penalties under second	s of PR Notice 98-10 or the confidential stat nake any false statem -10 and 40 CFR 152.4	and EPA regulati tement of formula ent to EPA. I furt 46, this may be in	ions at 40 CFR a of this product ther understand	152.46, and no other
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Material This Product Will Be Packaged In:				
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		Yes No		Metal Plastic
If "Yes"	No. per	If "Yes"	No. per	Glass
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3. Location of Net Contents Information	4. Size(s) Retail Containe	er	5. Location of	Label Directions
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Contact Point (Complete items directly below for Mame	identification of Individual to	o be contacted, il nec		this application) Felephone No. (Include Area
Bill Washburn	Regulatory	Manager		Code) 901-362-1950, ext. 1323
	Certification			6. Date Application
I certify that the statements I have made on this forr acknowledge that any knowingly false or misleading under applicable law.	n and all attachments there statement may be punisha			Received (Stamped)
2. Signature Lieu Washler	3. Title Regulatory	Manager		
4. Typed Name Bill Washburn	5. Date	5. Date 1/28/08		



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460



COPY

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

1-10-08

Bill Washburn Arysta LifeSciences North America Corporation 15401 Western Parkway, Suite 150 Cary, NC 27513

Dear Mr. Washburn:

Subject:

Clethodim 2EC Herbicide₂

EPA Registration No. 66330-353

Our scientists have noticed that some clethodim labels have discrepancies in the directions for use. For example, for this product on page 18 for peas, succulent the PHI is listed as 21 days but the restriction states "For peas apply before bloom, but no later than 30 days before harvest". The cited me-too product has a 21 day restriction. Submit five corrected labels by notification within 75 days from receipt of this letter.

If you have any questions concerning this letter, please contact Mr. James Stone at 703-305-7391.

Sincerely yours,

Erik Kraft

Acting Product Manager (23)

Herbicide Branch

Registration Division (7505P

CLETHODIM 2EC HERBICIDE₂

(ALTERNATE BRAND NAME: SHADOW HERBICIDE)

Contains: 2.0 lbs. Clethodim per gallon

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
IF IN EYES:	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.
	Call a poison control center or doctor for treatment advice.
IF ON SKIN OR	Take off contaminated clothing.
CLOTHING:	Rinse skin immediately with plenty of water for 15-20 minutes.
	Call a poison control center or doctor for further treatment advice.
IF SWALLOWED:	Immediately call a poison control center or doctor.
	Do not induce vomiting unless told to do so by the poison control center or
	doctor.
	Do not give any liquid to the person.
	Do not give anything by mouth to an unconscious person.
IF INHALED:	Move person to fresh air.
	If person is not breathing, call 911 or an ambulance, then give artificial
	respiration, preferably mouth-to-mouth, if possible.
	Call a poison control center or doctor for treatment advice
NOTE TO PHYSICIAN: In	ngestion of this product or subsequent vomiting can result in aspiration of light
	can cause pneumonitis. If ingested, probable mucosal damage may contraindicate
the use of gastric lavage.	
	HOT LINE NUMBER
Have the product contained treatment.	er or label with you when calling a poison control center or doctor, or going for
FOR 24- HOUR EMERGEN'	Y MEDICAL ASSISTANCE CALL: 1-866-303-6952

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300

EPA REG. NO.: 66330-353

AD XXXXXX NET CONTENTS: EPA EST. NO.: xxx-xx-xx

MANUFACTURED FOR:
ARYSTA LIFESCIENCE NORTH AMERICA CORPORATION
15401 WESTON PARKWAY, SUITE 150
CARY, NC 27513

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS & DOMESTIC ANIMALS WARNING

Causes substantial but temporary eye irritation. Avoid contact with skin. Do not get in eyes, on clothing or on skin. Harmful if swallowed or inhaled. Avoid breathing vapors or spray mist. Prolonged or frequent 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
- 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 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 area 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 ENTIRE LABEL AND PAMPHLET. 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 produce 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:

- Coverails
- Chemical-resistant gloves, such as Barrier Laminate or Viton ≥ 14 mils
- · Shoes plus socks
- 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 or allow other persons to enter treated areas without protective clothing until sprays have dried.

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.

GENERAL INFORMATION

This product is for use on the following:

Alfalfa, Asparagus, Bean and Pea (dry shelled)¹, Bean and Pea (succulent)², Broccoli, Cabbage, Canola*, Carrot, Cauliflower (and other Head and Stem Brassica Vegetables)³, Celery, Clover (grown in Idaho, Oregon and Washington only), Conifers, Cotton, Cranberry, Cucumber, Eggplant (and other Fruiting Vegetables)⁴, Fallow Land (and other non-producing agricultural areas), Flax*, Garden Beets, Garlic, Herbs⁵, Hops, Horseradish (and other Root Vegetables)⁶, Legume Vegetables (edible podded)⁷, Lettuce, Head and Leaf (and other leafy greens)⁸, Melons (including Cantaloupes and Watermelons)⁹, Mint, Mustard Greens (and other leafy brassica greens)¹⁰, Mustard Seed*, Non-Bearing Food Crops, Non-Crop or Planted Areas, Onions (dry bulb and green), Ornamentals, Peanut (including perennial), Peppers (bell and non-bell), Potato, Radish, Rhubarb, (and other leafy Petioles)¹¹, Safflower, Sesame, Shallots (dry bulbs and green), Squash (including Pumpkins)⁹, Soybeans, Strawberry, Sugar Beet, Sunflower, Sweet Potato, Tomato, Turnip Greens and Yam (and other Tuberous and Corm Vegetables)¹²

* Not for use in California

¹ Other Dry Shelled Bean and Pea crops approved for use with this product include: Bean (*Lupinus* spp.)grain, sweet, white and sweet; Bean (*Phaseolus* spp.), field, kidney, lima (dry), navy, pinto and tepary; Bean (*Vigna* spp.), adzuki, 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

² Other Succulent Bean and Pea crops approved for use with this product include: Bean (*Lupinus* spp.)grain, sweet, white and sweet; Bean (*Phaseolus* spp.), field, kidney, lima (dry), navy, pinto and tepary; Bean (*Vigna* spp.), adzuki, 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

³ Other Head and Stem Brassica approved for use with this product include: Chinese broccoli, Brussels sprouts, Chinese (napa) cabbage, Chinese mustard, cavalo broccolo, and kohlrabi

⁴ Other Fruiting Vegetables (except tomato) approved for use with this product include: eggplant, groundcherry, Pepino, peppers (all) and tomatillo

Other Herb crops approved for use with this product: angelica, balm, basil, borage, burnet, chamomile, catnip, chervil, (dried), chive, Chinese chive, clary, coriander (leaf), costmary, culantro (leaf), curry (leaf), dill (dillweed), horehound, hyssop, lavender, lovage (leaf), marigold, marjoram (origanum spp), nasturtium, parsley (dried), pennyroyal, rosemary, rue, sage and savory, summer and winter.

⁶ Other Root Vegetables approved for use with this product include: burdock, edible; celeriac; chervil, turnip-rooted; chicory, ginseng; parsley, turnip-rooted; parsnip; radish, oriental; rutabaga; salsify; salsify, black; salsify, Spanish; skirret and turnip.

Other Edible Podded Legume Vegetable crops approved for use with this product: 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.

Other Leafy Greens crops approved for use with this product 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)).

Other Cucurbit crops approved for use with this product include: chayote (fruit), Chinese wax gourd, citron melon, edible gourd,

gherkin and muskmelons (all, including honeydew melon).

¹⁰ Other Leafy Brassica Greens approved for use with this product include: broccoli raab, Chinese (bok choy) cabbage, collards, kale, mizuna, mustard greens, mustard spinach, rape greens.

11 Other Leaf Petiole crops approved for use with this product include: cardoon, celtuce, Chinese celery, Florence fennel, and Swiss

¹² Other Tuber and Corm Vegetables approved for use with this product include: arracacha, arrowroot, Chinese artichoke, Jerusalem artichoke, edible canna, bitter and sweet cassava, chayote (root), chufa, dasheen (taro), ginger, leren, tanier, tumeric and bean vam.

This product is a selective postemergence herbicide for control of annual and perennial grasses. CLETHODIM 2EC does not control sedges or broadleaf weeds and is not recommended for use on vegetable crops being grown for seed production unless specific instructions are included in this labeling.

Repeated use of 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. Biotypes are naturally occurring individuals of a species that are identical in appearance but have slightly different genetic compositions; the mode of action of a herbicide is the chemical interaction that interrupts a biological process necessary for plant growth and development.

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

Contact of this product with desirable grass crops, such as corn, rice, sorghum, small grains, or turf should be avoided as these and other grass crops will be injured or killed. Minor leaf spotting can occur on treated plants under certain environmental conditions. New foliage is not affected.

SYMPTOMS OF CONTROL

The 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. Depending on grass species treated and environmental conditions, symptoms will generally be observed in 7 to 14 days after application.

APPLICATION INFORMATION

Timing

Make application of CLETHODIM 2EC postemergence to actively growing grasses according to the rate table recommendations. Do not make application to grass plants stressed by insufficient moisture or hot or cold temperature. Applications to grass plants exceeding recommended growth stages could result in unsatisfactory control. Do not make applications when this occurs.

When irrigation is used to supplement limited rainfall in arid regions, CLETHODIM 2EC should be applied as soon as possible, after an irrigation (within 7 days). A second application of this product will generally provide more effective control of perennial grass weed than a single application in arid regions. Apply a 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 this product could reduce weed control. DO NOT APPLY if rainfall is expected within one hour as control may be reduced.

ADJUVANT OR CROP OIL CONCENTRATE RECOMMENDATIONS

Alfalfa, Cotton, Dry Shelled Bean & Pea, Edible Podded Legume Vegetables, Peanuts (including perennial), Potato, Soybean, Succulent Bean & Pea, Sugar Beet and Sunflower: 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. 1-to-2 qts/A liquid fertilizer (10-34-0, 28% N or 32% N) or an equivalent amount of spray grade ammonium sulfate (AMS) (2.5 to 4.0 lbs/A) can be added to 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, red rice, rhizome Johnsongrass, volunteer cereals, volunteer corn and wild oats.

*Crop oil concentrates that are acceptable would be those that contain a minimum of 80% oil and 15% emulsifier. A crop oil concentrate must contain either a petroleum or vegetable oil base and must meet all the following criteria: (a) 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.

Asparagus, 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 and Green), Root Vegetables, Safflower, Sesame, Shallots (Dry Bulb and Green), Strawberry, Sweet Potato (Yam and Other Tuberous and Corm Vegetables except Potato) and Tomato: Unless tank mix instructions indicate otherwise, always use a crop oil concentrate at 1% v/v in the finished spray volume. The addition of a liquid fertilizer is not recommended for these crops.

Ornamental Plants and Non-Bearing Food Crops: Add a nonionic surfactant containing at least 80% active ingredient at the rate of 1 pint per 50 gallons (0.25% v/v). The use of a crop oil concentrate is not recommended as it could injure flowers and foliage.

Conifer Trees, Fallow Land (and other non-producing agricultural areas), 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.

GROUND APPLICATION

To ensure complete coverage, it is essential to use sufficient spray volumes and pressure. Use a minimum of 5 gals. and a maximum of 40 gallons of spray solution per acre. A minimum of 10 gallons per acre is required under the following conditions: 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 gallons per acre under these conditions can result in poor coverage and reduced grass control requiring repeat application. Spray pressures should reflect a minimum of 30 psi and a maximum of 60 psi at the nozzle. Do not use flood nozzles.

A minimum application of 20 gallons of spray solution per acre should be made to onions (dry bulbs and green), garlic and shallots (dry bulbs and green).

AIR APPLICATION

Use a minimum of 3 gallons of spray solution per acre unless otherwise directed in this label. If grass or crop foliage becomes dense, increase spray volumes up to 10 gallon.

For onions (dry bulbs and green), garlic or shallots (dry bulbs and green): Do not exceed 8 fl oz/A in a single application when applying by air. In California when applying by air to onions, garlic or shallots application should be made in a minimum of 20 gals spray solution per acre.

NOTE: Crop injury can occur when this product is applied to onions, garlic or shallots with aerial equipment,

Spot Treatment

Mix 1/4% to 1/2% (0.33 oz to 0.65 oz per gal) product when using hand sprayers or high volume sprayers utilizing hand guns. While not allowing runoff of spray solution, apply to wet vegetation. For uses requiring crop oil concentrate,

include crop oil concentrate at 1% (1.3 oz per gal) by volume. For uses requiring nonionic surfactant, include nonionic surfactant at ¼% (0.33 oz per gal) by volume.

NOTE: If 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 could occur.

CHEMIGATION – ONIONS (Dry Buibs and Green) AND GARLIC SPRINKLER IRRIGATION APPLICATION

DO NOT APPLY THIS PRODUCT BY CHEMIGATION IN THE STATES OF IDAHO, MONTANA, OREGON AND WASHINGTON.

Apply 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 oil concentrate containing at least 15% emulsifier at 1 quart per acre.

Make application of 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 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.

General Precautions

- 1. Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move system(s). 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 can result from non-uniform distribution of treated water.
- 3. If you have 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 pesticide label-prescribed safety devices for public water systems are in place.
- 5. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Sprinkler Chemigation Precautions

- 1. 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 back flow.
- 2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3. 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.
- 4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

- 5. 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.
- 6. 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.
- 7. Do not apply when wind speed favors drift beyond the area intended for treatment.

Chemigation Systems Connected to Public Water Systems

- 1. 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 regular serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap)between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection.
- 4. The pesticide injection pipeline must 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.
- 5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6. 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.
- 7. Do not apply when wind speed favors drift beyond the area intended for treatment.

RESTRICTIONS AND LIMITATIONS

Tank mixes of CLETHODIM 2EC and broadleaf herbicides may result in reduced grass control. If grass regrowth occurs, an additional application of this product may be necessary.

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

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 CLETHODIM 2EC or reduced grass control may result.

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

Do not apply more than 6 fl oz of CLETHODIM 2EC (0.09 lb a.i.) per acre per season for canola. Do not apply more than 16 fl oz of CLETHODIM 2EC (0.25 lb a.i.) per acre per season for clover, flax, mustard seed and radish crops. Do not apply more than 32 fl oz of CLETHODIM 2EC (0.50 lb a.i.) per acre per season for all other crops. Application on Long Island, New York is restricted to no more than 16 fl oz of CLETHODIM 2EC (0.25 lb a.i.) per acre per season.

Do not apply more than 8 fl oz/A of 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 this product **per application** to canola or mustard seed. For all other crops, do not apply more than 16 fl. oz. of this product (0.25 lb. a.i) per acre per application. (**Exceeding these recommendations could result in unacceptable crop injury**.

This product is not recommended for use on vegetable crops being grown for seed production unless specific use directions are provided.

While all the vegetable crops on this label have been tested and are tolerant to CLETHODIM 2EC, not all specialty varieties of these crops have been tested. Before applying CLETHODIM 2EC to specialty varieties of vegetable crops on this label, it is advised that 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.

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

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

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR

IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS!

See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

CONTROLLING DROPLET SIZE - GENERAL TECHNIQUES

Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

Pressure - Use the lower spray pressures recommended for nozzle. Higher pressure reduces droplet size and does not improve canopy penetration.

WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.

Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

CONTROLLING DROPLET SIZE - AIRCRAFT

Number of Nozzles - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.

Nozzle Orientation - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.

Nozzle Type - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.

Boom Length - The boom length should not exceed 3/4 of the wing or rotor length - longer booms increase drift potential.

Application Height - Application more than 10 ft above the canopy increases the potential for spray drift.

BOOM HEIGHT

Setting the boom at the lowest labeled height (if specified), which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

WIND

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

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.

RECOMMENDED USE RATES/RESTRICTIONS/LIMITATIONS

CROPS ⁽¹⁾	MINIMUM TIME	USE RATES PER	CROP OIL	SPECIAL USE
	FROM APPLICATION TO HARVEST (PHI)	ACRE	CONCENTRATE RATES PER ACRE ⁽²⁾	INSTRUCTIONS
Alfalfa including: Sainfoin Holy Clover Birdsfoot trefoil ⁽³⁾	15 days before grazing, feeding or harvesting (cutting) for forage or hay	6 – 16 fl. oz. ⁽⁴⁾	1 qt. By ground or 1% v/v ,but not less than 1 pt/A, by air ⁽⁵⁾	Do not plant rotational crops until 30 days after application of CLETHODIM 2EC ⁶ . Adding AMS has shown improved grass control for difficult to control species including: quackgrass, red rice, rhizome Johnsongrass, volunteer cereals, volunteer corn and wild oats
Asparagus	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. A minimum 14-day interval required for repeat applications.

CROPS ⁽¹⁾	MINIMUM TIME FROM APPLICATION TO HARVEST (PHI)	USE RATES PER ACRE	CROP OIL CONCENTRATE RATES PER ACRE ⁽²⁾	SPECIAL USE INSTRUCTIONS
Beans, Dry Shelled including: Bean (Lupinus spp) Grain Sweet White White Sweet Bean (Phaseolus spp.) Field Kidney Lima (dry) Navy Pinto 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 Lahlah Rean	30 days	6 – 16 fl. oz.	1 qt. by ground or 1% v/v ,but not less than 1 pt/A, by air ⁽⁵⁾	Do not apply more than 16 fl oz/A in a single application. A minimum 14-day interval required for repeat applications. For reduced rate recommendations for the control of small annual grasses, refer to the appropriate Table. Adding AMS has shown improved grass control for difficult to control species including; quackgrass, red rice, rhizome Johnsongrass, volunteer cereals, volunteer corn and wild oats.
Bean, Succulent including: Bean (Phaseolus spp.) Broad Bean (succulent) Lima (dry) Bean (Vigna spp.) Black-eyed Pea Cowpea Southern Pea	21 days	6 – 8 fl. oz.	1 qt. by ground or 1% v/v ,but not less than 1 pt/A, by air ^(S)	For reduced rate recommendations for the control of small annual grasses, refer to the appropriate Table. Do not apply more than one (1) application per acre per season. Adding AMS has shown improved grass control for difficult to control species including; quackgrass, red rice, rhizome Johnsongrass, volunteer cereals, volunteer corn and wild oats.
Beet, Garden	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. A minimum 14-day interval required for repeat applications.

CROPS ⁽¹⁾	MINIMUM TIME FROM APPLICATION TO HARVEST (PHI)	USE RATES PER ACRE	CROP OIL CONCENTRATE RATES PER ACRE ⁽²⁾	SPECIAL USE INSTRUCTIONS
Canola	70 days	4 – 6 fl. oz.	1% v/v in the finished spray volume	Do not apply after crop has begun bolting. Do not exceed 16 fl oz/A in a season. Crop injury could occur when this product is applied
Carrot	30 days	6 – 8 fl. oz.	1% v/v in the finished spray volume	during the bloom period Do not apply more than 8 fl oz/A in a single application. A minimum 14-day interval required for repeat
Clover	15 days before grazing, feeding, or harvesting (cutting) for forage or hay	6 – 16 fl. oz.	1% v/v in the finished spray volume	applications. Do not exceed 16 fl oz/A in a season. For use on clover grown in the states of Idaho, Oregon and Washington only.
Cotton	60 days	6 – 16 fl. oz.	1 qt. by ground or 1% v/v ,but not less than 1 pt/A, by air ⁽⁵⁾	Do not graze treated fields or feed treated forage or hay to livestock. Adding AMS has shown improved grass control for difficult to control species including; quackgrass, red rice, rhizome Johnsongrass, volunteer cereals, volunteer corn and wild oats.
Cranberry	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. A minimum 14-day interval required for repeat applications.

CROPS ⁽¹⁾	MINIMUM TIME FROM APPLICATION TO HARVEST (PHI)	USE RATES PER ACRE	CROP OIL CONCENTRATE RATES PER ACRE ⁽²⁾	SPECIAL USE INSTRUCTIONS
Cucurbits, including: Chayote (fruit) Chinese Wax Gourd Citron Melon Cucumber Gherkin Gourd, Edible Muskmelons (all) including: Cantaloupes Honeydew Melon Pumpkins Squash (all)	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. A minimum 14-day interval required for repeat applications.
Watermelon Fallow Land Conifer Trees (and other non- producing agricultural areas) Non-Crop or Non- Planted areas	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 following application unless clethodim is registered for use on that crop
Flax	60 days	6 – 8 fl. oz.	1% v/v in the finished spray volume	Do not exceed 16 fl oz in a season Make application prior to bloom. If applied during bloom, crop injury could occur.
Fruiting Vegetables (except Tomato) including: Eggplant Groundcherry Pepino Peppers (all) Tomatillo	20 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. A minimum 14-day interval required for repeat applications.
Head & Stem Brassica Vegetables, including: Broccoli Cabbage Cauliflower Brussels Sprouts	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. A minimum 14-day interval required for repeat applications.

CROPS ⁽¹⁾	MINIMUM TIME FROM APPLICATION TO HARVEST (PHI)	USE RATES PER ACRE	CROP OIL CONCENTRATE RATES PER ACRE ⁽²⁾	SPECIAL USE INSTRUCTIONS
Herbs including: Angefica Balm Basil Borage Burnet Chamomile Catnip Chervil, (dried) Chive Chinese chive Clary Coriander (leaf) Costmary Culantro (leaf) Cury (leaf) Dill (dillweed) Horehound Hyssop Lavender Lovage (leaf) Marigold Marjoram (origanum 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	This product has not been tested on all herbs, and herb varieties. It is the responsibility of the user to test this product on a small portion of the crop to be treated before treating the entire field. Crop tolerance should be verified to this product on a small area of the herb crop, at the desired 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, this product may be used on the entire field at the same rate tested and with the same crop oil used in the tolerance test. Do not apply more than 8 fl. oz. /A in a single application. A minimum 14-day interval required for repeat applications.
Hops	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. A minimum 14-day interval required for repeat applications.

CROPS ⁽¹⁾	MINIMUM TIME FROM APPLICATION TO HARVEST (PHI)	USE RATES PER ACRE	CROP OIL CONCENTRATE RATES PER ACRE ⁽²⁾	SPECIAL USE INSTRUCTIONS
Leaf Petioles including: Celery Cardoon Chinese celery Celtuce Florence fennel 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. A minimum 14-day interval required for repeat applications.
Leafy Brassica Greens, 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 a single application. A minimum 14-day interval required for repeat applications.
Leafy Greens including: Amaranth Chinese Spinach Leafy Amaranth Tampala Arugula (roquette) Chervil Chrysanthemum, edible-leaved Corn Salad Cress Garden Yellow rock Winter Dandelion Dock (sorrel) Endive (escarole) Lettuce (head and leaf) Orach Parsley Purslane Garden Winter Radicchio (red chicory), Spinach New Zealand Vine (Indian and malabar)	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. A minimum 14-day interval required for repeat applications.

CROPS ⁽¹⁾	MINIMUM TIME FROM APPLICATION TO HARVEST (PHI)	USE RATES PER ACRE	CROP OIL CONCENTRATE RATES PER ACRE ⁽²⁾	SPECIAL USE INSTRUCTIONS
Legume Vegetables. Edible Podded including: Bean (Phaseolus spp.) Runner Snap Wax Bean (Vigna spp.) Asparagus Chinese Longbean Moth Yardlong Jackbean Pea (Pisum spp.) Dwarf Edible-pod Snow Sugar Snap Pigeon Sword Bean.	(PHI) 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. 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. For reduced rate recommendations for the control of small annual grasses, refer to the appropriate Table.
				Adding AMS has shown improved grass control for difficult to control species including; quackgrass, red rice, rhizome Johnsongrass, volunteer cereals, volunteer corn and wild oats.
Lentils	30 days	6 – 16 fl. oz.	1 qt. by ground or 1% v/v ,but not less than 1 pt/A, by air ⁽⁵⁾	Do not apply more than 16 fl oz/A in a single application. A minimum 14-day interval required for repeat applications. See additional BEAN, DRY SHELLED, for additional SPECIAL USE INSTRUCTIONS.
Mint	21 days	6 – 16 fl. oz. ⁽⁴⁾	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. A minimum 14-day interval required for repeat applications.
Mustard Seed	75 days	4 – 6 fl. oz.	1% v/v in the finished spray volume	Do not apply more than 16 fl oz in a season. Do not apply after crop has begun bolting. If applied during the bloom period, crop injury could occur.

CROPS ⁽¹⁾	MINIMUM TIME FROM APPLICATION TO HARVEST (PHI)	USE RATES PER ACRE	CROP OIL CONCENTRATE RATES PER ACRE ⁽²⁾	SPECIAL USE INSTRUCTIONS
Onions (Dry Bulbs Only) Garlic Shallots (Dry Bulbs Only)	45 days	6 – 16 fl. oz. ^{(7) (8)}	1% v/v in the finished spray volume	Minimum 20 gals/A spray volume by ground in entire U.S. Minimum 20 gals/A spray volume by air in California ⁽⁹⁾ States Other than California: Application by air to onions, garlic or shallots should be made in a minimum of 10 gals/A
Onions, Green, including: Leeks Scallions or Spring Onions Japanese Bunching Onions Green Shallots Green Eschalots	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. A minimum 14-day interval required for repeat applications.
Ornamentals	N/A	6 – 16 fl. oz.	Use of crop oil concentrate is not recommended as injury to flower and foliage may occur. See Special Use	Add a nonionic surfactant containing at least 80% active ingredient at the rate of 1 pt per 50 gallons (0.25% v/v.)
Non-Bearing Food Crops	N/A	6 – 8 fl. oz. ⁽⁸⁾	Instructions	Sugar Maples cannot be tapped for syrup within one year of application. Do not apply more than 8 fl oz/A in a single application to non-bearing food crops.

CROPS ⁽¹⁾	MINIMUM TIME FROM APPLICATION TO HARVEST (PHI)	USE RATES PER ACRE	CROP OIL CONCENTRATE RATES PER ACRE ⁽²⁾	SPECIAL USE INSTRUCTIONS
Pea, Dry Shelled including: Pea (Pisum 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 ⁽⁵⁾	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 30 days before harvest. (10) For reduced rate recommendations for the control of small annual grasses, refer to the appropriate Table.
				Adding AMS has shown improved grass control for difficult to control species including; quackgrass, red rice, rhizome Johnsongrass, volunteer cereals, volunteer corn and wild oats.
Pea, Succulent including: Pea (Pisum 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 ⁽⁵⁾	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. (10) For reduced rate recommendations for the control of small annual grasses, refer to the appropriate Table. Adding AMS has shown improved grass control for
				difficult to control species including; quackgrass, red rice, rhizome Johnsongrass, volunteer cereals, volunteer corn and wild oats.

CROPS ⁽¹⁾	MINIMUM TIME FROM APPLICATION TO HARVEST (PHI)	USE RATES PER ACRE	CROP OIL CONCENTRATE RATES PER ACRE ⁽²⁾	SPECIAL USE INSTRUCTIONS
Peanut (including perennial)	40 days	6 – 16 fl. oz.	1 qt by ground or 1% v/v, but not less than 1 pt/A, by air ⁽⁵⁾	Adding AMS has shown improved grass control for difficult to control species including; quackgrass, red rice, rhizome Johnsongrass, volunteer cereals, volunteer corn and wild oats.
Potato	30 days	6 – 16 fl. oz.	1 qt by ground or 1% v/v, but not less than 1 pt/A, by air ⁽⁵⁾	Adding AMS has shown improved grass control for difficult to control species including; quackgrass, red rice, rhizome Johnsongrass, volunteer cereals, volunteer corn and wild oats.
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 (0.25 lb/a.i) per acre in a season. A minimum 14-day interval required for repeat applications.
Root Vegetables (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. A minimum 14-day interval required for repeat applications.

CROPS ⁽¹⁾	MINIMUM TIME FROM APPLICATION TO HARVEST (PHI)	USE RATES PER ACRE	CROP OIL CONCENTRATE RATES PER ACRE ⁽²⁾	SPECIAL USE INSTRUCTIONS
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. A minimum 14-day interval required for repeat applications.
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 floz/A in a single application. A minimum 14-day interval required for repeat applications.
Soybean	60 days	6 – 16 fl oz	1 qt by ground or 1% v/v (but not less than 1 pt/A) by air ⁽⁵⁾	Do not graze treated fields or feed treated forage or hay to livestock. Refer to appropriate Table for reduced rate recommendations for the control of small annual grasses. Adding AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, volunteer cereals, volunteer corn and wild oats.
Strawberry	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. A minimum 14-day interval required for repeat applications.

CROPS ⁽¹⁾	MINIMUM TIME FROM APPLICATION TO HARVEST (PHI)	USE RATES PER ACRE	CROP OIL CONCENTRATE RATES PER ACRE ⁽²⁾	SPECIAL USE INSTRUCTIONS
Sugar Beet	40 days	6 – 16 fl oz	1 qt by ground or 1% v/v, but not less than 1 pt/A, by air ⁽⁵⁾	Refer to the appropriate Table for reduced rate recommendations for the control of small annual grasses.
				Adding AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, volunteer cereals, volunteer corn and wild oats.
Sunflower	70 days	6 – 16 fl oz	1 qt by ground or 1% v/v, but not less than 1 pt/A, by air ⁽⁵⁾	Adding AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, volunteer cereals, volunteer corn and wild oats.
Sweet Potato, Yam and other tuberous and corm vegetables (except Potato), including: Artichoke Chinese Jerusalem Cassava Bitter Sweet Ginger	30 days	6 – 16 fl oz	1% v/v in the finished spray volume	Adding AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, volunteer cereals, volunteer corn and wild oats.
Tomato	20 days	6-16 fl oz	1% v/v in the finished spray volume	A minimum 14-day interval required for repeat applications
Turnip 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 a single application. A minimum 14-day interval required for repeat applications



- N/A Not Applicable
 (1) CLETHODIM 2EC is not recommended for use on vegetable crops being grown for seed production unless specific use directions are provided.
- (2) Acceptable crop oil concentrates would be those that contain a minimum of 80% oils and 15% emulsifier. The crop oil concentration must contain either a petroleum or vegetable oil base and meet all the following criteria: a) contain only EPA-exempt ingredients, b) be non-phytotoxic, c) provides good mixing quality and d) be successful in local experience. Highly refined vegetable oils have proven more satisfactory than unrefined vegetable oil. For further information see the "Addition of Adjuvant and Crop Oil Concentrate" section.
- (3) This product can be applied to seedling or established alfalfa grown for seed, hay, silage, green chop or direct grazing.
- (4) The minimum use rate is 10 fl oz/A for weed control in established alfalfa and mint.
- (5) In addition to the recommended rate of crop oil concentrate, 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 the CLETHODIM 2EC application.
- (6) Do not apply CLETHODIM 2EC and 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.
- (7) Do not exceed 8 fl oz/A in a single application for ground applications to garlic or shallots. Do not exceed 8 fl oz/A in a single application for air applications to onion, garlic or shallots. Do not exceed 2 applications per season for garlic and shallots. In CA, do not exceed 2 applications per season for air applications to onions.
- (8) Care should be taken to not exceed the maximum rate allowed on a "per acre" basis when CLETHODIM 2EC is applied as a spot treatment to onions, garlic, shallots, or non-bearing food crops or crop injury could occur.
- (9) In CA, do not apply this product to onions, garlic, or shallots until the crop has at least two full leaves.
- In CA, 14-day spray intervals are recommended between the application of this product and liquid nitrogen or other herbicide applications. Injury to crop could occur when shorter intervals are observed.
- (10) Applications of this product to peas during the bloom period could result in severe crop injury, including loss of yield and delayed maturity.

This product is for use on the following:

Alfalfa, Asparagus, Bean and Pea (dry shelled)¹, Bean and Pea (succulent)², Broccoli, Cabbage, Canola*, Carrot, Cauliflower (and other Head and Stem Brassica Vegetables)3, Celery, Clover (grown in Idaho, Oregon and Washington only), Conifers, Cotton, Cranberry, Cucumber, Eggplant (and other Fruiting Vegetables)⁴, Fallow Land (and other non-producing agricultural areas), Flax*, Garden Beets, Garlic, Herbs⁵, Hops, Horseradish (and other Root Vegetables)⁶. Legume Vegetables (edible podded)⁷, Lettuce, Head and Leaf (and other leafy greens)⁸, Melons (including Cantaloupes and Watermelons)9, Mint, Mustard Greens (and other leafy brassica greens)10, Mustard Seed*, Non-Bearing Food Crops, Non-Crop or Planted Areas, Onions (dry bulb and green), Ornamentals, Peanut (including perennial), Peppers (bell and non-bell), Potato, Radish, Rhubarb, (and other leafy Petioles)¹¹, Safflower, Sesame, Shallots (dry bulbs and green), Squash (including Pumpkins)9, Soybeans, Strawberry, Sugar Beet, Sunflower, Sweet Potato, Tomato, Turnip Greens and Yam (and other Tuberous and Corm Vegetables)

* Not for use in California

1 Other Dry Shelled Bean and Pea crops approved for use with this product include: Bean (Lupinus spp.)grain, sweet, white and sweet; Bean (Phaseolus spp.), field, kidney, lima (dry), navy, pinto and tepary; Bean (Vigna spp.), adzuki, 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

Other Succulent Bean and Pea crops approved for use with this product include: Bean (Lupinus spp.)grain, sweet, white and sweet; Bean (Phaseolus spp.), field, kidney, lima (dry), navy, pinto and tepary; Bean (Vigna spp.), adzuki, 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

Other Head and Stem Brassica approved for use with this product include: Chinese broccoli, Brussels sprouts, Chinese (napa) cabbage, Chinese mustard, cavalo broccolo, and kohlrabi

Other Fruiting Vegetables (except tomato) approved for use with this product include: eggplant, groundcherry, Pepino, peppers (all) and tomatillo

Other Herb crops approved for use with this product: angelica, balm, basil, borage, burnet, chamomile, catnip, chervil, (dried), chive, Chinese chive, clary, coriander (leaf), costmary, culantro (leaf), curry (leaf), dill (dillweed), horehound, hyssop, lavender, lovage (leaf), marigold, marjoram (origanum spp), nasturtium, parsley (dried), pennyroyal, rosemary, rue, sage and savory, summer and winter.



⁶ Other Root Vegetables approved for use with this product include: burdock, edible; celeriac; chervil, turnip-rooted; chicory, ginseng; parsley, turnip-rooted; parsnip; radish, oriental; rutabaga; salsify, salsify, black; salsify, Spanish; skirret and turnip.

Other Edible Podded Legume Vegetable crops approved for use with this product: 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.

Other Leafy Greens crops approved for use with this product 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)).

Other Cucurbit crops approved for use with this product include: chayote (fruit), Chinese wax gourd, citron melon, edible gourd,

gherkin and muskmelons (all, including honeydew melon).

Other Leafy Brassica Greens approved for use with this product include: broccoli raab, Chinese (bok choy) cabbage, collards, kale, mizuna, mustard greens, mustard spinach, rape greens.

Other Leaf Petiole crops approved for use with this product include: cardoon, celtuce, Chinese celery, Florence fennel, and Swiss

Other Tuber and Corm Vegetables approved for use with this product include: arracacha, arrowroot, Chinese artichoke, Jerusalem artichoke, edible canna, bitter and sweet cassava, chayote (root), chufa, dasheen (taro), ginger, leren, tanier, tumeric and bean yam.

ATTENTION

Plant tolerance to 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 CLETHODIM 2EC have investigated the safety factor to plants not listed on this label.

NON-BEARING FOOD CROPS

DO NOT APPLY CLETHODIM 2EC TO NON-BEARING FRUIT OR NUT CROPS GROWN FOR ROOT STOCK.

If CLETHODIM 2EC is improperly applied, crop injury to non-bearing fruit and nut crops can occur. Do not apply CLETHODIM 2EC directly over the top of these plant types. Rather, direct the spray 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 an application of CLETHODIM 2EC.

COMMON NAME	SCIENTIFIC NAME
Apples	Malus spp.
Berries	Vaccinium spp.
	Rubus spp.
Cherry, Sweet	Prunus avium
Citrus Fruits	Citrus spp.
Grapes	Vitis spp.
Olives	Olea spp.
Peach	Prunus persica
Pears	Pyrus communis
Prunes	Prunus spp.
Stone Fruits	Prunus spp.
Strawberries	Fragaria spp.

COMMON NAME	SCIENTIFIC NAME
Tree Nuts	
Almond	Prunus triloba
Filbert	Corylus maxima
Pecan	Carya illinoinensis
Pistachio	Pistacia vera
Walnut	Juglans spp.

CONIFER TREES

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	Thuja occidentalis
Cedars	Cedrus spp.
Cypress	Taxodium spp.
Fir, Douglas	Pseudotsuga menziesii
Firs	Abies spp.
Hemlock, Canadian/Eastern	Tsuga Canadensis
Hemlock, Western	Tsuga heterophylia
Pines	Pinus spp.
Spruces	Picea spp.
Yew	Taxus 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; post-harvest croplands; and beneath greenhouse benches and around golf courses.

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

- Make application to actively growing grasses at recommended weed heights.
- Make application when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment.
- · Use the higher rate under heavy grass pressure and/or when grasses are at maximum heights.
- Do not apply more than 8 fl oz/A 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, nonbearing food crops, rot vegetables, safflower, sesame and strawberry.
- Do not apply more than 6 fl oz/A of product per application to canola or mustard seed.

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT* (inches)	RATE FL OZ/ ACRE	HIGH RATE ⁽⁴⁾
Barnyardgrass	Echinochloa crus-galli	2 to 8	6	8
Broadleaf Signalgrass	Brachiaria platyphylla	2 to 6	6	8

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT* (inches)	RATE FL OZ/ ACRE	HIGH RATE ⁽⁴⁾
Brome				
California	Bromus carinatus	2 to 6	6	8
Cheat	Bromus secalinus	2 to 6	6	8
Downy	Bromus tectorum	2 to 6	6	8
Ripgut	Bromus diandrus	2 to 6	6	8
Canarygrass	Phalaris canariensis	1 to 4	6	8
Crabgrass				
Hairy	Digitaria adscendens	2 to 6**	6	8
Large	Digitaria sanguinalis	2 to 6**	6	8
Smooth	Digitaria ischaemum	2 to 6**	6	8
Southern	Digitaria ciliaris	2 to 6**	6	8
Crowfootgrass	Dactyloctenium aegyptium	2 to 6**	6	8
Fall Panicum	Panicum dichotomiflorum	2 to 8	6	8
Field Sandbur	Cenchrus incertus	2 to 6	6	8
Foxtail				
Giant	Setaria faberi	2 to 12	6	8
Green	Setaria viridis	2 to 8	6	8
Yellow	Setaria glauc	2 to 8	6	8
Goosegrass	Eleusine indica	2 to 6**	6	8
Itchgrass	Rottboellia cochinchinensis	2 to 6	6	8
Junglerice	Echinochloa colona	2 to 6	6	8
Lovegrass (Stinkgrass)	Eragrostis cilianensis	2 to 6	6	8
Rabbitsfootgrass	Polypogon monspeliensis	1 to 4	6	8
Red Rice	Oryza sativa	1 to 3	6	8
Ryegrass				
Hardy	Lolium remotum	2 to 6	6	8
Italian	Lolium multiflorum	2 to 6	6	8
Seedling Johnsongrass	Sorghum halepense	4 to 10	6	8
Shattercane	Sorghum bicolor	6 to 18	6	8
Southwestern Cupgrass	Eriochloa gracilis	2 to 6	6	8
Sprangle top				<u> </u>
Amazon	Leptochloa panicoides	2 to 6	6	8
Bearded	Leptochloa fascicularis	2 to 6	6	8
Mexican	Leptochloa uninervia	2 to 6	6	8
Red	Leptochloa filiformis	2 to 6	6	8
Texas Panicum	Panicum texanum	2 to 6	6	8
Volunteer Cereals ⁽³⁾		- · · · · · · · · · · · · · · · · · · ·		1
Barley	Hordeum vulgare	2 to 6	6	8
Oats	Avena sativa	2 to 6	6	8
Rye	Secale cereale	2 to 6	6	8
Wheat	Triticum aestivum	2 to 6	6	8
Volunteer Corn ⁽²⁾	Zea mays	4 to 12	4	6
Volunteer Corn (S.R.) ⁽¹⁾	Zea mays	4 to 12	8 (suppress	
Volunteer Corn ⁽²⁾	Zea mays	12 to 24	6	8
Volunteer Grain Sorghum	Sorghum bicolor	8 to 12	6	8
Wild Oats	Avena fatua	2 to 6	6	8
Wild Proso Millet	Panicum miliaceum	2 to 10	6	8
Witchgrass	Panicum capillare	2 to 8	6	8
Woolly Cupgrass	Eriochloa villosa	2 to 8	6	8

^{*} Generally occurs between 3-leaf stage and tillering.

^{**} Length of lateral growth.

⁽¹⁾ Sethoxydim resistant volunteer corn.

⁽²⁾ Includes Roundup Ready®, Liberty Link®, and IMI-CORN® volunteer corn

The minimum CLETHODIM 2EC use rate for control when a cereal grain crop (such as wheat) is interseeded for crop establishment or is planted as wind breaks to aid crop establishment is 8 fl oz/A.

Where experience has shown that higher rates are needed for satisfactory control of annual grasses, rates higher than 8 fl oz/A may be applied in certain geographic areas, cropping situations, or environmental conditions. In these situations, rates from 8 to16 fl oz/A can be applied. Do not apply more than 8 fl oz/A of 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, rot vegetables, safflower, sesame and strawberry.

Do not apply more than 6 fl oz/A of product per application to canola or mustard seed.

RECOMMENDATIONS FOR ANNUAL & PERENNIAL GRASS CONTROL IN ESTABLISHED ALFALFA AND MINT WITH CLETHODIM 2EC

IN COTABLIOTIED ALI ALI A A	TO MINITE TOTAL OFF		
GRASS SPECIES	WEED STAGE	RATE FL OZ/	HIGH RATE
		ACRE	1
Annual & perennial Grasses Listed in Grass Table	See Table	10	16

Mowing: Achieving the best control of annual grasses can be made by applying 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 over-winter after having been mowed multiple times. These grasses form large crowns and may contain many viable buds. Even though these grasses may be an annual grass, they may require repeated application of CLETHODIM 2EC for partial or complete control.

Irrigated Alfalfa and Mint: Irrigation practices can be very critical to the successful use of 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 an irrigation are most effective. Irrigation made shortly after application (2 days) can be effective, but more consistent grass control occurs when the irrigation is made before the application.

Aerial Application: When applying by air in established alfalfa and mint, apply CLETHODIM 2EC in a minimum of 10 GPA.

Annual Grass Control: Make application at the grass sizes indicated in the Recommendation for Annual Grass Table and rates indicate. If a grass has been cut, make application after active growth has resumed and regrowth has reached the minimum height and before it reaches the maximum height indicated. Make application 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 CLETHODIM 2EC may vary from region to region. In addition, some annuals germinate over an extended period of time and because control of small grasses is desired, application 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: 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.

RECOMMENDATIONS FOR ANNUAL BLUEG	RASS CONTROL WITH C	LETHODIM 2	EC
GRASS SPECIES	WEED STAGE	RATE FL/OZ ACRE	HIGH RATE
Annual Bluegrass (Poa annua)	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 ft oz/A to control annual bluegrass in seedling and established alfalfa and mint.

DIRECTIONS FOR REDUCED RATE USE IN

CANOLA, DRY SHELLED BEAN & PEA (INCLUDING SOYBEAN), EDIBLE PODDED LEGUME VEGETABLES, FLAX, MUSTARD SEED, SUCCULENT BEAN & PEA AND SUGAR BEET

RECOMMENDATIONS FOR SMALL ANNUAL GRASSES (REDUCED RATE RECOMMENDATIONS NOT FOR USE IN CALIFORNIA)

- Make application only to actively growing grasses and the recommended weed heights.
- Make application 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 ¹
Barnyardgrass	Echinochloa crus-galli	1 to 4	4
Broadleaf Signalgrass	Brachiaria platyphylla	1 to 4	5
Crabgrass			
Large	Digitaria sanguinalis	1 to 3*	4
Large	Digitaria sanguinalis	1 to 4*	5
Smooth	Digitaria ischaemum	1 to 3*	4
Smooth	Digitaria ischaemum	1 to 4*	5
Southern	Digitaria ciliaris	1 to 4*	5
Fall Panicum	Panicum dichotomiflorum	1 to 4	4
Foxtail			
Giant	Setaria faberi	1 to 4	4
Green	Setaria viridis	1 to 4	4
Millet	Setaria italica	1 to 4	5
Yellow	Setaria glauca	1 to 4	4
Seedling Johnsongrass	Sorghum halepense	1 to 6	5
Shattercane	Sorghum bicolor	4 to 10	4
Texas Panicum	Panicum texanum	1 to 4	5
Volunteer Cereals			
Barley	Hordeum vulgare	1 to 4	5
Oats	Avena sativa	1 to 4	5
Wheat	Triticum aestivum	1 to 4	5
Volunteer Corn**	Zea Mays	4 to 12	4
Wild Proso Millet	Panicum miliaceum	1 to 6	4
Wild Oats	Avena fatua	1 to 4	5

^{*}Length of lateral growth

^{**}Not S.R. Corn

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

RECOMMENDATIONS FOR PERENNIAL GRASSES

- Make application only to actively growing grasses at the recommended weed heights. Make application
 when the first grass weed species in a mixed grass weed population reaches the recommended growth
 stage for treatment.
- Use the higher rate under heavy grass pressure and/or when grasses are at maximum height. Do not
 apply more than 8 fl oz/A of 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, rot vegetables, safflower, sesame and strawberry.
- Do not apply more than 6 fl oz/A of product per application to canola or mustard seed.

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

^{*}Control of quackgrass, perennial bluegrass and bentgrass with this product may be enhanced by adding AMS at 2.5 to 4.0 lbs/A.

TANK MIXES

GENERAL INFORMATION

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

- Geographic restrictions all products are not registered for use in all areas and rates may vary from one region of labeled use to another
- · Crop rotation restrictions may differ
- Applicator certification requirements
- · Worker safety rules, i.e., personal protective equipment (PPE), reentry time, posting
- Soil characteristics or soil type, e.g. pH, OM
- Number of applications and or maximum dosage per season
- · Rain free period required or
- Application timing, e.g. pre-harvest interval
- Total season rates not to be exceeded.

ALWAYS FOLLOW THE MOST RESTRICTIVE LABELING OF ANY PRODUCT USED IN A TANK MIX.

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

- Make application only to actively growing grass and broadleaf weeds at recommended height or growth stage listed on each label.
- Make application when the first grass or broadleaf weed species in a mixed population reaches the recommended height or growth stage for treatment.
- Make application under favorable soil moisture and humidity that exist a few days after rainfall or within seven (7) days after irrigation.
- Always add the appropriate adjuvant to the spray mix at the rate recommended for each specific tank mix combination.
- Tank mix application can 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,
 apply a second application of CLETHODIM 2EC as specified in the respective size and rate tables.
- Do Not tank mix 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. While agitating, add the correct amount of CLETHODIM 2EC, making sure that agitation makes a rippling or rolling action on the water surface.
- 2. When tank mixing this product 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.
- 3. Add any required adjuvants (crop oil concentrate, nonionic surfactant and/or nitrogen solution.).
- 4. Fill spray tank to desired level with water.

Continue agitation 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. Verify mixing and compatibility qualities by conducting a jar test.

ANTAGONISM INFORMATION

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

ALFALFA

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

NOTE: See recommendation tables above for specific grasses and growth stages

		APPLICATION RATES/AC	RE1	
PRODUCT ²	ANNUAL GRASSES PERENNIAL GRASSES		CROP OIL CONCENTRATE ³	
		·	GROUND	AIR
CLETHODIM 2EC	10 – 16 fl oz	10 – 16 fl oz		
+	+	+	1%	1%
2,4-DB⁴	See 2,4-DB label	See 2,4-DB label		
CLETHODIM 2EC	10 – 16 FL oz			
+	+		1%	1%
PURSUIT DG ⁵	1.08 – 2.16 oz	-		1
OR	OR	}		1
PURSUIT⁵	3 TO 6 FL oz			<u> </u>
CLETHODIM 2EC	10 – 16 fl oz			
+	+]
BUCTRIL® 2L ⁶	1.0 - 1.5 pts	_	0.5%	0.5%
OR	or			
BUCTRIL GEL ^{6,7}	0.5 - 0.75 pt			

If grass regrowth occurs or an additional flush of new grass emerges, apply a second application of CLETHODIM 2EC alone – without a tank mix herbicide, according to the appropriate size and rate recommendation.

- 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
- 3 Always use a crop oil concentrate at the listed rate (but not less than 1 pt/A) in the finished spray volume.
- 4 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.
- 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.
- States of Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming and the western halves of Kansas, Nebraska, North Dakota, South Dakota: The tank mix of CLETHODIM 2EC plus BUCTRIL or BUCTRIL GEL must be applied in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 2 trifoliate. Unacceptable crop injury can occur to alfalfa seedlings less than the 2 trifoliate leaf stage. BUCTRIL or BUCTRIL GEL plus CLETHODIM 2EC applications made when temperatures are expected to exceed 80°F 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 trifoliate leaves. Unacceptable crop injury may occur to alfalfa in the 2 trifoliate or smaller stage growth, when alfalfa stand is uneven and conditions favor leaf burn. When applications of CLETHODIM 2EC plus BUCTRIL GEL are made when temperatures are expected to exceed 70°F and three days following such application can result in unacceptable crop injury. Crop leaf burn can occur following CLETHODIM 2EC plus BUCTRIL or BUCTRIL GEL applications. Warm, humid conditions may enhance leaf burn. However, new crop growth will not be affected.
- 7 Do not make application 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 CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR CANOLA

(See recommendation tables above for specific grasses and growth stages)

	APPLICATION RATES/ACRE				
PRODUCT	ANNUAL GRASSES	PERENNIAL GRASSES	AMMONIUM SULFATE		
		[GROUND	AIR	
CLETHODIM 2EC ²	4 – 5 fl oz				
+	+	- 1	3.0 lbs	3.0 lbs	
LIBERTY ³	34 fl oz			,	

Annual grasses and sizes controlled with these tank mixtures are those that are identified in the DIRECTIONS FOR REDUCED KATE USE IN DRY

BEAN, CANOLA, FLAX, MUSTARD SEED, SOYBEAN AND SUGAR BEET RECOMMENDATIONS FOR SMALL ANNUAL GRASSES table

- Do not apply CLETHODIM 2EC tank mix during or after bolting or flowering or crop injury could occur.
- 3 For use only on LibertyLink® canola.



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

PRODUCT ¹	APPLICATION RATES/ACRE ²		CROP OIL CONCENTRATE ³ V/V	COMMENTS
CLETHODIM 2EC⁴	ANNUAL GRASSES	PERRENIAL GRASSES	GROUND	
+	6 – 8 fl oz	8 – 16 fl oz	1%	Reduce broadcast
COBRA + MSMA	See COBRA label for ra limitations for cotton. Se species controlled.	rate in proportion to the band area actually treated.		
(4.0 lbs/gal) or MSMA (6.6 lbs/gal)	See MSMA label for rate limitations for cotton. Se species controlled.			

- Broadlear 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.
- 2. If grass regrowth occurs or an additional flush of new grass emerges, apply a second application of CLETHODIM 2EC alone without a tank mix herbicide according to the appropriate size and rate recommendations.
- 3. Always use a crop oil concentrate at the listed rate, but not less than 1 pt/A, in the finished spray volume.
- 4. 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 can result and a second non-post directed application of CLETHODIM 2EC may be necessary.

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

PRODUCT ¹	APPLICATION RATE/ACRE ² ANNUAL GRASSES	CROP OIL CONCENTRATE PER ACRE ³	COMMENTS ⁷
CLETHODIM 2EC	8 – 16 fl oz	1 qt.	See charts for
+	Refer to BUCTRIL 4 EC label for		grasses controlled.
BUCTRIL 4 EC 4,5,6	rates to control broadleaf weeds and		
	height limitations for cotton.	.	

- Broadlear 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.
- 2. If grass regrowth occurs or an additional flush of new grass emerges, apply a second application of CLETHODIM 2EC at the recommended rate with the appropriate amount of crop oil concentrate in a non-BUCTRIL tank mix.
- 3. Always add a crop oil concentrate 1 qt/A by ground in the finished spray solution.
- Applications of BUCTRIL 4 EC can be made only to cotton that has been genetically modified for crop tolerance to postemergence over-the-top
 applications of bromoxynil.
- 5. Do not apply the CLETHODIM 2EC plus BUCTRIL tank mix within 75 days of harvest.
- 6. Do not exceed 2 applications of BUCTRIL before cotton is 12 inches tall and one application after 12 inches tall.
- 7. Use a minimum of 10 gallons of spray solution per acre.

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

	APPLICATION	RATE/ACRE ¹	ADJUVA	NT	
PRODUCT	ANNUAL GRASSES	PERENNIAL GRASSES	Glyphosate formulation with built in adjuvant	Glyphosate formulation without built-in adjuvant	COMMENTS
CLETHODIM 2EC	6 – 8 fl oz	8 – 16 fl oz	Nonionic surfactant @ 0.125 to 0.25%	Crop oil concentrate @ 1 pt/A	See charts for grasses controlled.
GLYPHOSATE	See glyphosate lab control broadleaf w limitations for cottor	eeds and height	v/v plus ammonium sulfate @ 8.5 to 17 lbs per 100 gallons carrier	plus ammonium sulfate @ 8.5 to 17 lbs per 100 gals carrier	Use a minimum of 10 gals of spray solution per acre.

If grass regrowth occurs or an additional flush of new grass emerges, apply a second application of CLETHODIM 2EC at the recommended rate with the appropriate amount of crop oil.

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

(See recommendation tables above for specific grasses and growth stages)

	APPLICATION RAT			
PRODUCT ²	ANNUAL GRASSES	PERENNIAL GRASSES	CROP OIL CONCENTRATE ³ (V/V)	
			GROUND	AIR
CLETHODIM 2EC + BASAGRAN®	8 – 10 fl oz + 1.0 – 2.0 pts/A	10 – 16 fl oz + 1 to 2 pts	1%	1%

^{1.} If grass regrowth occurs or an additional flush of new grass emerges, make a second application of CLETHODIM 2 EC alone – without a tank mix herbicide – according to the appropriate size and rate recommendations.

FLAX Table 7. REDUCED RATE CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR FLAX (See recommendation tables above for specific grasses and growth)

	APPLICATION RATES/ACRE				
PRODUCT	ANNUAL GRASSES ¹	PERENNIAL GRASSES	CROP CONCENT		
		l	GROUND	AIR	
CLETHODIM 2EC	4 – 5 fl oz				
+	+	-	1 pt	1 pt	
BRONATE ADVANCED™ ^{2,3}	11.4 fl oz			<u> </u>	
CLETHODIM 2EC	4 – 5 fl oz			1 pt	
+	+	-	1 pt		
BRONATES®	0.9 pt	·			
CLETHODIM 2EC	4 – 5 fl oz				
+	+	-	1 pt	1 pt	
BUCTRIL ^{2,3}	1.0 pt			•	
CLETHODIM 2EC	4 ~ 5 fl oz				
+	+	- 1	1 pt	1 pt	
RHONOX® ^{2,3}	0.25 - 0.5 pt		·	1	

Annual grasses and sizes controlled with these tank mixtures are those that are identified in the DIRECTIONS FOR REDUCED RATE USE IN DRY

BEANS, CANOLA, FLAX, MUSTARD SEED, SOYBEANS AND SUGAR BEETS RECOMMENDATIONS FOR SMALL ANNUAL GRASSES table.

^{2.} Broadleaf weed control can 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.

^{3.} Always use a crop oil concentrate at the listed rate, but not less than 1 pt/A, in the finished spray volume.

- 2. Do Not apply CLETHODIM 2EC tank mix during or after the bud stage or to ornamental flax as crop injury can occur
- 3. Do Not apply tank mixes when temperatures are expected to exceed 85°F at or for 3 days following application as crop injury can occur.

SOYBEAN
Table 8. CLETHODIM 2EC TANK MIXES³ TO CONTROL ANNUAL GRASSES WHEN USED AS A BURNDOWN
IN NO-TILL SOYBEAN

PRODUCT	PRODUCT RATE/ACRE ¹	GRASS HEIGHT (inches)	CROP OIL CONCENTRATE /ACRE ²	28%N OR 32%N QTS/A OR 2.5 TO 4.0 LBS AMS
CLETHODIM 2EC + 2,4-D ESTER*.3	3 fl oz	Foxtail 1 to 3 Fall Panicum 1 to 3	1 qt	1 – 2 qts or 2.5 – 4.0 lbs AMS
·	4 fl oz	Foxtail 1 to 4 Fall Panicum 1 to 4	1 qt	1 – 2 qts or 2.5 – 4.0 lbs AMS
	6 – 8 fl oz + 0.5 lb a.i.	(See Grass Chart for grasses claimed)	1 qt	1 – 2 qts or 2.5 – 4.0 lbs AMS

- 2,4-D ester should NOT be used where drift sensitive crops may be grown.
 - Apply a second application of CLETHODIM 2EC according to the appropriate size and rate recommendations, if regrowth occurs or an additional flush
 of new grass emerges.
 - 2. Always use a crop oil concentrate at the listed rate in the finished spray volume.
 - 3. The following products can be tank mixed with CLETHODIM 2EC plus 2,4-D ester: AUTHORITY® BROADLEAF, CANOPY XL®, DUAL® 8E, DUAL II, DUAL MAGNUM®, PROWL®, VALOR™, SENCOR®, SENCOR plus the DUAL products and TURBO®,

Table 9. CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN (See recommendation tables above for specific grasses and growth stages)

	APPLICATION RATES/ACRE			
PRODUCT ²	ANNUAL GRASSES	PERENNIAL GRASSES		RATE ³ V)
			GROUND	AIR
CLETHODIM 2EC	6 – 8 fl oz	8 – 16 fl oz		
+	+	+	0.5 to 1%	1%
COBRA	12.5 fl oz	12.5 fl oz		
CLETHODIM 2EC	8 – 10 fl oz	10 – 16 fl oz		
+	+	+	1%	1%
BASAGRAN 4 SL	1 – 2 pts	1 – 2 pts	·	
CLETHODIM 2EC	6 – 8 fl oz	8 – 16 fl oz	,	
+	+	+	0.5 to 1%⁴	1%⁴
Glyphosate (For use on Roundup	0.75 – 3.0 lb a.i.	0.75 – 3.0 lb a.i.		
Ready soybeans only)				
CLETHODIM 2EC	6 – 8 fl oz	8 – 16 fl oz		
+	See FLEXSTAR HL	See FLEXSTAR HL	1%	1%
FLEXSTAR® HL ⁶	label for specific	label for specific		
	application rates	application rates		
CLETHODIM 2EC	8 – 10 fl oz	10 – 16 fl oz	}	
+	+	+	1%	1% .
CLASSIC® 25 DG	0.5 ~ 0.75 oz	0.5 – 0.75 oz		
CLETHODIM 2EC⁴	6 ~ 8 fl oz	8 – 16 fl oz		
+	+	+	1%	1%
PURSUIT 70 DG	1.44 oz	1.44 oz		

Table 9. CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN (continued)

	Α	PPLICATION RATES		
PRODUCT ²	ANNUAL GRASSES	PERENNIAL GRASSES	CROP OIL CONCENRATE ³ (V/V) GROUND AIR	
CLETHODIM 2EC⁵	8 – 10 fl oz			
+ COBRA	6 – 8 fl oz	-	0.5%	1%
+ CLASSIC 25 DG	+ 0.5 – 0.75 oz			
CLETHODIM 2EC ⁵	8 – 10 fl oz			
+ COBRA	+ 6 – 10 fl oz	-	0.5%	1%
+	+			
BASAGRAN 4 SL CLETHODIM 2EC ⁵	1 – 1.5 pts 8 – 10 fl oz		+	
CLETHODIM ZEC +	0 - 10 11 02			
COBRA +	6 – 10 fl oz +	-	0.5%	1%
PURSUIT 70 DG	1.44 oz			
CLETHODIM 2EC⁵	8 – 10 fl oz		0.50	407
+ STORM®	+ 1.5 pts	_	0.5%	1%
CLETHODIM 2EC ⁵	8 – 10 fl oz	 		
+	+			
RESOURCE®	4 fl oz +	-	1%	1%
PURSUIT 70 DG	1.44 oz			
CLETHODIM 2EC⁵	8 – 10 fl oz			
+ RESOURCE	+ 4 fl oz	_	1%	1%
+	+		1	1 70
BASAGRAN	1 pt			
CLETHODIM 2EC ⁵	8 – 10 fl oz +	j		
RESOURCE	4 fl oz	_	1%	1%
+	+			. 70
CLASSIC	0.5 oz			
CLETHODIM 2EC ⁵	6 – 8 fl oz +			
COBRA	6 fl oz	-	0.5%	1%
+	+			
RESOURCE CLETHODIM 2EC ⁵	4 fl oz 6 – 8 fl oz	8 – 16 fl oz	-	
CLETHODIM ZEC +	6 - 8 H OZ +	8 - 16 11 02	1%	_
FIRSTRATE®	0.3 oz	0.3 oz	1,0	
CLETHODIM 2EC ⁵	6 – 8 fl oz	8 – 16 fl oz		
+ COBRA	+ 6 – 8 fl oz	+ 6 – 8 fl oz	1%	_
+	+	+	170	-
FIRSTRATE	0.3 oz	0.3 oz		
CLETHODIM 2EC ⁵ +	6 – 8 fl oz	_	1%	
RAPTOR® (1 AS)	4 – 5 fl oz	-	170	-
CLETHODIM 2EC ⁵	6 – 8 fl oz			
COBRA	6 – 8 fl oz	-	1%	-
+	+ 4 – 5 fl oz	1	1	

Table 9. CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN (continued)

		APPLICATION RATES/		
PRODUCT ²	ANNUAL GRASSES	PERENNIAL GRASSES	CROP OIL CONCENRATE ³ (V/V)	
			GROUND	AIR
CLETHODIM 2EC⁵	6 - 8 fl oz'		· ·	
+	+	-	1 qt	-
SYNCHRONY® STS™	0.5 oz/A			
CLETHODIM 2EC⁵	6 – 8 fl oz			
+	+		1	
COBRA	4 – 8 fl oz	-	1 pt	-
+	+			
SYNCHRONY STS	0.5 oz			
CLETHODIM 2EC⁵	6 – 8 fl oz			
+	+	_	1 qt	-
RESOURCE	4 – 12 fl oz			
CLETHODIM 2EC5	8 – 10 fl oz			
+	+		1	
FRONTROW™	Refer to	-	1%	-
	FRONTROW label			
	for use rates			
CLETHODIM 2EC	6 – 8 fl oz	8 – 16 fl oz		
+	+	+		
FIRSTRATE	0.3 oz	0.3 oz.	'	
+ _	+	+	1%	-
FLEXSTAR HL⁵	Refer to the	Refer to the		
	FLEXSTAR HL	FLEXSTAR HL	1	
	label for specific	label for specific		
	application rates	application rates	}	

If grass regrowth occurs or an additional flush of new grass emerges, make a second application of CLETHODIM ZEC alone – without a tank mix herbicide – according to the appropriate size and rate recommendations.

- Broadleaf weed control can 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.
- 3 Always use a crop oil concentrate at the listed rate, but not less than 1 pt/A, in the finished spray volume.
- When CLETHODIM 2EC is tank mixed with glyphosate, the addition of 2.5 lb. ammonium sulfate is required. If the glyphosate formulation has a stand alone build-in adjuvant, add 0.125% v/v nonionic surfactant in place of crop oil concentrate. Add 0.5% to 1% crop oil concentrate for ground application and 1% v/v for aerial application, if the glyphosate formulation does not have a build-in adjuvant system.
- When 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, the addition of 1 2 qts/A of liquid fertilizer (10-34-0, 28%N, or 32%N) is recommended. An equivalent amount, 2.5 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.
- 6 Refer to the FLEXSTAR HL label for geographic and rotational restrictions.
- Annual grasses and sizes controlled with these tank mixtures are those that are identified in the DIRECTIONS FOR REDUCED RATE USE IN DRY BEAN, CANOLA, FLAX, MUSTARD SEED, SOYBEAN AND SUGAR BEET RECOMMENDATIONS FOR SMALL ANNUAL GRASSES table.

Table 10. REDUCED RATE CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN (See table for reduced rate use in dry bean, canola, flax, mustard seed, soybean and sugar beet recommendations for small annual grasses for specific grasses and growth stages)

	API	APPLICATION RATES/ACRE ^T				
PRODUCT	ANNUAL GRASSES ²	PRENNIAL GRASSES	CROP OIL CONCENTRATE ^{3,4} (V/V)			
			GROUND	AIR		
CLETHODIM 2EC	4 – 8 fl oz					
+	+ 1	-	1%	1%		
FIRSTRATE	0.3 oz					
CLETHODIM 2EC	4 – 6 fl oz					
+	+	=	1%	1%		
PURSUIT 70 DG	1.44 oz					

- Make a second application of CLETHODIM 2EC alone without a tank mix herbicide according to the appropriate size and rate recommendations, if grass regrowth occurs or an additional flush of new grass emerges.
- Annual grasses and sizes controlled with these tank mixtures are those that are identified in the DIRECTIONS FOR REDUCED RATE USE IN DRY
 BEAN, CANOLA, FLAX, MUSTARD SEED, SOYBEAN AND SUGAR BEET RECOMMENDATIONS FOR SMALL ANNUAL GRASSES table.
- 3. Always use a crop oil concentrate at the listed rated, but not less than 1 pt/A, in the finished spray volume.
- 4. When CLETHODIM 2EC is tank mixed at reduced rates, the addition of 1 2 qts/A of liquid fertilizer (10-34-0, 28% N, or 32%N) is required. 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

Table 11. CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR PEANUT

(See recommendation tables above for specific grasses and growth stages)

	AP	APPLICATION RATES/ACRE				
PRODUCT ²	ANNUAL GRASSES ²	PERENNIAL GRASSES	CROP OIL CONCENTRATE ³ (V/V)			
			GROUND	AIR		
CLETHODIM 2EC	8 – 10 fl oz					
+	+	-	1%	1%		
BASAGRAN	1.0 – 2.0 pts		<u> </u>			
CLETHODIM 2EC	8 – 10 fl oz		}	1		
+	+	-	1%	1%		
STORM	1.5 pts		1	}		

- Make a second application of CLETHODIM 2EC alone without a tank mix herbicide according to the appropriate size and rate recommendations, if
 grass regrowth occurs or an additional flush of new grass emerges.
- 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.
- 3. Always use a crop oil concentrate at the listed rate, but not less than 1 pt/A, in the finished spray volume.

RECOMMENDATIONS FOR GRASS	SUPPRESSION FOR HARVEST EF CLETHODIM 2EC	FICIENCY IN PEA	NUT WITH
GRASS SPECIES	WEED STAGE	RATE FL OZ/ ACRE	HIGH RATE
Annual and perennial grasses that exceed height claimed for control on height charts "RECOMMENDATIONS FOR ANNUAL GRASSES" & "RECOMMENDATIONS FOR PERENNIAL GRASSES"	Up to and including grasses in the seed head stage	16	32

Do Not apply as part of a tank mix when applying 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. CLETHODIM 2EC TANK MIXED WITH STINGER® APPLIED TO SUGAR BEET

(See recommendation tables above for specific grasses and growth stages)

	APPLICATION R.	ATES/ACRE		
PRODUCT ²	ANNUAL GRASSES	PERENNIAL GRASSES	CROP OIL CONCENTRATE ³ (V/V)	
	j		GROUND	AIR
CLETHODIM 2EC +	6 – 8 fl oz	8 – 16 fl oz	1%	
STINGER	See STINGER label	for rates.		

- Make a second application of CLETHODIM 2EC alone without a tank mix herbicide according to the appropriate size and rate recommendations, if grass regrowth occurs or an additional flush of new grass emerges.
- 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.

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

Table 13. CLETHODIM 2EC TANK MIXED WITH BETAMIX® OR BETANEX® APPLIED TO SUGAR BEET

	WEEDS	CONTROLLED	WEED HEIGHT	APPLICATION
PRODUCT ²	COMMON NAME	SCIENTIFIC NAME	(Inches)	RATES/ACRE ¹
CLETHODIM 2EC3	Barnyardgrass	Echinochloa crus-galli	1 to 3	8 fl oz
+	Foxtail	Setaria spp.	1 to 3	See BETAMIX label for
BETAMIX	Foxtail Millet	Setaria italica	1 to 3	rates to control
OR BETANEX	Wild Oat	Avena fatua	1 to 3	broadleaf weeds. No
	Wild Proso Millet	Panicum miliaceum	1 to 3	additives are
ł			ł	recommended in this
		·		tank mix.
				See BETANEX label for
				rates to control
		}		broadleaf weeds. No
		}		additives are
				recommended in this
				tank mix.

- Do not use crop oil concentrate. No additives are recommended in this tank mix. Make a second application of CLETHODIM 2EC alone without a
 tank mix herbicide according to the appropriate size and rate recommendations, if grass regrowth occurs or an additional flush of new grass
 emerges.
- 2. 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.
- 3. Make a second application of CLETHODIM 2EC at the full label rate with appropriate rate of crop oil concentration, if grass regrowth occurs or an additional flush of new grass emerges.

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

		APPLICATION RATES/ACRE ¹				
PRODUCT	ANNUAL GRASSES	GRASSES CONTROLLED (inches)	METHYL SEED (V/V	OIL ²		
			GROUND	AIR		
CLETHODIM	2 – 3 fl oz	Green Foxtail (1-2)	1.5%	1.5%		
2EC	+ _	Yellow Foxtail (1-2)				
+	$0.8 - 12 \text{ fl oz}^3$	Barnyardgrass (1-2)				
BETANEX	or	Wild Oat (1-2)	i i			
or	$0.8 - 12 \text{ fl oz}^3$	Volunteer Cereals (1-2)				
BETAMIX						

- Broadlear 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.
- Always use a methylated seed oil at the listed rate, but not less than 1 pt/A, in the finished spray volume.
- 3. When sugar beets are in the cotyledon to 4-leaf stage, use 8 fl oz/A rate. This 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 WITH MICRO-RATE APPLICATIONS TO SUGAR BEETS GENERAL INFORMATION

Multiple micro-rate applications of CLETHODIM 2EC in tank mixtures with reduced rates of BETANEX or BETAMIX and methylated seed oils can be applied by air or ground equipment to sugar beets to control early germinating annual grasses listed above. Do not exceed the rate of 0.12 lb ai/A broadcast application for BETANEX or BETAMIX 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, i.e. 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 CLETHODIM 2EC TANK MIXES

Apply CLETHODIM 2EC in broadcast applications only at a rate of 2 – 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 CLETHODIM 2EC tank mixtures. A minimum of 3 sequential applications of BETANEX or BETAMIX should be used. Accurate timing is essential. Immediately after weeds emerge, make initial application and make repeat applications on 5 to 7 day intervals. Return to conventional application rates of CLETHODIM 2EC, 6 – 8 fl oz/A, and add rates of BETANEX or BETAMIX as directed on their label, if weed control is not adequate due to climatic conditions, spray coverage or other factors. A spray adjuvant is not recommended when using conventional rates of BETANEX or BETAMIX in tank mixtures with CLETHODIM 2EC.

Use Precautions for Micro-Rate Applications: (See CLETHODIM 2EC, BETANEX and BETAMIX master label for further use precautions)

Even with favorable climatic conditions, not all weeds will be adequately controlled. If multiple micro-rate applications do not adequately control weeds, conventional rates of CLETHODIM 2EC, BETANEX or BETAMIX and/or hand labor may be required. 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. If the BETANEX or BETAMIX rate exceeds 0.12 lb ai/A broadcast, methylated seed oils must not be added. This addition of methylated seed oils could increase the possibility of crop injury at dosage rates greater than 0.12 lb ai/A.

GROUND APPLICATION

It is essential to use sufficient spray volumes and pressure to ensure complete coverage. Use a minimum of 10 gallons and maximum of 20 gallons 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

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

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

	APPLICATION RATES/ACRE			
PRODUCT ²	ANNUAL GRASSES	PERENNIAL GRASSES	CROP OIL CONCENTRATE ³ (V/V)	
CLETHODIM 2EC	6 – 8 fl oz	8 to 16 fl oz		
+	+ }	+	1%	
EMINENT®	13 fl oz	13 fl oz		

- Make a second application of CLETHODIM 2EC at the full laber rate with appropriate rate of crop oil concentration, if grass regrowth occurs or an additional flush of new grass emerges.
- 2. Refer to CLETHODIM 2EC and fungicide label for rates and weeds and diseases controlled.
- 3. 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 CLETHODIM 2EC AND INSECTICIDES FOR CONTROL OF GRASS WEEDS AND INSECTS IN ALFALFA, COTTON, MINT, PEANUT (INCLUDING PERENNIAL), SOYBEAN AND SUMED OWER

SUNFLOWER	APPLICA	ATION RATES/A	CRE ¹	CROP					
PRODUCT ²	ANNUAL GRASSES	PERENNIAL GRASSES	CROP OIL CONCENTRATE (V/V) ³	Alfalfa ⁴	Cotton	Mint ^{4,5}	Peanut	Soybean	Sunflower
CLETHODIM 2EC + ORTHENE® 75 S or ORTHENE 97	6 – 8 fl oz + 0.33 – 1.33 lbs + 0.25 – 1.0 lb	8 – 16 fl oz + 0.33 – 1.33 lbs + 0.25 – 1.0 lb	1%		X	X	X	- U	

CLETHODIM	6 – 8 fl oz	8 – 16 fl oz	1%	Ţ	X	Х	X	X	
2EC	+	+							
+	0.25 – 1 lb	0.25 – 1 lb]]	
ORTHENE 90 S ⁶							 		
CLETHODIM	6 – 8 fl oz	8 – 16 fl oz	1%		Х		X		
2EC	+	+		}		ł			
+	10-2/3 - 16 fl oz	10-2/3 - 16 fl				}			
DANITOL® 2.4		oz							
EC				 				L	
CLETHODIM	6 – 8 fl oz	8 – 16 fl oz	1%					[[Χ
2EC	+	+							
+	See ASANA XL label	See ASANA							
ASANA XL®		XL label			ļ				
CLETHODIM	6 – 8 fl oz	8 – 16 fl oz	1%						Χ
2EC	+	+							
+	See WARRIOR label	See			1			ŀ	
WARRIOR®		WARRIOR			ļ				
 		label			ļ				
CLETHODIM	10 – 16 fl oz'	10 – 16 fl oz	1%	X	1				
2EC	+	+		1	1				{
+ .	See WARRIOR label	See		1	}	,]			
WARRIOR		WARRIOR			ļ				
		label		ļ	ļ				
CLETHODIM	10 – 16 fl oz	10 – 16 fl oz	1%	X	İ			1	
2EC	+	+					ĺ	1	
+	See BAYTHROID	See		1				- 1	İ
BAYTHROID®	label	BAYTHROID			!				- 1
<u></u>		label		ļ					
CLETHODIM	10 – 16 fl oz ⁷	10 – 16 fl oz	1%	X	[1	1	- 1	[
2EC	+	+					1	1	J
+	See Dimethoate	See							ļ
DIMETHOATE	label	Dimethoate					j		l
		label							
CLETHODIM	10 – 16 fl oz	10 – 16 fl oz	1 – 2 pt ⁸	X	}				1
2EC	+	+						l	l
+	See LORSBAN label	See					1	1	ł
LORSBAN®		LORSBAN				ĺ			}
		label		<u> </u>					
CLETHODIM	10 – 16 fl oz'	10 – 16 fl oz	1%	X]	1	ĺ		
2EC	+	+]		1	j	
+	See POUNCE label	See POUNCE					}	1	
POUNCE®		label				\		}	

- Make a second application of CLETHODIM 2EC alone without a tank mix insecticide according to the appropriate size and rate recommendations,
 if grass regrowth occurs or an additional flush of new grass emerges.
- 2. Refer to CLETHODIM 2EC and insecticide label for rates and weeds and insects controlled.
- 3. Always use a crop oil concentrate at the listed rate, but not less than 1 pt/A, in the finished spray volume.
- 4. Certain insecticides can cause temporary phytotoxic symptoms on alfalfa and mint foliage. See the insecticide label for further information. Prior to using any of these insecticide/herbicide tank mixtures, it is suggested a small area of the field be treated and observed for crop injury before treating the entire field.
- 5. Rates for CLETHODIM 2EC for annual grass control in baby mint should be 6 8 fl oz/A; minimum of 8 fl oz/A for annual grass control in established mint and 8 16 fl oz/A for perennial grass control. Add a crop oil concentrate at the rate of 1.0 ~ 2.0 pts/A.
 - 6. ORTHENE 90 S insecticide tank mix use with CLETHODIM 2EC is permitted only in a state having an approved Section 24(c) registration for ORTHENE 90 S use in soybeans.
 - 7. The rate for CLETHODIM 2EC for annual grass control in seedling alfalfa should be 6 8 fl oz/A.
 - 8. For 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. RECOMMENDATIONS FOR ROUNDUP READY VOLUNTEER CORN CONTROL IN ROUNDUP READY SOYBEANS WITH CLETHODIM 2EC HERBICIDE TANK MIX

Roundup Ready Volunteer Corn Height (Inches)	CLETHODIM 2EC RATE FL OZ/A	GLYPHOSATE ¹ RATE FOR FORMULATIONS <u>WITH</u> BUILT IN ADJUVANT	ADJUVANT
<12	4	1.0 ~ 2.0 lb ai/A	Nonionic surfactant @
12 – 18	5	(Approx. equivalent to 22 – 44 fl oz/A of	0.125 - 0.25% v/v
18 – 24	6	ROUNDUP Weather MAX)	plus ammonium (AMS) @ 8.5 – 17 lbs per 100 gallons carrier

Roundup Ready Volunteer Corn Height (Inches)	CLETHODIM 2EC Rate fl oz/A	GLYPHOSATE [†] RATE FOR FORMULATIONS <u>WITHOUT</u> BUILT IN ADJUVANT	ADJUVANT
<12	4	Up to 2.0 lb ai/A	Crop oil concentrate @
12 to 18	5	(Equivalent to 32 – 64 fl oz/A of	1 pt/A plus ammonium
18 – 24	6	ROUNDUP Original)	sulfate (AMS) @ 8.5 – 17 lbs per 100 gallons carrier

¹ Glyphosate formulation must be labeled for use on Roundup Ready soybeans.

ALWAYS FOLLOW THE MOST RESTRICTIVE LABELING LANGUAGE OF ANY PRODUCT USED IN A TANK MIX

- Make application only to actively growing grass and broadleaf weeds at recommended height or growth stage listed on each label.
- Make application under favorable soil moisture and humidity, which exist a few days after rainfall or within seven days after irrigation.
- Reduced grass control can sometimes result with tank mix application. Make a second application of CLETHODIM 2EC as specified in the respective size and rate tables, if regrowth occurs or an additional flush of new grass emerges.
- This tank mix may be applied postemergence to ROUNDUP READY soybeans up through the full flowering stage. Do Not make application less than 60 days before harvest.
- Severe injury or destruction will result unless contact is avoided with foliage, green stems, or fruit crops, or any
 desirable plants and trees, other than soybeans with ROUNDUP READY gene.
- Do not allow the 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 is 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 will 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.
- Do not tank mix CLETHODIM 2EC when broadleaf weeds are tall and/or dense enough to prevent proper grass coverage.

FALLOW LAND DIRECTIONS FOR USE

CLETHODIM 2EC can be used to control annual and perennial grasses in land that has been left fallow the previous year and on other non-producing agricultural areas. Make application at 6-8 fl oz/A for annual grasses and 8-16 fl oz/A for perennial grasses. CLETHODIM 2EC can be tanked mixed with 2,4-D ester or BANVEL® SFG for broad spectrum control when both grass and broadleaf weeds are the target pest. Apply a minimum of 8 fl oz/A CLETHODIM 2EC when both annual and perennial grasses occur in the same field.



GENERAL INFORMATION

Use a minimum spray volume of 5 gallons/A for aerial applications and 15 gallons/A for ground applications.

Make application only to actively growing grasses when the first grass reaches the recommended weed height as specified by the "Recommendations for Annual and Perennial Grasses" section of this label.

Do not apply to drought stressed grasses.

Do not apply to grasses that have tillered, formed seed-heads or exceeded recommended growth stage.

Do not flood jet nozzles.

Do not plant any crop for 30 days after application unless clethodim is registered for use on that crop.

Annual grasses that emerge after the CLETHODIM 2EC application will not be controlled and a second application could be necessary.

Do not mow area for two (2) weeks prior to or after the CLETHODIM 2EC application.

Control of perennial grasses may require more than one (1) application in non-tilled areas.

Table 18. CLETHODIM 2EC IN TANK MIXES TO CONTROL ANNUAL AND PERENNIAL GRASSES IN FALLOW

PRODUCT	APPL	APPLICATION RATES/ACRE ¹		
PRODUCT	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
CLETHODIM 2EC	6 – 8 fl oz	8 – 16 fl oz.	1%	1%
+	+			
2,4-D ester	0.5 lb/A			
or	or			
BANVEL SGF	See BANVEL SGF			
	label for rates			

See CLETHODIM 2EC label for weed height and species control. Review BANVEL SGF and 2,4-D labels for use rates, weeds controlled and crop restrictions.

² 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.

RECOMMENDATIONS FOR GRASS SUPPLE	RESSION IN NON-CROP AREAS	WITH CLETH	ODIM 2EC
GRASS SPECIES	WEED STAGE	RATE FL OZ/ ACRE	HIGH RATE
Annual and perennial grasses that exceed height claimed for control on height chart above	Up to and including grasses in the seed head stage	12	16
Do not apply as part of a tank mix when applying C Add a crop oil concentrate at 1 qt/A by ground to the	5 11	ssion.	

Table 19. 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/SUPRESSED		WEED STAGES
		Common Name	Scientific Name	STAGES
CLETHODIM 2EC	10 – 12 fl oz/A	Tall Fescue	Festuca	4 to 6 inches tall (40-60%
			arundinacea	green-up)
ADJUVANT: CLET	HODIM 2EC must be	applied with a crop	oil concentrate at 1	at/A plus a spray grade

ADJUVANT: CLETHODIM 2EC must be applied with a crop oil concentrate at 1 qt/A, plus a spray grade ammonium sulfate (AMS) at 2.5 – 4 lbs/A.

Recommended Mixing Order: Thoroughly mix spray grade ammonium sulfate in water, add 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. Make application in the spring at 40 - 60% tall fescue green-up, prior to emergence of warm-season grasses. Do not mow area for two (2) weeks after the CLETHODIM 2EC application.

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

Make application only to fields that have warm season grasses established for two (2) years. Application of CLETHODIM 2EC to emerged warm-season grasses may cause injury. Do not make applications 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 on that crop.

ATTENTION: CLETHODIM 2EC applications are most effective if applied when average nighttime temperatures are consistently greater than or equal to 47°F.

Table 20. CLETHODIM 2EC FOR THE SUPPRESSION OF TALL FESCUE SEED-HEADS IN NONPRODUCING AGRICULTURAL AREAS

PRODUCT	PRODUCT RATE	SUPPRESSION	APPLICATION TIMING		
CLETHODIM 2EC	1-1/2 – 2 fl oz/A	Tall Fescue Seed-Heads (Festuca arundinacea	(50 to 90% Tall Fescue green-up)		
ADJUVANT: CLETHODIM 2EC must be applied with a crop oil concentrate at 1 qt/A, plus a spray grade ammonium sulfate (AMS) at 2.5 – 4 lbs/A.					

Recommended Mixing Order: Thoroughly mix spray grade ammonium sulfate in water, add CLETHODIM 2EC, then add crop oil concentrate.

SPECIAL APPLICATION INSTRUCTIONS/PRECAUTIONS

Make application at 50 – 90% tall fescue green-up.

If less tall fescue green matter is present, use the higher CLETHODIM 2EC rate.

Do Not mow area for two (2) weeks after the CLETHODIM 2EC application.

Make application in a minimum of 15-20 gallons water per acre at a spray pressure of 40-60 PSI at the nozzle. Make application 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 on that crop.

ORNAMENTALS

DIRECTIONS FOR USE

CLETHODIM 2EC can be used for ornamental plant uses to control labeled grass weeds in greenhouse, lathhouses, shadehouses, and around outdoor ornamentals, including nurseries, parks, roadside plants, and structure landscapes.

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

The following plants have shown a tolerance for CLETHODIM 2EC applications.

ORNAMENTAL TREES

COMMON NAME	SCIENTIFIC NAME
ALDER, RED	Alnus rubra
ASH	Fraxinus spp.
BASSWOOD	Tilia spp.
BIRCH, EUROPEAN WHITE	Betula pendula
BIRCH, RIVER	Betula nigra
BIRCH, WHITE	Betula papyrifera
CRABAPPLE, FLOWERING	Malus halliana
DOGWOOD, FLOWERING	Cornus florida
GOLDEN CHAIN TREE	Laburnum anagyroides
MAPLES	Acer spp.
MULBERRY, WHITE	Morus alba
OAKS	Quercus spp.
OLIVE, WILD	Elaeagnus angustifolia
REDBUD, EASTERN	Cercis Canadensis
SWEET GUM, AMERICAN	Liquidambar styraciflua

GROUND COVERS

COMMON NAME	SCIENTIFIC NAME
BUGLEWEED, CARPET	Ajuga reptans
IVY, ENGLISH	Hedera helix
JAPANESE SPURGE	Pachysandra terminalis
LILYTURF	Liriope muscari
MONEYWORT	Lysimachia nummularia
MONDO GRASS, WHITE	Ophiopogon jaburan
MONDO GRASS, DWARF	Ophiopogon japonicus
PERIWINKLE, LESSER	Vinca minor

GARDEN FLOWERS AND PLANTS

COMMON NAME	SCIENTIFIC NAME
AGERATUM	Ageratum spp.
ALYSSUM*, SWEET	Lobularia maritima
ASPARAGUS FERN	Asparagus setaceus
BLEEDING HEART	Dicentra spectabilis
CAST IRON PLANT	Aspidistra elatior
CHRYSANTHEMUM	Chrysanthemum spp.
CINQUEFOIL	Potentilla spp.
COLEUS	Coleus spp.
CORALBELLS	Heuchera sanguinea
CRANESBILL	Geranium spp.
DAHLIA	Dahlia spp.
DAISY, TRAILING AFRICAN	Osteospermum fruticosum
DAYLILY	Hemerocallis spp.
DUSTY MILLER	Senecio cineraria
EUONYMUS	Euonymus spp.
GAZANIA	Gazania spp.
GERANIUM, HOUSE	Pelargonium hortorum
HEATHER, FALSE	Cuphea hyssopifolia
HOSTA	Hosta fortunei
IRIS	Iris spp.
JASMINE TOBACCO	Nicotiana alata
LOOSESTRIFE	Lythrum salicaria
MARIGOLD	Tagetes spp.
PARTRIDGEBERRY	Mitchella repens
PETUNIA*	Petunia hybrida
PHLOX	Phlox spp.
PINKS	Dianthus spp.

GARDEN FLOWERS AND PLANTS (continued)

COMMON NAME	SCIENTIFIC NAME
PORTULACA	Portulaca grandiflora
SALVIA	Salvia spp.
SAXIFRAGE	Saxifraga spp.
SEDUM	Sedum spp.
SELLOUM	Philodendron selloum
SNAPDRAGON*	Antirrhinum majus
SWEET FLAG	Acorus gramineus
TICKSEED	Coreopsis grandiflora
TOUCH-ME-NOT	Impatiens spp.
VERBENA	Verbena spp.
VIOLET	Viola spp.
YARROW, COMMON	Achillea millefolium
ZINNIA	Zinnia elegans

^{*} Slight foliage or flower speckling has been observed on these species.

SHRUBS

	SHRUBS	
COMMON NAME	SCIENTIFIC NAME	
ABELIA	Abelia spp.	
ANISE, PURPLE	Illicium floridanum	
AUCUBA	Aucuba spp.	
AZALEA*	Rhododendron spp.	
BAMBOO	Bambusa spp.	
BARBERRY, JAPANESE	Berberis thungergii	
BARBERRY, MAGELLAN	Berberis buxifolia	
BAYBERRY	Myrica pensylvanica	
BOTTLEBRUSH	Callistemom citrinus	
BOXWOOD, COMMON	Buxus sempervirens	
CAMELLIA, COMMON	Camellia japonica	
CANDYTUFT	Iberis sempervirens	
CLEYERA	Cleyera japonica	
CORALBERRY	Ardisia crenata	
CRAPE MYRTLE	Lagerstroemia indica	
COYOTE BRUSH	Baccharis pilularis	
FIG, CREEPING	Ficus pumila	
GARDENIA	Gardenia spp.	
HOLLY	llex spp.	
HONEYSUCKLE	Lonicera spp.	
INDIAN HAWTHORN	Raphiolepis indica	
JASMINE	Jasminum spp.	
JASMINE, ASIATIC	Trachelospermum asiaticum	
JASMINE, STAR	Trachelospermum jasminoides	
JUNIPER	Juniperus spp.	
LANTANA	Lantana spp.	
NANDINA* BAMBOO, HEAVENLY	Nandinia domestica	
OLEANDER, COMMON	Nerium oleander	
OREGON GRAPE	Mahonia aquifolium	
PHOTINIA	Photinia spp.	
PITTOSPORUM	Pittosporum spp.	
PODOCARPUS	Podocarpus spp.	
PRIVET	Ligustrum spp.	
PYRACANTHA	Pyracantha spp.	
RHODODENDRON	Rhododendron spp.	
ROSE	Spiraea bumalda	
SWEET OLIVE	Osmanthus fragrans	
VIBURNUM	Vibumum tinus	
WISTERIA	Wisteria spp.	
YELLOW SAGE/SHRUB VERBENA	Lantana camara	
Slight foliage or flower speckling has been observed on these species		

^{*}Slight foliage or flower speckling has been observed on these species.

RECOMMENDATIONS FOR ANNUAL GRASSES IN ORNAMENTALS

1 Make application to actively growing grasses at recommended weed heights.

2 Make application when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment.

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

	leavy grass pressure and/or when gr	WEED*	RATE	HIGH RATE ²
GRASS SPECIES	SCIENTIFIC NAME	HEIGHT (Inches)	FL OZ/ ACRE ¹	RATE
Parnyardarasa	Echinochloa crus-galli	2 – 8	8	16
Barnyardgrass Broadleaf Signalgrass	Brachiaria platyphylla	2-6	8	16
Brodulear Signalyrass	Brome	2-0		10
California	Bromus carinatus	2-6	8	16
Cheat	Bromus secalinus	2-6	8	16
Downy	Bromus tectorum	2-6	8	16
	Bromus diandrus	$\frac{2-6}{2-6}$	8	16
Ripgut	Phalaris canariensis	1-4	8	16
Canarygrass		1-4	0	1 10
Hain	Crabgrass Digitaria adscendens	2 - 6**	8	16
Hairy		2-6**		
Large	Digitaria sanguinalis		8	16
Smooth	Digiteria ischaemum	2 – 6**	8	16
Southern	Digiteria ciliaris	2 - 6**	8	16
Crowfootgrass	Dactyloctenium aegyptium	2 – 6**	8	16
Fall Panicum	Panicum dichotomiflorum	2-8	8	16
Field Sandbur	Cenchrus incertus	2 – 6	8	16
	Foxtail		,	
Giant	Setaria faberi	2 – 12	8	16
Green	Setaria viridis	2 – 8	88	16
Yellow	Setaria glauca	2 – 8	88	16
Goosegrass	Eleusine indica	2 – 6**	8	16
Itchgrass	Rottboellia cochin	2-6	8	16
Junglerice	Echinochloa colona	2-6	8	16
Lovegrass (Stinkgrass)	Eragrostis cilianensis	2-6	8	16
Rabbitsfootgrass	Polypogon monspeliensis	1 – 4	8	16
Red Rice	Oryza sativa	1-3	8	16
Ryegrass				
Hardy	Lolium remotum	2-6	8	16
Italian	Lolium multiflorum	2-6	8	16
Seedling Johnsongrass	Sorghum halepense	4 - 10	8	16
Shattercane	Sorghum bicolor	6 – 18	8	16
Southwestern Cupgrass	Eriochloa gracilis	2-6	8	16
Sprangletop			·	
Amazon	Leptochloa panicoides	2 – 6	8	16
Bearded	Leptochloa fascicularis	2-6	8	16
Mexican	Leptochloa uninervia	2 – 6	8	16
Red	Leptochloa filiformis	2-6	8	16
Texas Panicum	Panicum texanum	2-6	8	16
Volunteer Cereals				1
Barley	Hordeum vulgare	2-6	8	16
Oats	Avena sativa	2-6	8	16
Rye	Secale cereale	2-6	8	16
Wheat	Triticum aestivum	2-6	8	16
Volunteer Corn	Zea mays	4 – 12	6	8
Volunteer Corn	Zea mays	12 – 24	8	16
Volunteer Grain Sorghum	Sorghum bicolor	8 – 12	8	16
Wild Oats	Avena fatua	2-6	8	16
Wild Proso Millet	Panicum miliaceum	2 – 10	8	
Witchgrass	······································			16
	Panicum capillare	$\frac{2-8}{2-8}$	8	16
Woolly Cupgrass	Eriochloa villosa	2 – 8	8	16

^{*}Generally occurs between 3-leaf stage and tillering

**Length of lateral growth

¹8 fl oz/A = approximately 0.2 fl oz/1000 sq ft

 2 16 fl oz/A = approximately 0.4 fl oz/1000 sq ft

Add a nonionic surfactant containing at least 80% active ingredient at the rate of 1 pt per 50 gallons (0.25% v/v).

RECOMMENDATIONS FOR PERENNIAL GRASSES

1 Make application only to actively growing grasses at recommended weed heights.

2 Make application when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment

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

GRASS SPECIES	WEED HEIGHT (inches)	RATE FL OZ/ ACRE ¹	HIGH RATE ²
Bermudagrass (Cynodon dactylon)			
First Application	3 (or up to 6" runners)	8	16
Repeat Application(s) (if regrowth occurs)	3 (or up to 6" runners)	8	16
Quackgrass (Elytrigia repens)			
First Application	4 – 8	8	16
Repeat Application(s) (if regrowth occurs)	4 – 8	8	16
Rhizome Johnsongrass (Sorghum halepense)			
First Application	12 – 24	8	16
Repeat Application(s) (if regrowth occurs)	6 – 18	6	8
Wirestem Muhly (Muhlenbergia frondosa)			
First Application	4 – 8	8	16
Repeat Application(s) (if regrowth occurs) 1. 8 ft oz/A = approximately 0.2 ft oz/1000 sq ft	4 – 8	8	16

^{2. 16} fl oz/A = approximately 0.4 fl oz/1000 sq ft

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

STORAGE AND DISPOSAL

PESTICIDE STORAGE: Store product in original container only. Store in a cool, dry place. Do not store diluted spray. Do not contaminate water, other pesticides, fertilizer, food or feed in storage or cleaning of equipment. Open dumping is prohibited.

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

CONTAINER DISPOSAL: Triple-rinse (or equivalent). Then offer for recycling or reconditioning, 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. Do not reuse container.

CONDITIONS OF SALE

- 1. Arysta LifeScience North America Corporation ("Arysta") warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in accordance with the directions under normal conditions of use.
- 2. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal use conditions, or under conditions not reasonably foreseeable to Arysta. ARYSTA DISCLAIMS ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, SELLER SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM OR IN CONNECTION WITH THE MANUFACTURE, SALE, DELIVERY, USE, HANDLING OR STORAGE OF THIS PRODUCT. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, SELLER'S LIABILITY SHALL BE LIMITED TO THE REFUND OF THE PURCHASE PRICE. ARYSTA DOES



NOT AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE ANY OTHER WARRANTY, GUARANTEE OR REPRESENTATION CONCERNING THIS PRODUCT.

3. Critical and unforeseeable factors beyond Arysta's control prevent Arysta from eliminating all risks in connection with the use of this product. Such risks include, but are not limited to, damage to plants and crops to which the product is applied, lack of complete control, and damage caused by drift to other plants or crops. Such risks occur even though the product is reasonably fit for the uses stated on the label and even though label directions are followed. Except as stated in 1. above, to the extent consistent with applicable law, by purchasing, accepting and using this product, the Buyer and User acknowledge and assume all risks and liability resulting from handling, storage, and use of this product.

AUTHORITY BROADLEAF® - Reg. TM of E.I. DuPont de Nemours & Co., Inc.

BANVEL® - Reg. TM of BASF Corp.

BASAGRAN® - Reg. TM of BASF AG

BAYTHROID® - Reg. TM of Bayer Corp.

BETAMIX® - Reg. TM of Aventis Group

BETANEX® - Reg. Tm of Aventis Group

BRONATE®, BRONATE ADVANCED™ - Reg. TM of Bayer Crop Sciences

BUCTRIL® - Reg. TM of Bayer Corp.

CANOPY XL® - Reg. TM of E.I. DuPont de Nemours & Co., Inc.

CLASSIC® - Reg. TM of E.I. DuPont de Nemours & Co., Inc.

COBRA® - Reg. TM of Valent U.S.A. Corp.

DANITOL® - Reg. TM of Sumitomo Chemical Co., Ltd.

DUAL, DUAL II AND DUAL MAGNUM® - Reg.TMs of Syngenta

EMINENT® - Reg. TM of Sipcam Agro USA, Inc.

FIRSTRATE® - Reg. TM of Dow AgroSciences LLC

FLEXSTAR® - Reg. TM of Syngenta Corp.

FRONTROW® - Reg. TM of Dow AgroSciences LLC

IMI-CORN® - Reg. TM of BASF Corp.

LIBERTY LINK® - Reg. TM of The Aventis Group

LORSBAN® - Reg. TM of Dow AgroSciences LLC

ORTHENE® - Reg. TM of OMS Investments, Inc.

POUNCE® - Reg. TM of FMC Corp.

PROWL® - Reg. TM of BASF Corp.

PURSUIT®, PURSUIT DG® - Reg. TMs of BASF Corp.

RAPTOR® - Reg. TM of BASF Corp.

RESOURCE® - Reg. TM of Valent U.S.A. Corp.

RHONOX® - Reg. TM of Nufarm Americas Inc.

ROUNDUP READY®, ROUNDUP ULTRA® - Reg. TMs of Monsanto Company

SELECT® - Reg. TM of Valent U.S.A. Corp.

SENCOR® - Reg. TM of Bayer Corp.

STINGER® - Reg. TM of Dow AgroSciences LLC

STORM® - Reg. TM of BASF Corp.

SYNCHRONY® STS™ - TM and Reg. TM of E.I. DuPont de Nemours & Co., Inc.

TURBO® - Reg. TM of Bayer Corp.

VALOR™ - TM of Valent U.S.A. Corp.

WARRIOR® - Reg. TM of Syngenta Corp.

CLETHODIM 2EC HERBICIDE,

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	
IF IN EYES:	 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. 	
IF ON SKIN OR CLOTHING:	 Call a poison control center or doctor for treatment advice. Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice. 	
IF SWALLOWED:	 Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person. 	
IF INHALED:	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice	
aspiration of light hyd mucosal damage ma Have the product con	N: Ingestion of this product or subsequent vomiting can result in rocarbon liquid, which can cause pneumonitis. If ingested, probable y contraindicate the use of gastric lavage. HOT LINE NUMBER tainer or label with you when calling a poison control center or	
	eatment. :NY MEDICAL ASSISTANCE CALL: 1-866-303-6952 ENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300	

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS & DOMESTIC ANIMALS WARNING

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

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.

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

STORAGE AND DISPOSAL

PESTICIDE STORAGE: Store product in original container only. Store in a cool, dry place. Do not store diluted spray. Do not contaminate water, other pesticides, fertilizer, food or feed in storage or cleaning of equipment. Open dumping is prohibited.

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

CONTAINER DISPOSAL: Triple-rinse (or equivalent). Then offer for recycling or reconditioning, 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. Do not reuse container.

EPA REG. NO.: 66330-353 EPA EST. NO.: xxx-xx-xx

NET CONTENTS:

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