

# U.S. ENVIRONMENTAL PROTECTION AGENCY Office of Pesticide Programs Registration Division (7504P) Ariel Rios Building 1200 Pennsylvania Ave., NW Washington, D.C. 20460

Washington, D.C. 20460

NOTICE OF PESTICIDE:
X Registration

(under FIFRA, as amended)

Reregistration

EPA Registration Number:

89168-11

Date of Issuance:

DEC 18 2012

Term of Issuance:

Unconditional

Name of Pesticide Product:

Liberty Clethodim 2EC

Name and Address of Registrant (include ZIP Code):

Scott Baker
Liberty Crop Protection, LLC
3937 Cedarwood Lane
Johnstown, CO 80534

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce, in any correspondence on this product always refer to the above EPA registration and in the commerce of the label in commerce.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is registered in accordance with FIFRA sec 3(c)(5) provided that you:

- 1. Submit and/or cite all data required for registration/reregistration review of your product when the Agency requires all registrants of similar products to submit data.
- 2. Make the following label revisions
  - a. Revise the EPA Reg No. to 89168-11
  - b. Assure that the establishment number and net content are also added to the label.
- 3. Submit one copy of the revised final printed label before you release the product for shipment.
- 4. Submit one-year storage stability data (guidelines 830.6317) and corrosion characteristics (guideline 830.6320) studies for 0,3,6,9, and 12 month intervals. The results from both study types must be submitted.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records. If you have any questions regarding the Notice, please contact Grant Rowland at (703) 347-0254 or <a href="mailto:rowland.grant@epa.gov">rowland.grant@epa.gov</a>.

Signature of Approving Official:

Kathryn Montague / Product Manager 23 Herbicide Branch (/

Registration Division (7505P)

Date:

DEC 1.8 mm

DEC 18 2012

# LIBERTY Clethodim 2EC

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

 ACTIVE INGREDIENT:
 By Wt.

 \*Clethodim
 26.4%

 OTHER INGREDIENTS\*\*:
 73.6%

 TOTAL:
 100.0%

\*(E)-2-[1[((3-chloro-2-propenyl)-oxy)imino]propyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one-propyll-3-hydrox

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.)

EPA Reg. No. 89168-

EPA Est. No.

LIBERTY CROP PROTECTION, LLC 3937 CEDARWOOD LANE JOHNSTOWN, CO 80534

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Net Contents:	Gal. (	L)
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	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 cont	inue rinsing
	eye.	0000
	Call a poison control center or doctor for treatment advice.	
If on skin or	Take off contaminated clothing.	666 C
clothing:	Rinse skin immediately with plenty of water for 15-20 minutes.	cc
•	Call a poison control center or doctor for treatment advice.	e
If swallowed:	Immediately call a poison control center or doctor.	( ( (
	Do not induce vomiting unless told to do so by a poison control center or	
	Do not give any liquid to the person.	c c c c c c c c
	Do not give anything by mouth to an unconscious person.	c ·
In inhaled:	Move person to fresh air.	C (
	If person is not breathing, call 911 or an ambulance, then give artificial	
•	preferably by mouth-to-mouth, if possible.	cc c
•	Call a poison control center or doctor for further treatment advice	ссс

<sup>\*\*</sup>Contains Petroleum Distillates

#### HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information concerning this product, call the National Pesticides Information Center (NPIC) at 1-800-858-7378 seven days a week, 6:30 am to 4:30 pm Pacific Time or your poison control center at 1-800-222-1222.

# **NOTE TO PHYSICIAN**

Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid, which can cause pneumonitis. If ingested, probable mucosal damage may contraindicate the use of gastric lavage.

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS WARNING

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

# PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

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

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

#### **USER SAFETY RECOMMENDATIONS**

#### Users should:

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

#### **ENVIRONMENTAL HAZARDS**

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

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

Solano Grass:

Solano County, California: the vernal lakes are bounded by the Union Pacific

Railroad and Hastings Road to the north, Highway 113 to the east, Highway 12

to the south, and Travis Air Force Base to the west.

Wild Rice:

Hays County, Texas.

# PHYSICAL OR CHEMICAL HAZARDS

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

#### **DIRECTIONS FOR USE**

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

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

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

#### AGRICULTURAL USE REQUIREMENTS

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

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

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

#### NON-AGRICULTURAL USE REQUIREMENTS

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

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

# **TANK MIXES**

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

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

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

#### **CHEMIGATION**

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

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

## PRODUCT INFORMATION

FOR USE ON: Alfalfa, Asparagus, Bean and Pea (dry shelled)<sup>1</sup>, Bean and Pea (succulent)<sup>2</sup>, Broccolic cabbage, Canola\*, Carrot, Cauliflower (and other Head and Stem Brassica Vegetables)<sup>3</sup>, Celenge Clever (grown in Idaho, Oregon and Washington only), Conifers, Cotton, Cranberry, Cucumber, Eggplant (and

other Fruiting Vegetables)<sup>4</sup>, Fallow Land (and other non-producing agricultural areas), Flax\*, Garden Beet, Garlic, Herbs<sup>5</sup>, Hops, Horseradish (and other Root Vegetables)<sup>6</sup>, Legume Vegetables (edible podded)<sup>7</sup>, Lettuce, Head and Leaf (and other leafy greens)<sup>8</sup>, Melons (including Cantaloupes and Watermelons)<sup>9</sup>, Mint, Mustard Greens (and other leafy brassica greens)<sup>10</sup>, Mustard Seed\*, Non-Bearing Food Crops, Non-Crop or Non-Planted Areas, Onions (dry bulb and green), Ornamentals, Peanut (including perennial), Peppers (bell and non-bell), Potato, Radish, Rhubarb (and other Leaf Petioles)<sup>11</sup>, Safflower, Sesame, Shallots (dry bulbs and green), Squash (including Pumpkins)<sup>9</sup>, Soybeans, Strawberry, Sugar Beet, Sunflower, Sweet Potato, Tomato, Turnip Greens, Yam (and other Tuberous and Corm Vegetables)<sup>12</sup>

## \*Not for use in California

Other Dry Shelled Bean and Pea crops approved for use with LIBERTY Clethodim 2EC include: Bean (*Lupinus* spp.), grain, sweet, white and white sweet; Bean (*Phaseolus* spp.), field, kidney, lima (dry), navy, pinto and tepary; Bean (*Vigna* spp.), adzuki bean, black-eyed pea, catjang, cowpea, crowder pea, moth bean, mung bean, rice bean, Southern pea, urd bean, broad (dry), chickpea (garbanzo), quar, lablab bean and lentil; Pea (*Pisum* spp.), field and pigeon.

Other Succulent Bean and Pea crops approved for use with LIBERTY Clethodim 2EC includes: Bean (*Lupinus* spp.), grain, sweet, white and white sweet; Bean (*Phaseolus* spp.), field, kidney, lima (dry), navy, pinto and tepary; Bean (*Vigna* spp.), adzuki bean, black-eyed pea, catjang, cowpea, crowder pea, moth bean, mung bean, rice bean, Southern pea, urd bean, broad (dry), chickpea (garbanzo),

guar, lablab bean and lentil; Pea (Pisum spp.), field and pigeon.

Other head and stem brassica vegetables approved for use with LIBERTY Clethodim 2EC include: Chinese broccoli, Brussels sprouts, Chinese (napa) cabbage, Chinese mustard, cavalo broccoli and kohlrabi.

Other Fruiting Vegetables (except tomato) approved for use with LIBERTY Clethodim 2EC include:

eggplant, groundcherry, pepino, peppers (all) and tomatillo.

Other Herb crops approved for use with LIBERTY Clethodim 2EC include: angelica, balm, basil, borage, burnet, chamomile, catnip, chervil (dried), chive, Chinese chive, clary, coriander (leaf), costmary, cilantro (leaf), curry (leaf), dill (dillweed), horehound, hyssop, lavender, lovage (leaf), marigold, marjoram (*origanum* spp.), nasturtium, parsley (dried), pennyroyal, rosemary, rue, sage and savory, summer and winter.

Other root vegetables approved for use with LIBERTY Clethodim 2EC include: burdock, edible; celeriac; chervil, turnip-rooted; chicory; ginseng; parsley, turnip-rooted; parsnip; radish, oriental;

rutabaga; salsify, black; salsify, Spanish; skirret and turnip.

Other Edible Podded Legume Vegetable crops approved for use with LIBERTY Clethodim 2EC include: Bean (*Phaseoulus* spp.), runner, snap and wax; Bean (*Vigna* spp.), asparagus, Chinese longbean, mother, yardlong, jackbean; Pea (*Pisum* spp.), dwarf, edible-pod, snow, sugar snap, pigeon and sword bean.

Other Leafy Greens crops approved for use with LIBERTY Clethodim 2EC include: amaranth (Chinese spinach, leafy amaranth and tampala), arugula (roquette), chervil, chrysanthemum (edible-leaved and garland), corn salad, cress (garden, yellow rock and winter), dandelion, dock (sorrel), endive (escarole), lettuce (head and leaf), orach, parsley, purslane (garden and winter), radicchio (red chicory), spinach (New Zealand and Vine (Indian and Malabar)).

Other cucurbit crops approved for use with LIBERTY Clethodim 2EC 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 LIBERTY Clethodim 2EC include: broccoli raab, Chinese (bok choy) cabbage, collards, kale, mizuna, mustard greens, mustard spinach and rape, greens.

Other leaf petiole crops approved for use with LIBERTY Clethodim 2EC include: cardoon, celtuce;

Chinese celery, Florence fennel, and Swiss chard.

Other tuber and corm vegetables approved for use with LIBERTY Clethodim 2EC include: arracacha, arrowroot, Chinese artichoke, Jerusalem artichoke, edible canna, bitter and sweet cassava, chayote (root), chufa, dasheen (taro), ginger, leren, tanier, turmeric and bean yam.

LIBERTY Clethodim 2EC is not specified for use on vegetable crops being grown for seed production unless specific use directions are provided.

LIBERTY Clethodim 2EC is a selective postemergence herbicide for control of annual and perennial

grasses. LIBERTY Clethodim 2EC does not control sedges or broadleaf weeds.

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

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

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

# **Control Symptoms**

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

#### APPLICATION INFORMATION

# **Timing of Applications**

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

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

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

# ADDITION OF ADJUVANT OR CROP OIL CONCENTRATE

CROP	AD HIVANT LICE INCTDUCTIONS
	ADJUVANT USE INSTRUCTIONS
Alfalfa, Cotton, Dry Shelled Bean &	Always use a crop oil concentrate* at 1.0 qt./A by ground or 1%
Pea, Edible Podded Legume	v/v (but not less than 1 pt./A) in the finished spray volume by air.
Vegetable, Peanuts (including perennial), Potato, Soybean, Succulent Bean & Pea, Sugar Beet and Sunflower	1 to 2 qts./A of liquid fertilizer (10-34-0, 28%N or 32%N), or an equivalent amount (2.5 to 4.0 lbs./A) of spray grade ammonium sulfate (AMS) may be added to LIBERTY Clethodim 2EC applications, in addition to the recommended rate of crop oil concentrate. The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.
Asparagus, Canola, Carrot, Clover, Cranberry, Cucurbits, Flax, Fruiting	Always use a crop oil concentrate at 1% v/v in the finished spray volume unless tank mix instructions indicate otherwise.
Vegetables (except Tomato), Garden	
Beet, Garlic, Head & Stem Brassica	Addition of liquid fertilizer is not recommended for these erops.
Vegetables, Herbs, Hops, Leaf	
Petioles, Leafy Brassica Greens,	ι ( εεειές
Onion (Dry Bulb & Green), Root	C
Vegetables, Safflower, Sesame,	
Shallots (Dry Bulb & Green),	

Strawberry, Sweet Potato (Yam & other Tuberous and Corm Vegetables except Potato) and Tomato	
Non-Bearing Food Crops, Ornamental Plants	Add a non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gals. (0.25% v/v). Use of crop oil concentrate is not recommended since it may injure flowers and foliage.
Conifer Trees, Fallow Land (and other non-producing agricultural areas), and Non-Crop or Non-Planted Areas	Always use a crop oil concentrate containing at least 15% emulsifier at 1% v/v (but not less than 1 pt./A) in the finished spray volume.

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

#### **Ground Application**

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

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

#### Air Application

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

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

#### Spot Treatment

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

NOTE: If LIBERTY Clethodim 2EC is applied as a spot treatment, care should be taken to not  $\epsilon$  a exceed the maximum rate allowed on a "per acre" basis or crop injury may occur.

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

• Do not apply LIBERTY Clethodim 2EC by chemigation in the states of Idaho, Montana, Oregon and Washington

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

Apply LIBERTY 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 LIBERTY Clethodim 2EC into the irrigation water at a constant flow. Constant agitation must be maintained in the chemical supply tank during the entire period of herbicide application. Inject the product with a positive displacement pump into the main line ahead of a right angle turn to ensure adequate mixing. Allow time for all lines to flush the herbicide through all nozzles before turning off irrigation water. To ensure the lines are flushed and free of remaining herbicide, a dye indicator may be injected into the lines to mark the end of the application period.

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

#### **Use Precautions**

- 1. Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, travelers, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.
- 2. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from non-uniform distribution of treated water.
- 3. If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label-prescribed safety devices for public water supplies are in place.
- 5. A person knowledgeable of the chemigation system and responsible for its operation or under supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
- 6. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- 7. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 8. The pesticide injection pipeline must also contain a functional, normally close solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 10. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 12. Do not apply when wind speed favors drift beyond the area intended for treatment.

## RESTRICTIONS AND LIMITATIONS

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

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

LIBERTY Clethodim 2EC is not specified for use on vegetable crops being grown for seed production unless specific use directions are provided.

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

Do not apply more than 8 fl. oz./A of LIBERTY 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 LIBERTY Clethodim 2EC per application to canola or mustard seed. For all other crops, do not apply more than 16 fl. oz. of LIBERTY Clethodim 2EC (0.25 lb. ai) per acre per application. **Exceeding these rates may result in unacceptable crop injury**.

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

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

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

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

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

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

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

- Do not spray if wind speeds are or become excessive.
- Do not spray if wind speed is 10 mph or greater. If sensitive crops or plants are downwind; conditions.

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

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

CROP SPECIFIC RESTRICTIONS AND LIMITATIONS FOR LIBERTY CLETHODIM 2EC

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
Alfalfa including: Sainfoin Holy Clover Birdsfoot trefoil <sup>(3)</sup>	15 days before grazing, feeding or harvesting (cutting) for forage or hay	6-16 fl. oz <sup>(4)</sup>	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air <sup>(5)</sup>	Refer to tank mix partners for feeding, grazing and harvesting restrictions. (5,6)  The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.
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.
				make on a minimum of a
Bean, Dry Shelled including: Bean (Lupinus spp.) Grain Sweet White	30 days	6-16 fl. oz.	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. <sup>(5)</sup>	Do not apply more than 16 fl. oz./A per application.  For repeat applications make on a minimum of 14 day interval.
White Sweet				Refer to appropriate Table

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
Bean ( <i>Phaseolus</i> spp.) Field Kidney				for reduced rate directions for the control of small annual grasses.
Lima (dry) Navy Pinto Tepary Bean (Vigna spp.) Adzuki Bean Black-eyed Pea Catjang Cowpea Crowder Pea				The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn.
Moth Bean Mung Bean Rice Bean Southern Pea Urd Bean Broad (dry)				
Chickpea (garbanzo) Guar Lablab Bean Lentil				,
Bean, Succulent including: Bean ( <i>Phaseolus</i> spp.) Broad Bean	21 days	6-8 fl. oz.	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. <sup>(5)</sup>	Refer to appropriate Table for reduced rate directions for the control of small annual grasses.
(succulent) Lima Bean (green) Bean (Vigna spp.) Black-eyed Pea				Do not apply more than one (1) application per acre per season.
Cowpea Southern Pea			·	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn.
Beet, Garden	30 days	6-8 fl. oz.	1% v/v in the finished spray volume.	Do not apply mofe than 8 fl. oz./A in a single ູ້ application.
				For repeat applications make on a minimum of a 14 day interval.
Brassica Vegetables, Head & Stem including: Broccoli	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.
Brussels sprouts				For repeat applications

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
Cabbage Cauliflower				make on a minimum of a 14 day interval.
Canola	70 days	4-6 fl. oz.	1% v/v in the finished spray volume.	Do not apply after crop has begun bolting. Crop injury may occur when LIBERTY Clethodim 2EC is applied during the bloom period.
		-		Do not apply more than 6 fl. oz./A in a single application.
			·	Do not exceed 6 fl. oz/A in a season.
Carrot	30 days	6-8 fl. oz.	1% v/v in the finished spray volume.	Do not apply more than 8 fl. oz./A in a single application.
				For repeat applications make on a minimum of a 14 day interval.
Clover	15 days before grazing, feeding, or harvesting (cutting) for forage	6-16 fl. oz.	1% v/v in the finished spray volume.	For use on clover grown in the states of Idaho, Oregon and Washington only.
	or hay			Do not exceed 16 fl. oz/A in a season.
Cotton	60 days	6-16 fl. oz.	1 qt. by ground or 1% v/v (but not less than 1	Do not graze treated fields or feed treated forage or hay to livestock.
			pt./A) by air. <sup>(5)</sup>	The addition of AMS has shown improved grass control for difficult to control species including:
				quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.
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 full set.
				For repeat applications make on a minimum of a
Cucurbits including:	14 days	6-8 fl. oz.	1% v/v in the	Do not apply more than 8

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
Chayote (fruit) Chinese Wax Gourd			finished spray volume.	fl. oz./A in a single application.
Citron Melon Cucumber Gherkin Gourd, Edible				For repeat applications make on a minimum of a 14 day interval.
Muskmelons (all) including: Cantaloupes				
Honeydew Melon Pumpkin Squash (all) Watermelon				
Fallow Land Conifer Trees (and other non- producing agricultural areas)	N/A	6-16 fl. oz.	1% v/v (but not less than 1 pt./A) in the finished spray volume using a	Do not plant any crop for 30 days after application unless clethodim is registered for use in that crop.
Non-Crop or Non- Planted Areas			crop oil concentrate containing at least 15% emulsifier	
Flax	60 days	6-8 fl. oz.	1% v/v in the finished spray volume.	Apply prior to bloom. Crop injury may occur when LIBERTY Clethodim 2EC is applied during the bloom period.
				Do not apply more than 8 fl. oz./A in a single application.
				Do not exceed 16 fl. oz./A in a season.
Fruiting Vegetable (except Tomato) including:	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.
Eggplant Groundcherry Pepino Peppers (all) Tomatillo				For repeat applications make on a minimum of a 14 day interval.
Herbs including: Angelica Balm Basil	14 days	6-8 fl. oz.	1% v/v in the finished spray volume.	LIBERTY Clethodim 2EC has not been tested on all herbs, and herb varieties. It is the responsibility of
Borage Burnet Camomile Catnip Chervil (dried)				the user to test EBERTY Clethodim 2EC on a small portion of the crop to be treated before treating the

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
Chive			·	entire field.
Chive, Chinese Clary Coriander (leaf) Costmary Culantro (leaf) Curry (leaf) Dill (dillweed)				Crop tolerance should be verified to LIBERTY Clethodim 2EC on a small area of the herb crop, at the desired LIBERTY Clethodim 2EC rate and
Horehound Hyssop Lavender Lovage (leaf)				with the same crop oil concentrate that will be used on the herb field. If no crop response is evident seven (7) days
Marigold Marjoram (Origanum spp.) Nasturtium Parsley (dried) Pennyroyal				after treatment, LIBERTY Clethodim 2EC may be used on the entire field at the rate tested and with the same crop oil used in the tolerance test.
Rosemary Rue Sage Savory, Summer and Winter				Do not apply more than 8 fl. oz./A in a single application.
vviitei	,			For repeat applications make on a minimum of a 14 day interval.
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.
	,			For repeat applications make on a minimum of a 14 day interval.
Leaf Petioles including: Cardoon	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.
Celery Celtuce Chinese Celery Fennel, Florence				For repeat applications make on a minimum of a 14 day interval.
(finochio) Rhubarb Swiss Chard				
Leafy Brassica Greens including: Broccoli Raab	14 days	6-8 fl. oz.	1% v/v in the finished spray volume.	Do not apply more than 8 fl. oz./A in the single application.
Cabbage, Chinese (bok choy) Collards Kale				For repeat applications make on a minimum of a 14 day interval
Mizuna				60.0

	Minimum Time	Use Rates	Crop Oil Concentrate	
Crops <sup>(1)</sup>	From Application to Harvest (PHI)	Per Acre	Rates Per Acre <sup>(2)</sup>	Special Use Instructions
Mustard Greens				
Mustard Spinach				
Rape Greens				<u> </u>
Leafy Greens	14 days	6-8 fl. oz.	1% v/v in the	Do not apply more than 8
including:			finished spray	fl. oz./A in a single
Amaranth			volume.	application.
Chinese Spinach				For repeat applications
Leafy Amaranth				make on a minimum of a
Tampala				14 day interval.
Arugula (roquette) Chervil	·			•
Chrysanthemum,	,			
Edible-leaved				
Chrysanthemum, Garland				
Corn Salad				
Cress				
Garden				
Upland (yellow rock	,		,	
and winter)				
Dandelion				
Dock (sorrel)			, .	
Endive (escarole)	·	, ,		
Lettuce, Head and				
Leaf .				
Orach		,	·	
Parsley	· ·			
Purslane				
Garden				
Winter				
Radicchio (red chicory) Spinach				
New Zealand				
Vine (Indian and				
malabar)				·
Legume Vegetables,	21 days	6-8 fl. oz.	1 qt. by ground	Do not apply more than 8
Edible Podded		0 0 111 0 41	or 1% v/v (but	fl. oz./A in a single ce
including:			not less than 1	application.
Bean (Phaseolus spp.)			pt./A) by air. <sup>(5)</sup>	Do not apply more than
Runner				Do not apply more than one (1) application per
Snap				acre per season.
Wax				"ce "ce"
Bean (Vigna spp.)				For peas apply before
Asparagus				bloom, but no lager than 21
Chinese Longbean				days before harvest
Moth				Refer to appropriate Table
Yardlong				for reduced rate directions
Jackbean		1		for the control of small
Pea ( <i>Pisum</i> spp.) Dwarf				annual grasses. "
Edible-pod				-
Edible-bod			<u> </u>	The addition of AMS has

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
Snow Sugar Snap Pigeon Sword Bean				shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.
Mint	21 days	6-16 fl. oz. <sup>(4)</sup>	1 qt. by ground or 1% v/v (but not less than 1 pt./A by air.)	Do not apply more than 16 fl. oz./A in a single application.  For repeat applications make on a minimum of a 14 day interval.
Mustard Seed	75 days	4-6 fl. oz.	1% v/v in the finished spray volume.	Do not apply after crop has begun bolting. Crop injury may occur when LIBERTY Clethodim 2EC is applied during the bloom period.
·				Do not apply more than 6 fl. oz./A in a single application.  Do not exceed 16 fl. oz./A
Onion (Dry Bulb Only) Garlic	45 days	6-16 fl. oz. <sup>(7)</sup> . <sup>(8)</sup>	1% v/v in the finished spray volume.	in a season.  Minimum of 20 gals./A spray volume by ground in entire U.S.
Shallot (Dry Bulb Only)				Minimum of 20 gals /A spray volume by air in California. (9)
				In states other than California, air application to onions, garlic creshallots should be made ince in minimum of 10 gals./A
Onion, Green including: Green Eschalot Japanese Bunching	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.
Onion Leeks Scallion or Spring				For repeat applications make on a minimum of a 14 day interval.
Onion Ornamentals	N/A	6-16 fl. oz.	Use of crop oil	Add a non-ionic surfactant
Non-Bearing Food Crops	N/A	6-8 fl. oz. <sup>(8)</sup>	concentrate is not recommended	containing at least 80% active ingredient at the rate of 1 pt. per 50 gals.

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Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
			since it may injure flowers and foliage. See Special Use Instructions.	(0.25% v/v).  Sugar maples cannot be tapped for syrup within one year of LIBERTY Clethodim 2EC application.
				Do not apply more than 8 fl. oz./A in a single application to non-bearing food crops.
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. <sup>(5)</sup>	Do not apply more than 8 fl. oz./A per application.  Do not apply more than one (1) application per acre per season.
				Apply before bloom but not later than 30 days prior to harvest. (10)
				Refer to appropriate Table for reduced rate directions for the control of small annual grasses.
				The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn.
Pea, Succulent including: Pea (Pisum spp.) English Pea Garden Pea Green Pea	21 days	6-8 fl. oz.	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. <sup>(5)</sup>	Do not apply more than 8 fl. oz./A per application.  Do not apply more than one (1) application per acre per season.
Pigeon Pea				Apply before bloom but not later than 21 days prior to harvest. (10)
				Refer to appropriate Table for reduced rate directions for the control of small annual grasses.
				The addition of AMS has shown improved grass control for difficult to

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
				control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.
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. <sup>(5)</sup>	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.
Potato	30 days	8-16 fl. oz.	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. <sup>(5)</sup>	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.
Radish	15 days	6-8 fl. oz.	1% v/v in the finished spray volume.	Do not apply more than 8 fl. oz./A in a single application.
	· .			Do not apply more than 16 fl. oz./A (0.25 lb. ai) per acre in a season.  For repeat applications make on a minimum of a
Root Vegetable (except Radish), including: Chicory Ginseng Horseradish Turnip	30 days	6-8 fl. oz.	1% v/v in the finished spray volume.	14 day interval.  Do not apply more than 8 fl. oz./A in a single application.  For repeat applications make on a minimum of a 14 day interval.
Safflower	70 days	6-8 fl. oz.	1% v/v in the finished spray volume.	Do not apply more ເກລັກ 8 fl. oz./A in a single application.  For repeat applications make on a miniກຸນການໂລ
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

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
			,	fl. oz./A in a single application.
				For repeat applications make on a minimum of a 14 day interval.
Soybean	60 days	6-16 fl. oz.	1 qt. by ground or 1% v/v (but not less than 1	Do not graze treated fields or feed treated forage or hay to livestock
			pt./A) by air. <sup>(5)</sup>	Refer to appropriate Table for reduced rate directions for the control of small annual grasses.
				The addition of AMS has shown improved grass control for difficult to control species including:
				quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.
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.
				For repeat applications make on a minimum of a 14 day interval.
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. <sup>(5)</sup>	Refer to appropriate Table for reduced rate directions for the control of small annual grasses.
				The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome
				Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer corn.
Sunflower	70 days	6-16 fl. oz.	1 qt. by ground or 1% v/v (but not less than 1 pt./A) by air. <sup>(5)</sup>	The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome.
				Johnsongrass, red rice, wild oats, volunteer cereals, and volunteer

Crops <sup>(1)</sup>	Minimum Time From Application to Harvest (PHI)	Use Rates Per Acre	Crop Oil Concentrate Rates Per Acre <sup>(2)</sup>	Special Use Instructions
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.	corn. The addition of AMS has shown improved grass control for difficult to control species including: quackgrass, rhizome Johnsongrass, red rice, wild oats, volunteer cereals and volunteer corn.
Tomato	20 days	6-16 fl. oz.	1% v/v in the finished spray volume.	For repeat applications make on a minimum of a 14 day interval.
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.  For repeat applications make on a minimum of a 14-day interval.

N/A = Not Applicable

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

least two full leaves. In California, 14 day spray intervals are recommended between the application of LIBERTY Clethodim 2EC and liquid nitrogen or other herbicide applications. Injury to crop may occur when shorter intervals are observed.

Applications of LIBERTY Clethodim 2EC to peas during the bloom period could result in severe crop injury, including loss of yield and delayed maturity.

## **IMPORTANT**

Plant tolerance to LIBERTY 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, environments 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 LIBERTY Clethodim 2EC have investigated the safety factor to plants not listed on the label.

#### **NON-BEARING FOOD CROPS**

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

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

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

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

#### **CONIFER TREES**

LIBERTY 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.

COMMON NAME	SCIENTIFIC NAME
Fir, Douglas	Pseudotsuga menziesii
Firs	Abies spp.
Hemlock, Canadian/Eastern	Tsuga Canadensis
Hemlock, Western	Tsuga heterophylla
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, and post-harvest croplands. Also beneath greenhouse benches and around golf courses.

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

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

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT* (inches)	RATE FL. OZ./ ACRE	HIGH RATE <sup>(1)</sup>
Barnyardgrass	Echinochloa crus-galli	2 to 8	. 6	8
Broadleaf Signalgrass	Brachiaria platyphlla	2 to 6	6	8
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	666. <b>8</b>
Large	Digitaria sanguinalis	2 to 6**	. 6	ece 6
Smooth	Digitaria ischaemum	2 to 6**	0	ິ <b>ເ</b> 8
Southern	Digitaria ciliaris	2 to 6**	6	, 8
Crowfootgrass	Dactyloctenium aegyptium	2 to 6**	6 6	8
Fall Panicum	Panicum dichotomiflorum	2 to 8	6	်င္က <b>( ၉</b> ၁
Field Sandbur	Cenchrus incertus	2 to 6	6	, <u>8</u>
Foxtail				6
Giant	Setaria feberi	2 to 12	6	c <b>8</b>
Green	Setaria viridis	2 to 8	6	$\beta_c$
Yellow	Setaria glauca	2 to 8	6	c 8
Goosegrass	Eleusine indica	2 to 6**	6	сс <b>8</b> с
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

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GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT* (inches)	RATE FL. OZ./ ACRE	HIGH RATE <sup>(1)</sup>
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				
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 <sup>(2)</sup>				
Barley	Hordeum vulgare	2 to 6	6	. 8
Oats	Avena sativa	2 to 6	6	8
Rye	Secale cereal	2 to 6	6	8
Wheat	Triticum aestivum	2 to 6	6	8
Volunteer Corn <sup>(3)</sup>	Zea mays	4 to 12	4	6
Volunteer Corn <sup>(3)</sup>	Zea mays	12 to 24	6	8
Volunteer Corn (S.R.) <sup>(4)</sup>	Zea mays	4 to 12	8 (suppres	sion only)
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 villiosa	2 to 8	6 .	8

\* Generally occurs between 3-leaf stage and tillering.

\*\* Length of lateral growth.

(1) Rates higher than 8 fl. oz./A may be applied in certain geographic areas, cropping situations, or environmental conditions, where experience has shown that higher rates are needed for satisfactory control of annual grasses. In these situations, rates from 8 to 16 fl. oz./A may be applied. Do not apply more than 8 fl. oz./A of LIBERTY Clethodim 2EC per application to the following crops: asparagus, carrot, cranberry, cucurbits, flax, fruiting vegetables (except tomato), garden beet, green onion, head and stem brassica vegetables, herbs, hops, leaf petioles, leafy brassica greens, leafy greens, non-bearing food crops, root vegetables, safflower, sesame and strawberry.

When a cereal grain crop (such as wheat) is interseeded for crop establishment or is planted as wind breaks to aid crop establishment, the minimum LIBERTY Clethodim 2EC use rate for control is

8 fl. oz./A.

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

(4) Sethoxydim resistant volunteer corn.

ANNUAL & PERENNI IN ESTABLISHED ALFALFA AND M	AL GRASS CONTROL INT WITH LIBERTY CLET	HODIM 2EC	ە د د د د د
GRASS SPECIES	WEED STAGE	RATE FL. OZ./ ACRE	်မျှနှု RATE
Annual & Perennial Grasses Listed in Grass Table	See Table	10	£ . 15} c

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. These grasses, even though they may be an annual grass, may require repeated applications of LIBERTY Clethodim 2EC for partial or complete control.

Irrigated Alfalfa and Mint: Irrigation practices can be very critical to the successful use of LIBERTY Clethodim 2EC in established alfalfa and mint and may be necessary to initiate active growth of the weeds prior to application. Generally applications 2 to 4 days after irrigation are most effective. 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:** Apply LIBERTY Clethodim 2EC in a minimum of 10 GPA in established alfalfa and mint when applying by air.

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

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

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

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

ANNUAL BLUEGRASS CONTROL WITH LIBERTY CLETHODIM 2EC			
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 fl. oz./A to control annual bluegrass in seedling and established alfalfa and mint.

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

• Apply only to actively growing grasses at recommended weed heights.

• Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment.

Regrowth by tillering may occur if application is made when plants are stressed by lack of moisture,

excessive moisture, low or high temperatures and/or under very low humidity.

GRASS SPECIES	SCIENTIFIC NAME	WEED HEIGHT (inches)	FL. OZ./ ACRE
Barnyardgrass	Echinochloa crus-galli	1 to 4	4
Broadleaf Signalgrass	Brachiaria platyphlla	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 italic	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

<sup>\*</sup> Length of lateral growth

# **PERENNIAL GRASSES**

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

<sup>\*\*</sup> Not S.R. Corn

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

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)	<u> </u>		
First Application	4 to 8	8	16
Repeat Application(s) (if regrowth occurs)	4 to 8	8	16
Foxtail Barley ( <i>Hordeum jubatum</i> )			
First Application	2 to 6	8	16
Repeat Application(s) (if regrowth occurs)	2 to 6	8	16
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)			
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.)			
First Application	2 to 4	-	16
Repeat Application(s) (if regrowth occurs)	2 to 4	-	16

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

#### TANK MIXES INFORMATION

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

- 1. Geographic restrictions all products are not registered for use in all areas and rates may vary from one region of labeled use to another;
- 2. Crop rotation restrictions;
- 3. Applicator certification requirements;
- 4. Worker safety rules (e.g. protective clothing, reentry time, posting);
- 5. Soil type or soil characteristics (e.g. pH, OM);
- 6. Maximum dosage or number of applications per season;
- 7. Rain free period required; or
- 8. Application timing (e.g. pre-harvest interval)
- 9. Do not exceed the total season rates.

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

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

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

# **MIXING INSTRUCTIONS**

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

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

## **INFORMATION ON ANTAGONISM**

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

#### **ALFALFA**

Table 1. LIBERTY CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR ALFALFA (Refer to tables above for specific grasses and growth stages)

	APPLICATION	RATES/ACRE <sup>(1)</sup>	CROF	
PRODUCT <sup>(2)</sup>	ANNUAL GRASSES	PERENNIAL GRASSES	CONCEN (V/	TRATE <sup>(3)</sup> V)
		GRASSES	GROUND	AIR :
LIBERTY Clethodim 2EC	10 to 16 fl. oz. +	10 to 16 fl. oz.	1%	1% د د د د د د د د د د د د د د د د د د د
2,4-DB <sup>(4)</sup>	Refer to 2,4-DB label	Refer to 2,4-DB label		- C C C C
LIBERTY Clethodim 2EC	10 to 16 fl. oz.		10/	(ccc).
PURSUIT DG <sup>(5)</sup>	1.08 to 2.16 oz.	- -	1% (	. <b>1%</b> 

·	APPLICATION R	ATES/ACRE <sup>(1)</sup>	CRO	POIL
PRODUCT <sup>(2)</sup>	ANNUAL GRASSES	PERENNIAL (V/V)		
•		GRASSES GROUND		AIR
PURSUIT <sup>(5)</sup>	3 to 6 fl. oz.			
LIBERTY	_	· · · · · · · · · · · · · · · · · · ·		
Clethodim 2EC	10 to 16 fl. oz.		•	
+	+ ,		0.5%	0.5%
BUCTRIL® 2L(6)	1.0 to 1.5 pts.	<b>-</b>	0.576	0.576
or	or -			
BUCTRIL GEL <sup>(6,7)</sup>	0.5 to 0.75 pt.			

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

#### **CANOLA**

Table 2. REDUCED RATE LIBERTY CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR CANOLA

	APPLICATION	RATES/ACRE	A BABACALIL IBA	AMMONIUM SULFATE			
PRODUCT	ANNUAL	PERENNIAL	AWIWONIUW SULFATE		- 1,		
	GRASSES <sup>(1)</sup>	GRASSES	GROUND	AIR .			
LIBERTY							
Clethodim 2EC <sup>(2)</sup>	4 to 5 fl. oz.		3.0 lbs.	3.0 db5.c			
+	+		0.0 103.	0.0408.9	ł		
LIBERTY <sup>(3)</sup>	34 fl. oz.			(·			

Annual grasses and sizes controlled with these tank mixtures are those that are identified in the DIRECTIONS FOR REDUCED RATE TO CONTROL SMALL ANNUAL GRASSES table.

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

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

<sup>(4)</sup> LIBERTY 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.
(5) Refore using this tonk mix road and will be a severed and

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

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

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

(3) For use only on LibertyLink® canola.

#### COTTON

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

PRODUCT <sup>(1)</sup>	APPLICATION RATES/ACRE <sup>(2)</sup>		CROP OIL CONCENTRATE <sup>(3)</sup> V/V	COMMENTS
•	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	
LIBERTY Clethodim 2EC <sup>(4)</sup>	6 to 8 fl. oz.	8 to 16 fl. oz.	1%	Reduce broadcast rate
+ COBRA + MSMA (4.0 lbs./gal.) or MSMA (6.6 lbs./gal.)	See COBRA label for rations for cotton. Refor weed height and space MSMA label for rations for cotton. Refor weed height and space for weed height and space in the cotton of the cotton.	in proportion to the band area actually treated		

(1) 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.

(2) If grass regrowth occurs or an additional flush of new grass emerges, make a second application of LIBERTY 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 may result and a second (non-post directed) application of LIBERTY Clethodim 2EC may be necessary.

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

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

(1) 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.

(2) If grass regrowth occurs or an additional flush of new grass emerges, make a second application of LIBERTY 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 at 1 qt./A by ground in the finished spray solution.

(4) Applications of BUCTRIL 4 EC can be made only to cotton that has been genetically modified for coop tolerance to postemergence over-the-top application of bromoxynil.

<sup>&</sup>lt;sup>(2)</sup> Do not apply LIBERTY Clethodim 2EC tank mix during or after bolting or flowering or crop injury may occur.

(5) Do not apply the LIBERTY Clethodim 2EC plus BUCTRIL tank mix within 75 days of harvest.

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

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

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

#### DRY SHELLED AND SUCCULENT BEANS

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

(Refer to the table	es above for specific grass	es and growth stages	.)	
	APPLICATION R	ATES/ACRE(1)	CROP	OIL (3)
PRODUCT <sup>(2)</sup>	ANNUAL GRASSES	PERENNIAL	CONCENTRATE <sup>(3)</sup> (V/V)	
, .		GRASSES	GROUND	AIR
LIBERTY	8 to 10 fl. oz.	10 to 16 fl. oz.	,	-
Clethodim 2EC	+	+	40/	407

1.0 to 2.0 pts.

**BASAGRAN®** 

1%

1%

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

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

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

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

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

# **FLAX**

Table 7. REDUCED RATE LIBERTY CLETHODIM 2EC TANK MIXED WITH BROADLEAF HERBICIDES FOR FLAX

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

	APPLICATIO	N RATES/ACRE	CROP OIL	
PRODUCT	ANNUAL	PERENNIAL	CONCENTRATE	
	GRASSES <sup>(1)</sup>	GRASSES	GROUND	AIR
LIBERTY Clethodim 2EC	4 to 5 fl. oz.			
+	+	. <b>-</b>	1 pt.	1 pt.
BRONATE ADVANCED <sup>TM(2,3)</sup>	11.4 fl. oz.	,		•
LIBERTY Clethodim 2EC	4 to 5 fl. oz.			-
+	+	_	1 pt.	1 pt.
BRONATE <sup>®(2,3)</sup>	0.9 pt.			
LIBERTY Clethodim 2EC	4 to 5 fl. oz.			
+ .	+	-	1 pt.	1 pt.
BUCTRIL <sup>(2,3)</sup>	1.0 pt.			
LIBERTY Clethodim 2EC	4 to 5 fl. oz.			
+	+	-	1 pt.	1 pt.
RHONOX <sup>®(2,3)</sup>	0.25 to 0.5 pt.	`	·	•

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

## **SOYBEAN**

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

PRODUCT	PRODUCT RATE/ACRE <sup>(1)</sup>	GRASS HEIGHT (inches)	CROP OIL CONCENTRATE /ACRE <sup>(2)</sup>	28%N <i>OR</i> 32%N QTS./A <i>OR</i> 2.5 TO 4.0 LBS. AMS
LIBERTY Clethodim 2EC + 2,4-D ester*(3)	3 fl. oz.	Foxtail 1 to 3 Fall Panicum 1 to 3	1 qt.	1 to 2 qts. or 2.5 to 4.0 lbs. AMS
	4 fl. oz.	Foxtail 1 to 4 Fall Panicum 1 to 4	1 qt.	1 to 2 qts. or 2.5 to 4.0 lbs. AMS
	6 to 8 fl. oz. + 0.5 lb. ai	(See Grass Chart for grasses claimed.)	1 qt.	1 to 2 gts. ຍ້າວ 2.5 to 4 0 lbs. AMS ີ ຣໍຣິ

<sup>\* 2,4-</sup>D ester should not be used where drift sensitive crops may be grown.

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

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

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

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

<sup>(3)</sup> The following products can be tank mixed with LIBERTY Clethodim 2EC plus 2,4-D ester: VALOR®, AUTHORITY® BROADLEAF, CANOPY XL®, DUAL® 8 E, DUAL II®, DUAL MAGNUM®, PROWL®, SENCOR®, SENCOR plus the DUAL products and TURBO®.

Table 9. LIBERTY CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR SOYBEAN (Refer to the tables above for specific grasses and growth stages.)

	APPLICATIO	ses and growth stages.) N RATES/ACRE <sup>(1)</sup>	CROI CONCEN	
PRODUCT <sup>(2)</sup>	ANNUAL	PERENNIAL	CONCEN (V/	
	GRASSES	GRASSES	GROUND	AIR
LIBERTY Clethodim				
2EC	6 to 8 fl. oz.	8 to 16 fl. oz.	0.5 to 1%	1%
. +	+	+	0.5 (0 176	1 70
COBRA	12.5 fl. oz.	12.5 fl. oz.		
LIBERTY Clethodim	0 to 40 ft am	10 4- 10 51		
2EC +	8 to 10 fl. oz.	10 to 16 fl. oz.	1%	1%
BASAGRAN 4 SL	1 to 2 pts.	1 to 2 pts.		
LIBERTY Clethodim	7 to 2 pto.	1 to 2 pts.		
2EC	6 to 8 fl. oz.	8 to 16 fl. oz.		
+	+	+	0 = 1 +01 (4)	10((4)
Glyphosate (For use on	0.75 to 3.0 lb. ai	0.75 to 3.0 lb. ai	0.5 to 1% <sup>(4)</sup>	1% <sup>(4)</sup>
Roundup Ready		·		
soybean only)				
LIBERTY Clethodim				
2EC	6 to 8 fl. oz.	6 to 8 fl. oz.	0.5% to 1%	1%
+	+	+	0.070 to 170	1,0
ULTRA BLAZER®	1 to 1.5 pts.	1 to 1.5 pts.		
LIBERTY Clethodim	6 to 8 fl. oz.	8 to 16 fl. oz.		
2EC	Refer to the FLEXSTAR HL	Refer to the	1%	1%
FLEXSTAR® HL <sup>(6)</sup>	label for specific	FLEXSTAR HL label for specific application	1 70	170
FLEXOIAN DL	application rates	rates.		
LIBERTY Clethodim	application rates	14100.		
2EC	8 to 10 fl. oz.	10 to 16 fl. oz.	404	104
+	+	+	1%	1%
CLASSIC® 25 DG	0.5 to 0.75 oz.	1.44 oz.		
LIBERTY Clethodim				
2EC <sup>(4)</sup>	6 to 8 fl. oz.	8 to 16 fl. oz.	1%	1%
+	+	+	170	170
PURSUIT® 70 DG	1.44 oz.	1.44 oz.	<del></del>	
LIBERTY Clethodim	0 1 10 5			
2EC <sup>(5)</sup>	8 to 10 fl. oz.			
+ COPPA	6 to 9 fl oz	-	0.5%	1%
COBRA +	6 to 8 fl. oz.			
CLASSIC 25 DG	0.5 to 0.75 oz.			
LIBERTY Clethodim	0.0 to 0.75 02.			
2EC <sup>(5)</sup>	8 to 10 fl. oz.			
+	+			6 6 6 6
COBRA	6 to 10 fl. oz.		0.5%	666 6 clobe
+	+			6 6
BASAGRAN 4 SL	1 to 1.5 pts.			ε.
LIBERTY Clethodim				C C
2EC <sup>(5)</sup>	8 to 10 fl. oz.		. *	66 (6
+ .	+	-,	0.5%	· [9%[c .
COBRA	6 to 10 fl. oz.		0.576	( 170
+	+			
PURSUIT 70 DG	1.44 oz.	<u> </u>		(

	APPLICATIO	N RATES/ACRE <sup>(1)</sup>	CROI CONCEN	
PRODUCT <sup>(2)</sup>	ANNUAL	PERENNIAL	CONCEN (V/	
	GRASSES	GRASSES	GROUND	. AIR
LIBERTY Clethodim				, , , , ,
2EC <sup>(5)</sup>	8 to 10 fl. oz.	. <del>.</del> .	0.50/	407
+	+	·	0.5%	1%
STORM®	1.5 pts.		, ,	
LIBERTY Clethodim				
2EC <sup>(5)</sup>	8 to 10 fl. oz.			
+	+	_	101	404
RESOURCE®	4 fl. oz.		1%	1%
+	+	.*		
PURSUIT 70 DG	1.44 oz.	·		
LIBERTY Clethodim				
2EC <sup>(5)</sup>	8 to 10 fl. oz.		ł .	•
+	+	_	40/	407
RESOURCE	4 fl. oz.		1%	1%
. +	+			*
BASAGRAN	1 pt.			,
LIBERTY Clethodim				
2EC <sup>(5)</sup>	8 to 10 fl. oz.	. •		
+	+ ,	<b>-</b> .	1%	1%
RESOURCE	4 fl. oz.	ı	1%	1%
+	+	•		
CLASSIC	0.5 oz.			
LIBERTY Clethodim	,	·		
2EC <sup>(5)</sup>	6 to 8 fl. oz.		•	
+	+		0.5%	1%
COBRA	6 fl. oz.		0.5%	170
+	+			
RESOURCE	4 fl. oz.			
LIBERTY Clethodim		- 1		,
2EC <sup>(5)</sup>	6 to 8 fl. oz.	8 to 16 fl. oz.	1%	
+	, <b>+</b>	+	1 70	
FIRSTRATE®	0.3 oz.	0.3 oz.		,
LIBERTY Clethodim			,.	
2EC <sup>(5)</sup>	6 to 8 fl. oz.	8 to 16 fl. oz.	•	
+	+	+	1%	
COBRA	6 to 8 fl. oz.	6 to 8 fl. oz.	1 70	
+	+	+		
FIRSTRATE	0.3 oz.	0.3 oz.		,
LIBERTY Clethodim				
2EC <sup>(5)</sup>	6 to 8 fl. oz.	-	1%	
+	+		1 70	
RAPTOR® (1 AS)	4 to 5 fl. oz.			C
LIBERTY Clethodim		<i>(</i> .		. ccc c
2EC <sup>(5)</sup>	6 to 8 fl. oz.			. c c
+	+	<b>-</b>	1%	c
COBRA	6 to 8 fl. oz.		1 70	
+	. +			( ( ( (
RAPTOR (1 AS)	4 to 5 fl. oz.			ر د
LIBERTY Clethodim				6
2EC <sup>(5)</sup>	6 to 8 fl. oz. <sup>(7)</sup>		1 qt.	_c
+	+	I	1 .	5 . c

	APPLICATIO	N RATES/ACRE <sup>(1)</sup>	CROP OIL		
PRODUCT <sup>(2)</sup>	ANNUAL	PERENNIAL		CONCENTRATE <sup>(3)</sup> (V/V)	
	GRASSES	GRASSES	GROUND	AIR	
SYNCHRONY® STS™	0.5 oz./A				
LIBERTY Clethodim 2EC <sup>(5)</sup>	6 to 8 fl. oz. <sup>(7)</sup>		: -		
+	+	-	1 pt.		
COBRA Herbicide	4 to 8 fl. oz.		i pt.	_	
+ .	· +				
SYNCHRONY STS™	0.5 oz.				
LIBERTY Clethodim					
2EC <sup>(5)</sup>	6 to 8 fl. oz.	-	1 qt.		
· <del>+</del>	+		ı yı.	_	
RESOURCE	4 to 12 fl. oz.			•	
LIBERTY Clethodim	8 to 10 fl. oz.				
2EC <sup>(5)</sup>	+			,	
+	Refer to	<del>-</del>	1%		
FRONTROW™	FRONTROW		1 70		
	label for use				
	rates.				
LIBERTY Clethodim			,		
2EC	6 to 8 fl. oz.	8 to 16 fl. oz.			
<b>.</b> +	+	+	,		
FIRSTRATE	0.3 oz.	0.3 oz.			
+-	+	+	1%	· -	
FLEXSTAR HL <sup>(5)</sup>	Refer to the	Refer to the			
	FLEXSTAR HL	FLEXSTAR HL label	,		
	label for specific	for specific application			
	application rates.	rates.			

(1) If grass regrowth occurs or an additional flush of new grass emerges, make a second application of LIBERTY 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.

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

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

<sup>(4)</sup> The addition of 2.5 lb. of ammonium sulfate is required when LIBERTY Clethodim 2EC is tank mixed with glyphosate. If the glyphosate formulation has a stand alone built in adjuvant, add 0.125% v/v non-ionic surfactant in place of crop oil concentrate. If the glyphosate formulation does not have a built in adjuvant, add 0.5 to 1% crop oil concentrate for ground application and 1% v/v for aerial application. The addition of 1 to 2 qts./A of liquid fertilizer (10-34-0, 28%N, or 32%N) is recommended when cocc LIBERTY Clethodim 2EC is tank mixed with PURSUIT, RESOURCE, STORM, FIRSTRATE, SYNCHRONY, RAPTOR, FRONTROW, COBRA plus CLASSIC, COBRA plus BASAGRAN, COBRA PURSUIT, COBRA plus FIRSTRATE, COBRA plus SYNCHRONY, and COBRA plus RAPTOR. And 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.

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

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

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

# PEANUT (INCLUDING PERENNIAL)

Table 11. LIBERTY CLETHODIM 2EC TANK MIXES WITH BROADLEAF HERBICIDES FOR PEANUT (INCLUDING PERENNIAL) - (Refer to the tables above for specific grasses and growth stages.)

PRODUCT <sup>(2)</sup>	APPLICATION RATES/ACRE(1)		CROP OIL	
	ANNUAL	ANNUAL PERENNIAL GRASSES	CONCENTRATE <sup>(3)</sup> (V/V)	
	GRASSES'-		GROUND	AIR
LIBERTY Clethodim	8 to 10 fl. oz.			
2EC	+	-		
+	1.0 to 2.0 pts.		1%	1%
BASAGRAN				
LIBERTY Clethodim	8 to 10 fl. oz.			
2EC	+	_	40/	40/
+ '	0.5 to 1.5 pts.		1%	1%
ULTRA BLAZER				, c , c , c
LIBERTY Clethodim				
2EC	8 to 10 fl. oz.	-	407	40/
+	+		1%	1%
STORM	1.5 pts.			6 C C

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

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

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

<sup>&</sup>lt;sup>(4)</sup> The addition of 1 to 2 qts./A of liquid fertilizer (10-34-0, 28%N, or 32%N) is required when LIBERTY Clethodim 2EC is tank mixed at reduced rates. An equivalent amount (2.5 to 4.0 lbs./A) of spray grade ammonium sulfate (AMS) may be added in place of liquid fertilizer. Fertilizer adjuvants are to be added in addition to the crop oil concentrate.

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

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

# GRASS SUPPRESSION FOR HARVEST EFFICIENCY IN PEANUT (INCLUDING PERENNIAL) WITH LIBERTY CLETHODIM 2EC

GRASS SPECIES	WEED STAGE	RATE FL. OZ./ ACRE	HIGH RATE
Annual and perennial grasses that exceed height claimed for control on height charts "ANNUAL GRASSES" & "PERENNIAL GRASSES"	Up to and including grasses in the seed head stage.	16	32

Do not apply as part of a tank mix when apply LIBERTY 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. LIBERTY CLETHODIM 2EC TANK MIXED WITH STINGER® APPLIED TO SUGAR BEET (Refer to the tables above for specific grasses and growth stages)

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

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

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

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

PRODUCT <sup>(1)</sup>	WEEDS CONTROLLED		WEED	APPLICATION
	COMMON NAME	SCIENTIFIC NAME	HEIGHT (inches)	RATE/ACRE <sup>(2)</sup>
LIBERTY Clethodim	Barnyardgrass	Echinochloa crus-galli	1 to 3	8 fl. oz.
2EC <sup>(3)</sup>	Foxtail	Setaria spp.	1 to 3	
+	Foxtail Millet	Setaria italic	1 to 3	cece
BETAMIX	Wild Oat	Avena fatua	1 to 3	6666
or	Wild Proso Millet	Panicum miliaceum	1 to 3	000 0
BETANEX			See BETAMIX label for rates to control broadleaf weeds. No additives are recomineded in the tank mix.  See BETANEX label for rates to control broadleaf weeds. No	
		•		
		· .		
			additives are recommended	
•			in the tank mi	<b>X.</b> (

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

<sup>(2)</sup> Do not use crop oil concentrate. No additives are recommended in the tank mix. If grass regrowth occurs or an additional flush of new grass emerges, make a second application of LIBERTY Clethodim 2EC alone (without a tank mix herbicide), according to the appropriate size and rate recommendations. <sup>(3)</sup> If grass regrowth occurs or an additional flush of new grass emerges, make a second application of LIBERTY Clethodim 2EC at full label rate with appropriate rate of crop oil concentrate.

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

	APPLICATION	RATES/ACRE(1)	METHYLATED		
PRODUCT		GRASSES	SEED OIL(2) (V/V		
, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ANNUAL GRASSES	CONTROLLED (inches)	GROUND	AIR	
LIBERTY Clethodim		Green Foxtail (1-2)	1.5%	1.5%	
2EC	2 to 3 fl. oz.	Yellow Foxtail (1-2)			
+	+	Barnyardgrass (1-2)	·		
BETANEX	8 to 12 fl. oz. <sup>(3)</sup>	Wild Oat (1-2)			
or	or	Volunteer Cereals (1-2)			
BETAMIX	8 to 12 fl. oz. <sup>(3)</sup>				

(1) 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.

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

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

# Directions for Use for Micro-Rate Applications to Sugar Beet Application Information

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

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

# Use Precautions for Micro-Rate Applications: (See LIBERTY Clethodim 2EC, BETANEX and care BETAMIX master label for further use precautions.)

Not all weeds will be adequately controlled, even with favorable climatic conditions. Convention of rates of LIBERTY Clethodim 2EC, BETANEX or BETAMIX and/or hand labor may be required if multiple microrate applications do not adequately control weeds. Plugging of spray nozzles may be encountered due to the potential for formation of a precipitate in the spray solution that is often associated with micro-rate

applications. LIBERTY, LLC will not be responsible for any nozzle plugging that may occur with the use of multiple micro-rate applications. Methylated seed oils must not be added if the BETANEX or BETAMIX rate exceeds 0.12 lb. ai./A broadcast, as the addition of methylated seed oils could increase the possibility of crop injury at dosage rates greater than 0.12 lb. ai./A.

### **GROUND APPLICATION**

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

#### **AERIAL APPLICATION**

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

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

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

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

(2) Refer to LIBERTY 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 LIBERTY CLETHODIM 2EC AND INSECTICIDES FOR CONTROL OF GRASS WEEDS AND INSECTS IN ALFALFA, COTTON, MINT, PEANUT (INCLUDING PERENNIAL), SOYBEAN AND SUNFLOWER

	APPLICATION	RATES/ACRE <sup>(1)</sup>				CR	OP		
PRODUCT <sup>(2)</sup>	ANNUAL GRASSES	PERENNIAL GRASSES	CROP OIL CONCENTRATE (V/V) <sup>(3)</sup>	Alfalfa <sup>(4)</sup>	Cotton	Mint <sup>(4,5)</sup>	Peanut	Soybean	Sunflower
LIBERTY					Χ	Χ	Χ	cco	
Clethodim 2EC	6 to 8 fl. oz.	6 to 8 fl. oz.	1%				c	000	ြင
+	+	+					. с	e c	C
ORTHENE® 75 S	0.33 to 1.33 lbs.	0.33 to 1.33 lbs.						c	0 0 d
or	or	or						í	
ORTHENE 97	0.25 to 1.0 lb.	0.25 to 1.0 lb.						e <sup>i</sup>	С
LIBERTY	,				X	Х	Χ°	$^{c}X^{e}$	2 G
Clethodim 2EC	6 to 8 fl. oz.	8 to 16 fl. oz.	1%				C C	e e e	
+	+	+					Č		. (
ORTHENE 90 S <sup>(6)</sup>	0.25 to 1 lb.	0.25 to 1 lb.	•					c	
LIBERTY		,			Х		Χç	000	
Clethodim 2EC	6 to 8 fl. oz.	8 to 16 fl. oz.	1%				£		
+	+	+	•			!	C C	c (	u
DANITOL® 2.4 EC	10 2/3 to 16 fl. oz.	10 2/3 to 16 fl. oz.					C	C (	İ
LIBERTY	6 to 8 fl. oz.	8 to 16 fl. oz.							Х
Clethodim 2EC	+	+	1%			<u> </u>			

	APPLICATION	RATES/ACRE <sup>(1)</sup>				CR	OP		
PRODUCT <sup>(2)</sup>	ANNUAL GRASSES	PERENNIAL GRASSES	CROP OIL CONCENTRATE (V/V) <sup>(3)</sup>	Alfalfa <sup>(4)</sup>	Cotton	Mint <sup>(4,5)</sup>	Peanut	Soybean	Sunflower
+	Refer to ASANA	Refer to ASANA							
ASANA XL®	XL label	XL label							
LIBERTY	6 to 8 fl. oz.	8 to 16 fl. oz.		.					Χ
Clethodim 2EC	+	+	1%						
+ WARRIOR®	Refer to WARRIOR label	Refer to WARRIOR label							
LIBERTY	10 to 16 fl. oz. <sup>(7)</sup>	10 to 16 fl. oz.		X					
Clethodim 2EC	+	+	1%	^					
+ .	Refer to	Refer to	170						
WARRIOR	WARRIOR label	WARRIOR label			:			i	
LIBERTY	10 to 16 fl. oz. (7)	10 to 16 fl. oz.		Х					
Clethodim 2EC	+	+	1%						
+	Refer to	Refer to							
BAYTHROID <sup>®</sup>	BAYTHROID label	BAYTHROID label		•					
LIBERTY	10 to 16 fl. oz. (7)	10 to 16 fl. oz. (7)		Х					
Clethodim 2EC	+	+	1%						
+	Refer to	Refer to				'			
DIMETHOATE®	DIMETHOATE	DIMETHOATE							
	label	label	,						
LIBERTY	10 to 16 fl. oz. <sup>(7)</sup>	10 to 16 fl. oz.		Х		-			
Clethodim 2EC	+	+	1 to 2 pt. <sup>(8)</sup>			:			
+ -	Refer to	Refer to							
LORSBAN®	LORSBAN label	LORSBAN label							
LIBERTY	10 to 16 fl. oz. <sup>(7)</sup>	10 to 16 fl. oz.		Х					
Clethodim 2EC	+ '.	+	1%		,				
+	Refer to POUNCE	Refer to POUNCE		.					
POUNCE®	label	label	·						

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

(2) Refer to LIBERTY 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.

(5) The LIBERTY Clethodim 2EC rate should be 6 to 8 fl. oz./A for annual grass control in baby mint, minimum of 8 fl. oz./A for annual grass control in established mint and 8 to 16 fl. oz./A for perennial grass control. Crop oil concentrate should be added at the rate of 1.0 to 2.0 pts./A.

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

The LIBERTY Clethodim 2EC rate should be 6 to 8 fl. oz./A for annual grass control in seedling alfalfa.

(/) The LIBERTY Clethodim 2EC rate should be 6 to 8 fl. oz./A for annual grass control in seedling alfalfa.
(8) For the LIBERTY Clethodim 2EC plus LORSBAN tank mix, reduce the adjuvant rate down to (10 pt./A when the LORSBAN rate is 1.0 pt./A or higher.

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

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

Roundup Ready Volunteer Corn Height	LIBERTY Clethodim 2EC Rate	Glyphosate <sup>(1)</sup> rate for formulations <b>with</b> built in adjuvant	Adjuvant
(Inches)	fl. oz./A	4.045.0.0 lb =: //	No. 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
<12	4	1.0 to 2.0 lb. ai./A (Approximately equivalent to	Non-ionic surfactant @ 0.125 to 0.25% v/v plus ammonium sulfate
12 to 18	5	22 to 44 fl. oz./A of ROUNDUP	@ 8.5 to 17 lbs. per 100 gals./of
18 to 24	6	Weather MAX)	carrier

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

(1) Glyphosate formulation must be labeled for use on Roundup Ready soybean.

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

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

## **FALLOW LAND**

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

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### PRODUCT INFORMATION:

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

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

PRODUCT	APPLICATIO	APPLICATION RATES/ACRE <sup>(1)</sup>		
	ANNUAL GRASSES	PERENNIAL GRASSES	GROUND	AIR
LIBERTY Clethodim 2EC	6 to 8 fl. oz.	8 to 16 fl. oz.	1%	1%
+	0.5 lb./A			
2,4-D ester	or			
or BANVEL SGF	See BANVEL SGF label for rates			

(1) Refer to LIBERTY Clethodim 2EC label for weed height and species control. Review BANVEL SGF and

2,4-D labels for crop restrictions, use rates and weeds controlled.

(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.

	ON IN NON-CROP AREAS Y CLETHODIM 2EC	r	
GRASS SPECIES	WEED STAGE	RATE FL. OZ./ ACRE	HIGH RATE
Annual and perennial grasses that exceed height claimed for control on height charts above.	Up to and including grasses in the seed head stage.	12	16

# Table 19. LIBERTY CLETHODIM 2EC FOR THE CONTROL AND/OR SUPPRESSION OF TALL % ...

FESCUE IN NATIVE	PRAIRIE WARIVI-SEASC	IN GRASS REST	URATION PROJEC	15 c.
PRODUCT	PRODUCT RATES		S WEEDS D/SUPPRESSED	WEED of
PRODUCT	PRODUCT RATES	Common Name	Scientific Name	STAGES
LIBERTY Clethodim 2EC	10 to 12 fl. oz./A	Tall Fescue	Festuca arundinacea	4 to 6 inches tall

Adjuvant: LIBERTY Clethodim 2EC must be applied with crop oil concentrate at 1 gt./A, plus a sp; av o grade ammonium sulfate at 2.5 to 4 lbs./A. Mixing Order: Thoroughly mix spray grade ammonium sulfate in water, add LIBERTY Clethodim 2EC, then add crop oil concentrate.

### SPECIAL APPLICATION INSTRUCTIONS/PRECAUTIONS

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

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

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

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

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

# Table 20. LIBERTY CLETHODIM 2EC FOR THE SUPPRESSION OF TALL FESCUE SEED-HEADS IN NON-PRODUCING AGRICULTURAL AREAS

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

### SPECIAL APPLICATION INSTRUCTIONS/PRECAUTIONS

Apply at 50 to 90% tall fescue green-up.

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

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

in water, add LIBERTY Clethodim 2EC Herbicide, then add crop oil concentrate.

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

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

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

## **DIRECTIONS FOR USE IN ORNAMENTALS**

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

## **IMPORTANT**

LIBERTY Clethodim 2EC successfully controls weeds in newly transplanted and established non-grassy ornamentals. Plant tolerance to LIBERTY 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 diserce determine if herbicide can be used safely on a few plants prior to widespread application. Neither, the seller nor the manufacturer of LIBERTY Clethodim 2EC have investigated the safety factor to ornamental plants not listed on the label.

The following plants have shown a tolerance for LIBERTY 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 japonicas
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.
Portulaca	Portulaca grandiflora
Salvia	Salvia spp.
Saxifrage	Saxifrage 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

<sup>\*</sup> Slight foliage or flower speckling has been observed on these species.

# **SHRUBS**

COMMON NAME	SCIENTIFIC NAME
Abelia	Abelia spp.
Anise, Purple	Illicium floridanum
Aucuba	Aucuba spp.
Azalea*	Rhododendron spp.
Bamboo	Bambusa spp.
Barberry, Japanese	Berberis thunbergii
Barberry, Magellan	Berberis buxifolia
Bayberry	Myrica pensylvanica
Bottlebrush	Callistemon citrinus
Boxwood, Common	Buxus sempervirens
Camellia, Common	Camellia japonica
Candytuft	Iberis sempervirens
Cleyera	Cleyera japonica
Coralberry	Ardisia crenata
Crape Myrtle	Lagerstroernia indica
Coyote Brush	Baccharis pilularis
Fig, Creeping	Ficus pumila
Gardenia	Gardenia spp.
Holly	lles 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.

COMMON NAME	SCIENTIFIC NAME
Podocarpus	Podocarpus spp.
Privet	Ligustrum spp.
Pyracantha	Pyracantha spp.
Rhododendron	Rhododendron spp.
Rose	Spiraea bumalda
Sweet Olive	Osmanthus fragrans
Viburnum	Viburnum tinus
Wisteria	Wisteria spp.
Yellow Sage/Shrub Verbena	Lantana camara

<sup>\*</sup> Slight foliage or flower speckling has been observed on these species.

## **ANNUAL GRASSES IN ORNAMENTALS**

- Apply only to actively growing grasses at recommended weed heights.
- Apply when the first grass weed species in a mixed grass and weed population reaches the recommended growth stage for treatment.

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

Use the high rate under heavy grass pressure and/or when grasses are at maximum height.  WEED*				
GRASS SPECIES	SCIENTIFIC NAME	HEIGHT INCHES	RATE FL. OZ./ACRE <sup>(1)</sup>	HIGH RATE <sup>(2)</sup>
Barnyardgrass	Echinochloa crus-galli	2 to 8	8 '	16
Broadleaf Signalgrass	Brachiaria platyphylla	2 to 6	8	16
Brome		•		
California	Bromus carinatus	2 to 6	88	16
Cheat	Bromus secalinus	2 to 6	8	16
Downy	Bromus tectorum	2 to 6	8	16
Ripgut	Bromus diandrus	2 to 6	8	16
Canarygrass	Phalaris canariensis	1 to 4	8	16
Crabgrass				
Hairy	Digitaria adscendens	2 to 6**	8 .	16
Large	Digitaria sanguinalis	2 to 6**	8	16
Smooth	Digitaria ischaemum	2 to 6**	8	16
Southern	Digitaria ciliaris	2 to 6**	8	16
Crowfootgrass	Dactyloctenium aegyptium	2 to 6**	8	16
Fall Panicum	Panicum dichotomiflorum	2 to 8	8 ·	16
Field Sandbur	Cenchrus incertus	2 to 6	8	16
Foxtail				
Giant	Setaria faberi	2 to 12	8	16
Green	Setaria viridis	2 to 8	8	16
Yellow	Setaria glauca	2 to 8	8	°°°16
Goosegrass	Eleusine indica	2 to 6**	- 8	cc.c.16
Itchgrass	Rottboellia cochin	2 to 6	8	ິ° 16
Junglerice	Echinochloa colona	2 to 6	8	16
Lovegrass (Stinkgrass)	Eragrostis cilianensis	2 to 6	. 8	16
Rabbitsfootgrass	Polypogon monspeliensis	1 to 4	8	6.6°18
Red Rice	Oryza sativa	1 to 3	8	16
Ryegrass	₹ .			66666
Hardy	Lolium remotum	2 to 6	8	د 16
Italian	Lolium multiflorum	2 to 6	8 . ;	<u> </u>
Seedling Johnsongrass	Sorghum halepense	4 to 10	8	16
Shattercane	Sorghum bicolor	6 to 18	8	° 615
Southwestern Cupgrass	Eriochloa gracilis	2 to 6	8	16
Sprangletop			_	
Amazon	Leptochloa panicoides	2 to 6	8	16

GRASS SPECIES	SCIENTIFIC NAME	WEED* HEIGHT INCHES	RATE FL. OZ./ACRE <sup>(1)</sup>	HIGH RATE <sup>(2)</sup>
Bearded	Leptochloa fascicularis	2 to 6	8	16
Mexican	Leptochloa uninervia	2 to 6	8	16
Red	Leptochloa filiformis	2 to 6	8 .	16
Texas Panicum	Panicum texanum	2 to 6	\8	16
Volunteer Cereals				
Barley	Hordeum vulgare	2 to 6	8	16
Oats	Avena sativa	2 to 6	8	16
Rye	Secale cereale	2 to 6	8	16
Wheat	Triticum aestivum	2 to 6	8	16 -
Volunteer Corn	Zea mays	4 to 12	6	8
Volunteer Corn	Zea mays	12 to 24	8	16
Volunteer Grain Sorghum	Sorghum bicolor	8 to 12	8	16
Wild Oats	Avena fatua	2 to 6	8	16
Wild Proso Millet	Panicum miliaceum	2 to 10	8	16
Witchgrass	Panicum capillare	2 to 8	8	16
Woolly Cupgrass	Eriochloa villosa	2 to 8	8	16

<sup>\*</sup> Generally occurs between 3-leaf stage and tillering.

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

Add a non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gals.

(0.25% v/v).

ANNUAL BLUEGRASS CONTROL WITH LIBERTY CLETHODIM 2EC IN ORNAMENTALS					
GRASS SPECIES  WEED STAGE RATE FL. OZ./ ACRE HIGH					
Annual Bluegrass (Poa annua)	to 4-leaf	6	16		

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

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.

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

## **PERENNIAL GRASSES**

- · Apply only to actively growing grasses at recommended weed heights.
- Apply when the first grass weed species in a mixed grass weed population reaches the recommended growth stage for treatment.
- Use the high rate under heavy grass pressure and/or when grasses are at maximum height $rac{c}{6}$  occ $rac{c}{6}$  o

GRASS SPECIES	WEED HEIGHT (inches)	RATE FL. OZ./ ACRE <sup>(1)</sup>	HIGH c RATE <sup>(2)</sup>
Bermudagrass (Cynodon dactylon)			( C C
First Application	3 (or up to 6"	8	16 %
	runners)		].
Repeat Application(s) (if regrowth occurs)	3 (or up to 6"	8	16
	runners)		

<sup>\*\*</sup> Length of lateral growth.

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

Quackgrass (Elytrigia repens)			
First Application	4 to 8	8	16
Repeat Application(s) (if regrowth occurs)	4 to 8	8	16
Rhizome Johnsongrass (Sorghum halepense)			
First Application	12 to 24	. 8	16
Repeat Application(s) (if regrowth occurs)	6 to 18	6	8
Wirestem Muhly ( <i>Muhlenbergia frondosa</i> )			
First Application	4 to 8	8	16
Repeat Application(s) (if regrowth occurs)	4 to 8	8	16

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

## STORAGE AND DISPOSAL

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

### **PESTICIDE STORAGE**

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

### PESTICIDE DISPOSAL

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

# CONTAINER HANDLING [NONREFILLABLE CONTAINERS]

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

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

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

#### [REFILLABLE CONTAINERS]

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

To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously

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

Add a non-ionic surfactant containing at least 80% active ingredient at the rate of 1 pt. per 50 gals.

(0.25% v/v)

or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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

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

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

LIBERTY CROP PROTECTION, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or LIBERTY CROP PROTECTION, LLC, and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, LIBERTY CROP PROTECTION, LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

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