



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

MAY - 8 1998

James A. Barron, Ph.D.  
Rhone-Poulenc Ag Company  
2 Alexander Drive  
Research Triangle Park, NC 27709

Subject: Amended Registration for Transgenic Cotton  
Buctril 4EC Herbicide  
EPA Reg. Number 264-540  
Your label amendments submitted September 12, 1997 and  
April 28, 1998, and May 6, 1998.

Dear Dr. Barron:

The label amendments referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, are acceptable, provided that you adhere to the following requirements:

1. The cotton acreage treated with bromoxynil (Buctril plus Buctril 4EC products) between the date of this letter and October 1, 1998 will be limited to 1.3 million acres.
2. An acceptable method to measure the DBHA metabolite in livestock commodities (including milk and eggs) must be submitted to the Agency no later than June 30, 1998.
3. If the analytical method for DBHA on livestock commodities has not been validated by EPA prior to October 1, 1998, the registration of this product on cotton will expire on that date. If this occurs, bromoxynil must not be applied to cotton after October 1, 1998.
4. A program to monitor bromoxynil residues in surface water that is approved by EPA is required. The final report of the completed monitoring program must be submitted to EPA no later than January 31, 2000. This monitoring program should follow the specifications of the attached draft Agency review of the preliminary protocol submitted by Rhone

Poulenc. Further Agency guidance may be provided following Agency review of the more detailed surface water monitoring protocol submitted to the Agency in April 1998. \_

5. Rhone-Poulenc Ag Company may not sell or distribute Buctril for use on transgenic cotton in the areas listed below. In addition, Rhone-Poulenc Ag Company may not sell or distribute Buctril to any person who may sell or distribute it for use on transgenic cotton in the areas listed below:

Florida, South of Tampa (Florida Route 60); and

Hawaii, except for test plots or breeding nurseries.

6. Limited field trials for rotational crops must be submitted to the Agency no later than January 1, 1999. An interim report for this study must be submitted no later than June 1, 1998.

7. You must make the following changes to your proposed label:

a. In the ingredients statement, modify the ACTIVE INGREDIENT section to the following:

ACTIVE INGREDIENTS:

Octanoic acid ester of bromoxynil  
(3,5-dibromo-4-hydroxybenzotrile).....28%

Heptanoic acid ester of bromoxynil  
(3,5-dibromo-4-hydroxybenzotrile).....27%

b. In the PERSONAL PROTECTIVE EQUIPMENT section, in the first sentence of the fifth paragraph, change "Application from a tractor with a completely closed cab or aerial application" to the following:

Application from a tractor or aerial application with a completely enclosed cab"

c. In the RESTRICTIONS AND PRECAUTIONS section, on pages 28, 30, and 32, replace the sentence "Do not allow livestock to graze in treated areas or feed treated grass and forage to livestock" with the following:

Do not allow livestock to graze in treated areas or feed treated grasses, forage, hay, straw, silage, or seed to livestock.

d. In the RESTRICTIONS AND PRECAUTIONS section, on page 29, replace the sentence "Do not allow livestock to graze in treated areas or feed treated forage, hay, or straw for at least 130 days after treatment" with the following:

Do not allow livestock to graze in treated areas or feed treated grasses, forage, hay, straw, silage, or seed to livestock.

8. The requirement of the Agency's May 5, 1995 letter for submission of the following information is still applicable. The following information must be submitted annually:

- 1) the effect of the registration of this use on the amount of herbicide usage on cotton; and
- 2) the effect of the registration of this use on tillage practices.

9. Following the Agency's reassessment of the risks of bromoxynil now being conducted as part of reregistration, the Agency may require additional changes to the label of this product. Any changes required as a result of this risk reassessment must be made to the label of this product as soon as you are notified by EPA that label changes are needed.

10. Submit one copy of your final printed labeling before you release the product for shipment.

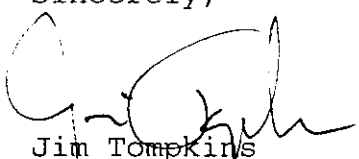
If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA

section 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

If you have any questions about this letter, please contact Tobi Colvin-Snyder of my staff at 703-305-7801.

Sincerely,



Jim Tompkins  
Product Manager (25)  
Herbicide Branch  
Registration Division (7505C)

# BUCTRIL® 4EC HERBICIDE

FOR THE CONTROL OF CERTAIN BROADLEAF WEEDS IN CORN (FIELD AND POP), SORGHUM (GRAIN AND FORAGE), SMALL GRAINS, SEEDLING ALFALFA, FLAX, GARLIC, MINT, ONIONS, TRANSGENIC BXN® COTTON, GRASSES GROWN FOR SEED AND SOD PRODUCTION, CONSERVATION RESERVE PROGRAM (CRP) AREAS, NON-RESIDENTIAL TURFGRASS, AND NON-CROPLAND/INDUSTRIAL SITES.

**ACTIVE INGREDIENT:**

Octanoic and heptanoic acid esters of bromoxynil\* (3,5-dibromo-4-hydroxybenzotrile).....55%

**INERT INGREDIENTS:**.....45%

Contains xylene range/petroleum distillates.

\*Equivalent to 4.0 pounds of bromoxynil per gallon.

E.P.A. Reg. No. 264-540 E.P.A. Est. No.

MAY 8 1998

## KEEP OUT OF REACH OF CHILDREN AVISO WARNING

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 264-540

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.)

For **PRODUCT USE** Information Call 1-888-4RP-AGRO (1-888-477-2476).

For **MEDICAL And TRANSPORTATION** Emergencies **ONLY** Call 24 Hours A Day 1-800-334-7577.

### STATEMENT OF PRACTICAL TREATMENT

**IF SWALLOWED:** Call a Physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

**IF ON SKIN:** Wash with plenty of soap and water. Get medical attention.

**IF IN EYES:** Flush eyes with plenty of water. Call a physician if irritation persists.

**IF INHALED:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

### PRECAUTIONARY STATEMENTS

#### WARNING

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

May be fatal if swallowed. May be harmful if absorbed through skin or inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear coveralls over a long-sleeved shirt and long pants, chemical-resistant gloves such as barrier laminate or viton gloves, a chemical-resistant apron when cleaning equipment, protective eyewear, chemical resistant headgear for overhead exposure, and chemical resistant footwear plus socks.

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, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6), the handler PPE requirements may be reduced or modified as specified in the WPS.

If you will handle a total of 30 gallons or more of this product per day, you must use a mechanical transfer system for all mixing and loading operations. If this product is packaged in a 30 gallon drum, you must use a mechanical transfer system which terminates in a drip-free hard coupling which may be used only with a spray or mix tank which has been fitted with a compatible coupling. If you do not presently own or have access to a mechanical transfer system with this type of coupling, contact your dealer for information on how to obtain such a system or to modify your present system. When using a mechanical transfer system, do not remove or disconnect the pump or probe from the container until the container has been emptied and rinsed. The pump or probe system must be used to rinse the empty container and to transfer the rinsate directly to the mixing or spray tank.

Application from a tractor with a completely enclosed cab or aerial application is required whenever this product is applied to 360 or more acres in a day. To avoid contamination, coveralls and gloves worn when handling the concentrate must be removed prior to

entering an enclosed cab or cockpit. When applying from a tractor with an enclosed cab, clean coveralls and clean nitrile gloves must be kept inside the cab, and must be worn when exiting the cab to perform in-field maintenance or repair.

To reduce exposure to residues, wash the spray rig, tractor, and all other equipment used to handle or apply this product with water daily or before using the equipment for any other purpose.

**APPLICATION BY CHEMIGATION** must be done by fixed pipe, overhead sprinkler systems or hand moved pipe. If hand moved pipe is used for chemigation, the pipe must not be handled in any way until 24 hours after chemigation has been completed and residues have been flushed from the system. When applying by chemigation, no person may enter the application site unless in an enclosed vehicle.

**DURING AERIAL APPLICATION**, human flaggers are prohibited unless in enclosed vehicles. Aerial application is prohibited within 300 feet of residential areas (e.g., homes, schools, hospitals, shopping areas, etc.)

**User Safety Recommendations**

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. 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**

This pesticide is toxic to wildlife and fish. Use with care when applying to areas frequented by wildlife or adjacent to any body of water. For terrestrial uses, 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 when weather conditions favor drift from target areas. Do not contaminate water when disposing of equipment washwaters.

**PHYSICAL AND CHEMICAL HAZARDS**

Do not use or store near heat or open flame.

**DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label before using this product.

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 expectations pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry intervals. 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 cotton crops during the restricted entry interval (REI) of 96 hours. For all other crops, the REI is 12 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 over long-sleeved shirt and long pants, chemical-resistant gloves such as barrier laminate or viton gloves, chemical-resistant footwear plus socks, chemical-resistant headgear for overhead exposure, and protective eyewear.

**STORAGE AND DISPOSAL**

**STORAGE**

Do not contaminate water, food, or feed by storage or disposal. Do not store near fertilizers or seeds. Store at temperatures above 3° F. If allowed to freeze, remix before using.

**PESTICIDE DISPOSAL**

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

**CONTAINER DISPOSAL**

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**RETURNABLE - REFILLABLE CONTAINER**

This material may be repackaged in 15 or 30 gallon returnable-refillable containers by Rhone Poulenc Ag Company or a registered establishment under contract to Rhone Poulenc Ag Company. After use, return the container to the point of purchase or designated locations. This container must only be refilled with BUCTRIL® 4EC Herbicide. DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE. Prior to refilling, inspect thoroughly for damage such as cracks, punctures, abrasions and damaged or worn out threads on closure devices. Do not refill or transport damaged or leaking containers. Check for leaks after refilling and before transportation. If the container is not being refilled, return it to the point of purchase.

## GENERAL INFORMATION

BUCTRIL® 4EC is formulated as an emulsifiable concentrate of octanoic acid and heptanoic acid esters of bromoxynil containing the equivalent of 4 pounds of bromoxynil per gallon.

BUCTRIL® 4EC is a selective postemergence herbicide for control of important broadleaf weeds infesting corn (field and pop), sorghum (grain and forage), small grains (wheat, barley, oats, rye, triticale), alfalfa (seedling), flax, onions, garlic, mint (established peppermint and spearmint), Transgenic Bxn® Cotton, Conservation Reserve Program (CRP) areas, grasses grown for seed or sod production, non-residential turfgrass, and non-cropland and industrial sites. Optimum weed control is obtained when BUCTRIL® 4EC is applied to actively growing weed seedlings. BUCTRIL® 4EC is primarily a contact herbicide, therefore thorough coverage of the weed seedlings is essential for optimum control.

BUCTRIL® 4EC has little residual activity. Therefore subsequent flushes of weeds will not be controlled by the initial treatment. Generally crops that form a good canopy will help shade subsequent weed flushes. However, certain crops or short-straw varieties, for example Yaccora Rojo wheat, may not develop the crop canopy fast enough to shade the subsequent flushes of weeds.

Occasional transitory leaf burn may occur. The temporary leaf burn is similar to that seen with liquid fertilizer. Because the activity of BUCTRIL® 4EC is not systemic, recovery of the crop is generally rapid with no lasting effect. Frequency and amount of leaf burn may be greater when crops are stressed by abrasive winds, cool to cold evening temperatures or mechanical injury, such as that caused by hail, sleet or insect feeding. To reduce the potential for temporary leaf burn, applications should be made to dry foliage in the recommended spray volumes per acre when weather conditions are not extreme.

## MIXING, LOADING AND HANDLING INSTRUCTIONS

### 2.5 Gallon Containers

It is strongly recommended that special care be taken in mixing and loading this product. Hands should be placed on the container in such a way as to avoid possible drip or splash. Correct procedures for mixing and loading are provided in Rhône-Poulenc Ag Company's Educational Program.

### 30 Gallon and Bulk Containers

If you will handle a total of 30 gallons or more of this product per day, you must use a mechanical transfer system for all mixing and loading operations. If this product is packaged in a 30 gallon drum, you must use a mechanical transfer system which terminates in a drip-free hard coupling which may be used only with a spray or mix tank which has been fitted with a compatible coupling. If you do not presently own or have access to a mechanical transfer system with this type of coupling, contact your dealer for information on how to obtain such a system or to modify your present system. When using a mechanical transfer system, do not remove or disconnect the pump or probe from the container until the container has been emptied and rinsed. The pump or probe system must be used to rinse the empty container and to transfer the rinsate directly to the mixing or spray tank.

**BUCTRIL® 4EC ALONE:** Fill the spray tank 1/2 to 3/4 full with clean water. Begin agitation and add the recommended amount of BUCTRIL® 4EC. Add water to the spray tank to the desired level. Maintain sufficient agitation to ensure a uniform spray mixture during application.

**TANK MIXTURES:** BUCTRIL® 4EC can be applied in tank mixture with many other herbicides and insecticides registered for use on approved crops. Refer to the specific crop section for rate recommendations and other restrictions. To apply BUCTRIL® 4EC in mixture with another product, fill the spray tank 1/2 to 3/4 full with clean water and begin agitation. If tankmixing with wettable powder, soluble powder, flowable or dry flowable products, add the powder or flowable product first. After the other herbicide is thoroughly mixed with water add the recommended amount of BUCTRIL® 4EC and add water to the spray tank to the desired level. If tankmixing with other product types, add the BUCTRIL® 4EC first before adding the other product. Always mix one product in water thoroughly before adding another product or compatibility problems may occur. Never mix two products together without first mixing in water.

Maintain sufficient agitation while mixing and during application to ensure a uniform spray mixture. If spray mixture is allowed to remain without agitation for short periods of time, be sure to agitate until uniformly mixed before application.

### COMPATIBILITY OF INSECTICIDES WITH BUCTRIL® 4EC

The following foliar insecticides are compatible with BUCTRIL® 4EC Herbicide as tank mixtures.

| INSECTICIDE<br>COMMON NAME | TRADE NAME    | FORMULATION                           |
|----------------------------|---------------|---------------------------------------|
| Diazinon                   | Various       | Emulsifiable Concentrate              |
| Dimethoate                 | Various       | Emulsifiable Concentrate              |
| Trichlorfon                | Dylox®        | Soluble Powder                        |
| Carbofuran                 | Furadan®      | Flowable                              |
| Chlorpyrifos               | Lorsban®      | Emulsifiable Concentrate              |
| Malathion                  | Various       | Emulsifiable Concentrate              |
| Oxydemeton-methyl          | Metasystox-R® | Sprayable Concentrate                 |
| Permethrin                 | Pounce®       | Emulsifiable Concentrate              |
| Fenvalerate                | Pydrin®       | Emulsifiable Concentrate              |
| Carbaryl                   | Sevin®        | Sprayable wettable powder or Flowable |
| Demeton                    | Systox®       | Emulsifiable Concentrate              |

If tank mixing with products other than those listed above or within each crop section, a compatibility test is recommended to ensure satisfactory spray preparation. To test for compatibility, use a small container and mix a small amount (0.5 to 1 quart) of spray, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop, do not use this mixture for spraying. Indications of incompatibility usually will appear within 5 to 15 minutes after mixing. To ensure maximum crop safety and weed control, follow all cautions and limitations on this label and the labels of products used in the tank mixture with BUCTRIL® 4EC.

**SPRAYABLE LIQUID FERTILIZERS AND SPRAY ADDITIVES**

BUCTRIL® 4EC can be applied in combination with sprayable liquid fertilizer or spray additives such as surfactants or crop oil concentrate. When tankmixing with liquid fertilizer always add the fertilizer to the spray tank first and agitate thoroughly before adding BUCTRIL® 4EC. Always predetermine the compatibility with liquid fertilizer by mixing small proportional quantities in advance. Agitation must be maintained during filling and application operations to ensure that BUCTRIL® 4EC is evenly mixed with the fertilizer. Leaf burn may occur when BUCTRIL® 4EC is applied with liquid fertilizer, but new leaves are not adversely affected.

CAUTION: Fertilizers and spray additives can increase foliage leaf burn when applied with BUCTRIL® 4EC. Do not apply fertilizers or spray additives with BUCTRIL® 4EC if leaf burn is a major concern due to environmental conditions, crop or variety sensitivity to BUCTRIL® 4EC. Do not apply BUCTRIL® 4EC in combination with fertilizers or spray additives if restricted under the individual crop use directions.

**APPLICATION PROCEDURES**

BUCTRIL® 4EC can be applied to registered use areas by ground, aerial and sprinkler irrigation equipment. The following provides recommended methods of application for each crop.

| CROP                                       | TYPE OF APPLICATION EQUIPMENT |        |                      |
|--|-------------------------------|--------|----------------------|
|  | GROUND                        | AERIAL | SPRINKLER IRRIGATION |
| Corn, (field and pop)                      | X                             | X      | X                    |
| Sorghum (grain and forage), and Sudangrass | X                             | X      | X                    |
| Small grains                               | X                             | X      | X                    |
| Alfalfa (seedling)                         | X                             | X      | X                    |
| Flax                                       | X                             | X      | -                    |
| Garlic                                     | X                             | X      | X                    |
| Mint                                       | X                             | -      | X                    |
| Onions                                     | X                             | -      | X                    |
| Transgenic Bxn® Cotton                     | X                             | X      | -                    |
| Grass grown for seed or sod production     | X                             | X      | X                    |
| Conservation Reserve Program (CRP) areas   | X                             | X      | X                    |
| Non-residential turfgrass                  | X                             | X      | -                    |
| Non-cropland/Industrial sites              | X                             | X      | -                    |

(X) indicates recommended application use

**GROUND APPLICATION**

Use a standard herbicide boom sprayer that provides uniform and accurate application. Sprayer should be equipped with screens no finer than 50 mesh in the nozzle tips and in-line strainers.

Select a spray volume and delivery system that will ensure thorough and uniform spray coverage. For optimum spray distribution and thorough coverage use of flat fan nozzles (maximum tip size 8008) with a spray pressure of 40-60 psi are recommended. Other nozzle types and lower spray pressures that produce coarse spray droplets may not provide adequate coverage of the weeds to ensure optimum control. Raindrop® nozzles and flood nozzles are not recommended as weed control with BUCTRIL® 4EC may be reduced.

In general, a spray volume of 10 to 20 gallons per acre (GPA) is recommended for optimum spray coverage. A minimum of 5 GPA with a minimum spray pressure of 50 psi and a maximum ground speed of 10 mph may be used with higher speed, low volume ground application if ground terrain, crop and weed density allow effective spray distribution. When using higher speed equipment, a maximum ground speed of 10 mph is suggested if field conditions cause excessive boom movement during application which results in poor spray coverage. Ground applications made when dry, dusty field conditions exist may provide reduced weed control in wheel track areas. Applications using less than 10 gallons per acre may result in reduced weed control.

When weed infestations are heavy, use of higher spray volumes and spray pressure will be helpful in obtaining uniform weed coverage. When corn or grain sorghum are large enough to interfere with the spray pattern, drop nozzles should be used to obtain uniform weed coverage. If you are unsure of the infestation level or size of crop, consult your local extension service.

Do not apply when winds are gusty or when other conditions favor poor spray coverage and/or off target spray movement.

**AERIAL APPLICATION**

Use orifice discs, cores and nozzle types and arrangements that will provide for optimum spray distribution and maximum coverage. In general a minimum spray volume of 5 GPA and a maximum pressure of 40 psi are recommended.



Do not apply during inversion conditions, when winds are gusty or when other conditions favor poor spray coverage and/or off target spray movement. Off target spray movement can be minimized by increasing the spray volume per acre and not applying when winds exceed 10 mph.

**SPRINKLER IRRIGATION APPLICATION**

BUCTRIL® 4EC Herbicide can be applied through sprinkler irrigation systems to small grains, field corn, popcorn, and grain sorghum, mint, grasses grown for seed or sod production, garlic, and seedling alfalfa.

Apply BUCTRIL® 4EC Herbicide through sprinkler systems including center pivot, lateral move, side (wheel) roll, solid set or hand move irrigation systems only. If hand moved pipe is used for chemigation, the pipe must not be handled in any way until 24 hours after chemigation has been completed and residues have been flushed from the system. When applying by chemigation, no person may enter the application site unless in an enclosed vehicle. Do not apply this product through any other type of irrigation system.

**SPECIFIC REQUIREMENTS FOR APPLICATION THROUGH AUTOMATED SPRINKLER IRRIGATION SYSTEM.**

1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. Agitation is recommended in the pesticide supply tank when applying the BUCTRIL® 4EC Herbicide.
9. BUCTRIL® 4EC Herbicide should be applied continuously for the duration of the water application with center pivot and continuous lateral move systems. Application of BUCTRIL® 4EC Herbicide should be made during the last 30-45 minutes of the irrigation set with other overhead sprinkler systems.
10. For best performance, set the sprinkler system to deliver approximately 0.5 inch or less of water per acre.
11. Remove scale, pesticide residues and other foreign matter from the supply tank and entire injector system. Flush with clean water.
12. If BUCTRIL® 4EC Herbicide is diluted in the supply tank, fill the tank with half of the water amount desired, add the BUCTRIL® 4EC and then add remaining water amount with agitation. Always dilute with at least 4 parts water to 1 part BUCTRIL® 4EC.
13. Start the sprinklers and then inject BUCTRIL® 4EC Herbicide into the irrigation line. BUCTRIL® 4EC should be injected with a positive displacement pump into the main line at least 8 feet ahead of a right angle turn to insure adequate mixing. Refer to the BUCTRIL® 4EC Herbicide label for detailed information on application rates and timings.

**CHEMIGATION USER PRECAUTIONS**

Application of more than 0.5 inch/acre of irrigation water may result in decreased product performance on certain soils.

Do not apply when conditions favor drift, when system connections or fittings leak, or when nozzles do not provide uniform distribution.

Allow sufficient time for pesticide to be flushed through all the lines and nozzles before turning off irrigation water.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

Do not connect an irrigation system used for pesticide application to a public water system.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

A person knowledgeable of the chemigation system and responsible for its operations, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

**CULTIVATION**

When properly utilized, timely cultivations of row crops may aid overall weed control efforts as well as crop growth. However, cultivation BEFORE or DURING BUCTRIL® 4EC applications may place target weeds under stress, resulting in erratic weed control. Whenever BUCTRIL® 4EC is being utilized in an overall weed control program, plan to postpone any anticipated cultivations until 5-7 days after application to ensure best performance.

**GENERAL WEED LIST**

Postemergence application of BUCTRIL® 4EC Herbicide will control the following weeds when sprayed in the seedling stage. Maximum weed stage of growth is listed under RECOMMENDED USES for each crop.

**MOST SUSCEPTIBLE BROADLEAF WEED SPECIES**

- Annual Sowthistle (*Sonchus oleraceus*)
- Black Nightshade (*Solanum nigrum*)
- Blue Mustard (*Chorispora tenella*)
- Bristly starbur (*Acanthospermum hispidum*)
- Coast Fiddleneck (*Amsinckia intermedia*)
- Common Cocklebur (*Xanthium strumarum*)
- Common Lambsquarters (*Chenopodium album*)
- Common Tarweed (*Hemizonia congesta*)
- Cutleaf Nightshade (*Solanum triflorum*)
- Eastern Black Nightshade (*Solanum ptycanthum*)
- Field Pennycress (*Thlaspi arvense*)
- Green Smartweed (*Polygonum scabrum*)
- Hairy Nightshade (*Solanum sarachoides*)
- Jimsonweed (*Datura stramonium*)
- Ladysthumb (*Polygonum persicaria*)
- Lanceleaf sage (*Salvia reflexa*)
- Pennsylvania Smartweed (*Polygonum strumarum*)
- Pepperweed spp. (annual) (*Lepidium* spp.)
- Shepherdspurse (*Capsella bursa-pastoris*)
- Silverleaf Nightshade (*Solanum elaeagnifolium*)
- Tartary Buckwheat (*Fagopyrum tataricum*)
- <sup>1</sup>Sunflower (*Helianthus annuus*)
- Wild Buckwheat (*Polygonum convolvulus*)

<sup>1</sup>For control of sunflower, delay application until first emerging sunflower seedlings are 4 inches in height

**SUSCEPTIBLE BROADLEAF WEED SPECIES**

- Buffalobur (*Solanum rostratum*)
- Burcucumber (*Sicyos angulatus*)
- Common Groundsel (*Senecio vulgaris*)
- Common ragweed (*Ambrosia artemisiifolia*)
- Corn Chamomile (*Anthemis arvensis*)
- Corn Gromwell (*Lithospermum arvense*)
- Cow Cockle (*Saponaria vaccaria*)
- Giant Ragweed (*Ambrosia trifida*)
- Hemp Sesbania (*Sesbania exaltata*)
- Ivyleaf morningglory (*Ipomoea hederacea*)
- Knewel (*Scleranthus annuus*)
- <sup>2</sup>Kochia (*Kochia scoparia*)
- London Rocket (*Sisymbrium imo*)
- Mayweed (*Anthemis cotula*)
- Pitted morningglory (*Ipomoea lacunosa*)
- Prostrate Knotweed (*Polygonum aviculare*)
- Puncture Vine (*Tribulus terrestris*)
- <sup>2</sup>Redroot Pigweed (*Amaranthus retroflexus*)
- Russian Thistle (*Salsola kali*)
- <sup>2</sup>Spiny Pigweed (*Amaranthus spinosus*)
- Tall Morningglory (*Ipomoea purpurea*)
- <sup>2</sup>Tall Waterhemp (*Amaranthus tuberculatus*)
- Tumble mustard (*Sisymbrium altissimum*)
- Velvetleaf (*Abutilon theophrasti*)
- Venice Mallow (*Hibiscus trionum*)
- Wild Mustard (*Sinapis arvensis*)
- Wild Radish (*Raphanus raphanistrum*)
- Yellow Starthistle (*Centaurea solstitialis*)

<sup>2</sup> For effective control, these weeds should not exceed the 4 leaf stage or 2 inches in height, whichever comes first.

**WEED SUPPRESSION**

BUCTRIL® 4EC suppresses the growth of Canada thistle (*Cirsium arvense*) by burning down top growth. Regrowth may occur.

**CALIFORNIA REGISTRATIONS**

Only the following recommendations referenced in this label are registered for use in California: seedling alfalfa, small grains (wheat, barley, oats, rye and triticale), flax, corn (post emergence application only), sorghum (post emergence application only), onions, garlic; chemigation in seedling alfalfa, small grains, onions and garlic; 2,4-D and MCPA tank mixtures in small grains; 2,4-D and atrazine tank mixtures in corn and sorghum; 2,4-DB and Pursuit tank mixtures in seedling alfalfa; grass for seed and sod production, non-residential turfgrass; and non-cropland and industrial sites. All applications must be made with a minimum spray volume of 10 GPA by ground or 5 GPA by air equipment.

**SPECIFIC CROP RECOMMENDATIONS**

**CEREAL GRAIN CROPS**

- Corn (Field and Pop), Sorghum (Grain and Forage), and Sudangrass
- Small Grains (Wheat, Barley, Oats, Rye and Triticale)

**FORAGE, FIBER AND SPECIALTY CROPS**

- Alfalfa (Seedling)
- Flax
- Garlic
- Mint (Established Peppermint and Spearmint)
- Onions
- Transgenic Bxn® Cotton

**GRASS CROPS**

- Conservation Reserve Program (CRP) Areas
- Grass Grown for Seed or Sod Production
- Non-Residential Turfgrass

**NON-CROPLAND**

- Non-cropland and Industrial Sites

### CEREAL GRAIN CROPS

## CORN (FIELD AND POP), SORGHUM (GRAIN AND FORAGE), AND SUDANGRASS

### BUCTRIL® 4EC RECOMMENDATIONS

| PRODUCT      | RATE                           | APPLICATION TIMING AND SPECIFIC COMMENTS   |  |  |
|--------------|--------------------------------|--|--|--|
|              |                                | CROP   | WEEDS  |  |
| BUCTRIL® 4EC | Preemergence<br>1/2-3/4 pint/A | Apply to corn or sorghum before planting until just prior to crop emergence.   | See CORN AND SORGHUM APPLICATION RATE TABLE - BUCTRIL® 4EC for list of weeds and corresponding stages of growth that are controlled by BUCTRIL® 4EC at recommended rates of application. For control of additional weeds not listed in the rate table see the GENERAL WEED LIST. |  |
|              | 1/2 pint/A                     | Apply to corn after emergence but prior to tassel emergence.<br><br>Apply to sorghum and sudangrass between the 3 leaf stage but prior to the preboot stage (growth stage 4).  |  |  |
|              | 3/4 pint/A                     | Apply to corn between the 4 leaf stage and prior to tassel emergence.<br><br>Apply to sorghum and sudangrass between the 4 leaf stage but prior to preboot stage (growth stage 4).   |  |  |
|              | 1 Pint/A                       | Apply to field corn only between the 4-leaf stage but prior to tassel emergence. <b>WARNING: DO NOT APPLY THE 1 PINT/A RATE OF BUCTRIL® 4EC ALONE OR IN TANK-MIXTURES TO SORGHUM.</b>  |  | Use the 1 pint/A rate on corn to control susceptible weeds that are growing under less than optimum conditions and where BUCTRIL® 4EC + atrazine tank mixtures cannot be used.   |
|              | Chemigation<br>1 pint/A only   | Apply to corn after emergence but prior to tassel emergence.<br>Apply to sorghum and sudangrass after emergence but prior to preboot stage (growth stage 4).<br>Apply through automated sprinkler irrigation systems with a mechanical transfer loading system only. See MIXING, LOADING AND HANDLING INSTRUCTIONS section for complete details. |  | Apply to MOST SUSCEPTIBLE broadleaf weeds up to the 8 leaf stage or 4 inches in height or 2 inches in diameter, whichever comes first. Apply to SUSCEPTIBLE broadleaf weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. Do not use chemigation for control of weeds that exceed 4 inches in height because control may be unacceptable. |
|              |                                |  |  |  |

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CORN AND SORGHUM APPLICATION RATE TABLE - BUCTRIL® 4EC

| WEED SPECIES <sup>1</sup><br>When determining leaf stage,<br>count all leaves except<br>cotyledonary leaves |                                    | 1/2 Pint/A      |                           | 3/4 to 1 Pint/A <sup>4</sup> |                           |
|---|------------------------------------|-----------------|---------------------------|------------------------------|---------------------------|
|   |                                    | Max. Leaf Stage | Max. Weed Height (Inches) | Max. Leaf Stage              | Max. Weed Height (Inches) |
| Black Nightshade  | ( <i>Solanum nigrum</i> )          | 6               | 6                         | 6                            | 6                         |
| Buffalobur  | ( <i>Solanum rostratum</i> )       | 4               | 2                         | 6                            | 4                         |
| Burcucumber   | ( <i>Sicyos angulatus</i> )        | -               | -                         | 4                            | 4                         |
| Common Cocklebur  | ( <i>Xanthium strumarium</i> )     | 6               | 8                         | 8                            | 10                        |
| Common Lambsquarters  | ( <i>Chenopodium album</i> )       | -               | 6                         | -                            | 8                         |
| Common Ragweed  | ( <i>Ambrosia artemisiifolia</i> ) | 6               | 4                         | 8                            | 6                         |
| Eastern Black Nightshade  | ( <i>Solanum ptycanthum</i> )      | 6               | 6                         | 6                            | 6                         |
| Giant Ragweed   | ( <i>Ambrosia trifida</i> )        | 6               | 4                         | 6                            | 6                         |
| Hemp Sesbania   | ( <i>Sesbania exaltata</i> )       | -               | -                         | 4                            | 4                         |
| Ivyleaf Morningglory  | ( <i>Ipomoea hederacea</i> )       | 3               | 3                         | 4                            | 4                         |
| Jimsonweed  | ( <i>Datura stramonium</i> )       | 4               | 4                         | 6                            | 6                         |
| Kochia  | ( <i>Kochia scoparia</i> )         | -               | -                         | -                            | 2                         |
| Ladysthumb  | ( <i>Polygonum persicaria</i> )    | 4               | 4                         | 6                            | 6                         |
| Pennsylvania Smartweed  | ( <i>Polygonum pensylvanicum</i> ) | 4               | 4                         | 6                            | 6                         |
| Pitted Morningglory   | ( <i>Ipomoea lacunosa</i> )        | 3               | 3                         | 4                            | 4                         |
| Redroot Pigweed <sup>3</sup>  | ( <i>Amaranthus retroflexus</i> )  | -               | -                         | 4                            | 2                         |
| Spiny Pigweed <sup>3</sup>  | ( <i>Amaranthus spinosus</i> )     | -               | -                         | 4                            | 2                         |
| Sunflower   | ( <i>Helianthus annuus</i> )       | 4               | 6                         | 6                            | 8                         |
| Tall Morningglory   | ( <i>Ipomoea purpurea</i> )        | 3               | 3                         | 4                            | 4                         |
| Tall Waterhemp <sup>3</sup>   | ( <i>Amaranthus tuberculatus</i> ) | -               | -                         | 4                            | 2                         |
| Velvetleaf  | ( <i>Abutilon theophrasti</i> )    | 4               | 3                         | 6                            | 5                         |
| Verice Mallow   | ( <i>Hibiscus trionum</i> )        | -               | -                         | 4                            | 2                         |
| Wild Buckwheat  | ( <i>Polygonum convolvulus</i> )   | 4               | 6                         | 6                            | 8                         |
| Wild Mustard  | ( <i>Sinapis arvensis</i> )        | -               | -                         | 4                            | 4                         |

**WEEDS SUPPRESSED<sup>2</sup>**

Canada Thistle (*Cirsium arvense*) Not Recommended 8 inch to bud stage

<sup>1</sup>When determining leaf stage, count all leaves except cotyledonary leaves.

<sup>2</sup> BUCTRIL® 4EC suppresses the growth by burning down of top growth. Regrowth may occur.

<sup>3</sup>Control of pigweeds in the high plains areas of Texas and Oklahoma may not be satisfactory with BUCTRIL® 4EC Herbicide. Repeat applications may be necessary to achieve satisfactory control.

<sup>4</sup> Do not apply BUCTRIL® 4EC at the 1 pint/A rate to sorghum.

**BUCTRIL® 4EC TANK MIXTURE RECOMMENDATIONS**

| PRODUCT                       | RATE   | APPLICATION TIMING AND SPECIFIC COMMENTS  |  |
|-------------------------------|--|---|--|
|                               |  | CROP  | WEEDS  |
| BUCTRIL® 4EC<br>+<br>atrazine | Preemergence<br>3/8-3/4 pint/A<br>+<br>1/2-1 1/5 lb ai/A | Apply to corn or sorghum before planting until just prior to crop emergence.  | See CORN AND SORGHUM APPLICATION RATE TABLE - BUCTRIL® 4EC+ ATRAZINE TANK MIXTURES for list of weeds and corresponding stages of growth that are controlled by BUCTRIL® 4EC+ Atrazine tank mixtures at recommended rates of application. For control of additional weeds not listed in the rate table see the GENERAL WEED LIST. |
|                               | 3/8-1/2 pint/A<br>+<br>1/2-1 1/5 lb ai/A                 | Apply to corn after emergence but before corn is 12 inches tall.<br><br>Apply to sorghum between the 3 leaf stage but prior to the preboot stage (growth stage 4) or 12 inches in height, whichever comes first.          |  |
|                               | 3/4 pint/A<br>+<br>1/2-1 1/5 lb ai/A                     | Apply to corn between the 4 leaf stage and before corn is 12 inches tall.<br><br>Apply to sorghum between the 4 leaf stage but prior to the preboot stage (growth stage 4) or 12 inches in height, whichever comes first. |  |

**ATRAZINE TANK MIX RESTRICTIONS**

Atrazine is a Restricted Use Herbicide due to ground water concerns, users must read and follow all precautionary statements and instructions on the atrazine label in order to minimize the potential for atrazine to reach ground water.

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**CORN AND SORGHUM APPLICATION RATE TABLE - BUCTRIL® 4EC+ ATRAZINE TANK MIXTURES**

| WEED SPECIES <sup>1</sup>  |                                    | BUCTRIL® 4EC AND ATRAZINE RATE (TANK MIX) |                 |                |                 |                |                 |                |                 |                |                 |                |                 |
|--|------------------------------------|---|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|
|  |                                    | 3/8 Pin/A                                 |                 | 3/8 Pin/A      |                 | 1/2 Pin/A      |                 | 1/2 Pin/A      |                 | 3/4 Pin/A      |                 | 3/4 Pin/A      |                 |
|  |                                    | 1/2 lb ai/A                               |                 | 1 1/5 lb ai/A  |                 | 1/2 lb ai/A    |                 | 1 1/5 lb ai/A  |                 | 1/2 lb ai/A    |                 | 1 1/5 lb ai/A  |                 |
| When determining leaf stage, count all leaves except cotyledonary leaves |                                    | MAX LEAF STAGE                            | MAX WEED HEIGHT | MAX LEAF STAGE | MAX WEED HEIGHT | MAX LEAF STAGE | MAX WEED HEIGHT | MAX LEAF STAGE | MAX WEED HEIGHT | MAX LEAF STAGE | MAX WEED HEIGHT | MAX LEAF STAGE | MAX WEED HEIGHT |
| Black Nightshade   | ( <i>Solanum nigrum</i> )          | 4   | 4               | 4              | 4               | 6              | 6               | 6              | 6               | 6              | 6               | 6              | 6               |
| Buffalobur   | ( <i>Solanum rostratum</i> )       | 4   | 4               | 4              | 4               | 6              | 4               | 6              | 4               | 6              | 4               | 6              | 4               |
| Burcucumber  | ( <i>Sicyos angulatus</i> )        | 4   | 4               | 4              | 4               | 4              | 4               | 6              | 6               | 6              | 6               | 6              | 6               |
| Common Cocklebur   | ( <i>Xanthium strumarium</i> )     | 6   | 8               | 8              | 10              | 8              | 10              | 10             | 12              | 10             | 12              | 10             | 12              |
| Common Lambsquarters   | ( <i>Chenopodium album</i> )       | -   | 6               | -              | 10              | -              | 10              | -              | 12              | -              | 12              | -              | 12              |
| Common Ragweed   | ( <i>Ambrosia artemisiifolia</i> ) | 6   | 4               | 8              | 6               | 8              | 6               | 8              | 6               | 8              | 6               | 8              | 6               |
| Eastern Black Nightshade   | ( <i>Solanum phycanthum</i> )      | 4   | 4               | 4              | 4               | 6              | 6               | 6              | 6               | 6              | 6               | 6              | 6               |
| Entireleaf Morningglory  | ( <i>Ipomoea hederacea</i> )       | -   | -               | 4              | 3               | 4              | 3               | 4              | 3               | 4              | 3               | 4              | 3               |
| Giant Ragweed  | ( <i>Ambrosia trifida</i> )        | 4   | 6               | 6              | 8               | 6              | 8               | 6              | 8               | 8              | 10              | 8              | 10              |
| Hemp Sesbania  | ( <i>Sesbania exaltata</i> )       | 4   | 4               | 4              | 4               | 4              | 4               | 4              | 4               | 4              | 4               | 4              | 4               |
| Ivyleaf Morningglory   | ( <i>Ipomoea hederacea</i> )       | 3   | 3               | 4              | 4               | 4              | 4               | 4              | 4               | 4              | 4               | 4              | 4               |
| Jimsonweed   | ( <i>Datura stramonium</i> )       | 4   | 4               | 4              | 4               | 6              | 6               | 6              | 6               | 6              | 6               | 6              | 6               |
| Kochia   | ( <i>Kochia scoparia</i> )         | -   | 2               | -              | 2               | -              | 2               | -              | 2               | -              | 4               | -              | 4               |
| Ladysthumb   | ( <i>Polygonum persicaria</i> )    | 4   | 4               | 4              | 4               | 6              | 6               | 8              | 8               | 8              | 8               | 8              | 8               |
| Marestail  | ( <i>Coryza canadensis</i> )       | -   | -               | -              | 3               | -              | 5               | -              | 5               | -              | 5               | -              | 5               |
| Palmleaf Morningglory  | ( <i>Ipomoea wrightii</i> )        | -   | -               | 4              | 3               | 4              | 3               | 4              | 3               | 4              | 3               | 4              | 3               |
| Pennsylvania Smartweed   | ( <i>Polygonum strumarium</i> )    | 4   | 4               | 4              | 4               | 6              | 6               | 8              | 8               | 8              | 8               | 8              | 8               |
| Pitted Morningglory  | ( <i>Ipomoea lacunosa</i> )        | 3   | 3               | 4              | 4               | 4              | 4               | 4              | 4               | 4              | 4               | 4              | 4               |
| Pokeweed   | ( <i>Phytolacca americana</i> )    | -   | -               | 4              | 4               | 6              | 6               | 6              | 6               | 6              | 6               | 6              | 6               |
| Prickly Sida   | ( <i>Sida spinosus</i> )           | -   | -               | 6              | 2               | 4              | 1               | 6              | 2               | 4              | 1               | 6              | 2               |
| Puncturevine   | ( <i>Tribulus terrestris</i> )     | -   | -               | -              | -               | -              | -               | 6              | 4               | 6              | 4               | 6              | 4               |
| Purple Morningglory  | ( <i>Ipomoea muricata</i> )        | -   | -               | 2              | 3               | 2              | 3               | 2              | 3               | 2              | 3               | 2              | 3               |
| Redroot Pigweed <sup>3</sup>   | ( <i>Amaranthus retroflexus</i> )  | 4   | 2               | 8              | 6               | 6              | 4               | 8              | 6               | 6              | 4               | 8              | 6               |
| Smallflower Morningglory   | ( <i>Jacquemontia tamnifolia</i> ) | -   | -               | 4              | 3               | 4              | 3               | 4              | 3               | 4              | 3               | 4              | 3               |
| Smooth Pigweed <sup>3</sup>  | ( <i>Amaranthus hybridus</i> )     | 4   | 2               | 6              | 4               | 4              | 2               | 6              | 4               | 6              | 4               | 6              | 4               |
| Spiny Pigweed <sup>3</sup>   | ( <i>Amaranthus spinosus</i> )     | 4   | 2               | 8              | 6               | 6              | 4               | 8              | 6               | 6              | 4               | 8              | 6               |
| Sunflower  | ( <i>Helianthus annuus</i> )       | 6   | 8               | 8              | 10              | 8              | 10              | 10             | 12              | 10             | 12              | 10             | 12              |
| Tall Morningglory  | ( <i>Ipomoea purpurea</i> )        | 3   | 3               | 4              | 4               | 4              | 4               | 4              | 4               | 4              | 4               | 4              | 4               |
| Tall Waterhemp <sup>3</sup>  | ( <i>Amaranthus tuberculatus</i> ) | 4   | 2               | 8              | 6               | 6              | 4               | 8              | 6               | 6              | 4               | 8              | 6               |
| Toothed Spurge   | ( <i>Euphorbia dentata</i> )       | 2   | 2               | 2              | 2               | 4              | 4               | 4              | 4               | 4              | 4               | 4              | 4               |
| Velvetleaf   | ( <i>Abutilon theophrasti</i> )    | 4   | 3               | 4              | 3               | 6              | 5               | 6              | 5               | 8              | 6               | 8              | 6               |
| Venice Mallow  | ( <i>Hibiscus trionum</i> )        | 4   | 2               | 4              | 2               | 4              | 2               | 4              | 2               | 4              | 2               | 4              | 2               |
| Wild Buckwheat   | ( <i>Polygonum convolvulus</i> )   | 6   | 8               | 8              | 10              | 8              | 10              | 10             | 12              | 10             | 12              | 10             | 12              |
| Wild Mustard   | ( <i>Sinapis arvensis</i> )        | 4   | 4               | 4              | 4               | 4              | 4               | 4              | 4               | 4              | 4               | 4              | 4               |

| WEEDS SUPPRESSED <sup>2</sup> |                            | Not Recommended |  | Not Recommended |  | 8"-bud |  | 8"-bud |  | 8"-bud |  | 8"-bud |  |
|-------------------------------|----------------------------|-----------------|--|-----------------|--|--------|--|--------|--|--------|--|--------|--|
| Canada thistle                | ( <i>Cirsium arvense</i> ) |                 |  |                 |  |        |  |        |  |        |  |        |  |

- When determining leaf stage, count all leaves except cotyledonary leaves.
- Selected rates of BUCTRIL® 4EC+ atrazine tank mixtures suppress the growth by burning down of top growth. Regrowth may occur.
- If pigweeds (*Amaranthus sp.*) present in the field to be treated have been identified as triazine resistant biotypes, use BUCTRIL® 4EC at 3/4 pin/A in a tank mixture with atrazine at 1/2 or 1 1/5 lb ai/A. Applications should be made when pigweeds do not exceed the 4-leaf stage and 2 inches in height. Control of pigweeds in the high plains areas of Texas and Oklahoma may not be satisfactory with BUCTRIL® 4EC+ atrazine tank mixtures. Repeat applications may be necessary to achieve satisfactory control.

**ATRAZINE CONVERSION TABLE<sup>1/</sup>**

| ATRAZINE FORMULATION | ATRAZINE RATE POUNDS OF ACTIVE INGREDIENT PER ACRE | ATRAZINE FORMULATION RATE PER ACRE |
|----------------------|--|------------------------------------|
| Atrazine 4L          | 1/2<br>1 1/5                                       | 1 Pint<br>2 2/5 Pints              |
| Atrazine 80WP        | 1/2<br>1 1/5                                       | 5/8 Pound<br>1 1/2 Pounds          |
| Aatrex® Nine-O       | 1/2<br>1 1/5                                       | 3/5 Pound<br>1 1/3 Pounds          |

<sup>1/</sup>Follow all precautions and limitations on the labels of products used in tank mixture with BUCTRIL® 4EC.

**SPECIAL USE DIRECTIONS FOR OTHER WEED PROBLEMS IN CORN AND SORGHUM**

**Large Common Cocklebur, Common Lambsquarters and Sunflower**

For control of common cocklebur and common lambsquarters up to 14 inches in height and sunflower up to 18 inches in height, use a postemergence application of BUCTRIL® 4EC at 1/2 pin/A. Make a second application of BUCTRIL® 4EC at the same rate 7 to 10 days later.

**Large Velvetleaf**

For control of velvetleaf up to 14 inches in height, use postemergence application of BUCTRIL® 4EC at 3/4 - 1 pint/A or BUCTRIL® 4EC + atrazine tank mixture at 1/2 pint/A + 1 1/5 lb ai/A. Make a second application of BUCTRIL® 4EC at 1/2 pint/A 7 to 10 days later, but do not exceed a total of 1 pint/A of BUCTRIL® 4EC per season on corn (field and pop).

**Canada Thistle Management**

For effective management of Canada thistle, the following BUCTRIL® 4EC treatments should be applied to thistle from 8 inch to the bud stage for in-season burndown of top growth:

- BUCTRIL® 4EC at 3/4-1 pint/A
- BUCTRIL® 4EC at 1/2 - 3/4 pint/A + atrazine at 1/2 - 1 1/5 lbs ai/A
- BUCTRIL® 4EC at 1/2 - 3/4 pint/A + Banvel® or Clarity® at 1/4 - 1/2 pint/A
- BUCTRIL® 4EC at 1/2 - 3/4 pint/A + atrazine at 1/2 - 1 1/5 lbs ai/A + Banvel® or Clarity® at 1/8 - 1/4 pint/A
- BUCTRIL® 4EC at 1/2 - 3/4 pint/A + 2,4-D at 1/8 - 1/4 lb ai/A
- BUCTRIL® 4EC at 1/2 - 3/4 pint/A + atrazine at 1/2 - 1 1/5 lbs ai/A + 2,4-D at 1/8 - 1/4 lb ai/A

If possible follow with cultivation 14-21 days after treatment. In the fall apply 2,4-D (such as WEEDONE® 638), Banvel®, Clarity®, or Roundup® at recommended rates to Canada thistle 4-8 inches tall prior to killing frost. Follow with a similar control program in next years rotational crop.

**ADDITIONAL BUCTRIL® 4EC TANK MIXTURE RECOMMENDATIONS**

| APPLICATION TIMING AND SPECIFIC COMMENTS                   |   |   |   |
|--|---|---|---|
| PRODUCT  | RATE  | CROP  | WEEDS   |
| BUCTRIL® 4EC<br>+<br>Banvel® <sup>1</sup>                  | 1/2 pint/A<br>+<br>1/8-1/2 pint/A                           | Apply to field corn after emergence but before corn is 36 inches tall or 15 days before tassel emergence, whichever comes first.<br><br>Apply to sorghum between the 3 leaf stage but prior to the preboot stage (growth stage 4) or 15 inches in height, whichever comes first. Do not apply in the boot stage. Use drop nozzles if crop is taller than 8 inches.          | All weeds controlled by BUCTRIL® 4EC at recommended rates of application plus improved control of pigweed. For Canada thistle burndown and field bindweed suppression up to the mid-bloom stage, use 1/4 - 1/2 pint/A of Banvel® with BUCTRIL® 4EC. |
|  | 3/4 pint/A<br>+<br>1/8-1/2 pint/A                           | Apply to field corn between the 4 leaf stage but before corn is 36 inches tall or 15 days before tassel emergence, whichever comes first.<br><br>Apply to sorghum between the 4 leaf stage but prior to the preboot stage (growth stage 4) or 15 inches in height, whichever comes first. Do not apply in the boot stage. Use drop nozzles if crop is taller than 8 inches. |   |
| BUCTRIL® 4EC<br>+<br>atrazine<br>+<br>Banvel® <sup>1</sup> | 1/2 pint/A<br>+<br>1/2-1 1/5 lb ai/A<br>+<br>1/8-1/4 pint/A | Apply to field corn after emergence but before corn is 12 inches tall.<br><br>Apply to sorghum between the 3 leaf stage but prior to the preboot stage (growth stage 4) or 12 inches in height, whichever comes first. Use drop nozzles if crop is taller than 8 inches.  | All weeds controlled by BUCTRIL® 4EC+ atrazine tank mixtures at recommended rates of application plus improved control of pigweed. For field bindweed suppression, use 1/4 pint/A of Banvel/Clarity with BUCTRIL® 4EC.                              |
|  | 3/4 pint/A<br>+<br>1/2-1 1/5 lb ai/A<br>+<br>1/8-1/4 pint/A | Apply to field corn between the 4 leaf stage and before corn is 12 inches tall.<br><br>Apply to sorghum between the 4 leaf stage but prior to the preboot stage (growth stage 4) or 12 inches in height, whichever comes first. Do not apply in the boot stage. Use drop nozzles if crop is taller than 8 inches.   |   |

<sup>1</sup>Clarity® may be used at the same rates as Banvel® in a tank mixture on corn. These mixtures must be applied before corn exceeds 8 inches in height. Do not use Clarity® in a tank mixture with BUCTRIL® 4EC or BUCTRIL® 4EC + atrazine on sorghum.

| PRODUCT   | RATE   | APPLICATION TIMING AND SPECIFIC COMMENTS  |  |
|---|--|---|--|
|   |  | CROP  | WEEDS  |
| BUCTRIL® 4EC<br>+<br>2,4-D<br>(such as WEEDONE®<br>and WEEDAR® brand<br>Herbicide)                  | 1/2 pint/A<br>+<br>1/16-1/4 lb ai/A                                      | Apply to field corn after emergence but prior to tassel emergence. Use drop nozzles if crop is taller than 8 inches.<br><br>Apply to sorghum between the 3 leaf stage but prior to the preboot stage (growth stage 4) or 15 inches in height, whichever comes first. Use drop nozzles if crop is taller than 8 inches.                  | All weeds controlled by BUCTRIL® 4EC at recommended rates plus improved pigweed and kochia control. For Canada thistle burndown and field bindweed suppression up to the mid-bloom stage, use 1/8 - 1/4 lb ai/A of 2,4-D with BUCTRIL® 4EC.  |
|   | 3/4 pint/A<br>+<br>1/16-1/4 lb ai/A                                      | Apply to field corn between the 4 leaf stage but prior to tassel emergence. Use drop nozzles if crop is taller than 8 inches.<br><br>Apply to sorghum between the 4 leaf stage but prior to the preboot stage (growth stage 4) or 15 inches in height, whichever comes first. Use drop nozzles if crop is taller than 8 inches.         |  |
| BUCTRIL® 4EC<br>+<br>atrazine<br>+<br>2,4-D<br>(such as WEEDONE®<br>and WEEDAR® brand<br>Herbicide) | 1/2 pint/A<br>+<br>1/2-1 1/5 lb ai/A<br>+<br>1/16 -1/4 lb ai/A           | Apply to field corn after emergence but before the corn is 12 inches tall. Use drop nozzles if crop is taller than 8 inches.<br><br>Apply to sorghum between the 3 leaf stage but prior to the preboot stage (growth stage 4) or 12 inches in height, whichever comes first. Use drop nozzles if crop is taller than 8 inches.          | All weeds controlled by BUCTRIL® 4EC+ atrazine tank mixtures at recommended rates of application plus improved devils claw control. For Canada thistle burndown and field bindweed suppression, use 1/8 - 1/4 lb ai/A of 2,4-D with BUCTRIL® 4EC.  |
|   | 3/4 pint/A<br>+<br>1/2-1 1/5 lb ai/A<br>+<br>1/16-1/4 lb ai/A            | Apply to field corn between the 4 leaf stage but before the corn is 12 inches tall. Use drop nozzles if crop is taller than 8 inches.<br><br>Apply to sorghum between the 4 leaf stage but prior to the preboot stage (growth stage 4) or 12 inches in height, whichever comes first. Use drop nozzles if crop is taller than 8 inches. |  |
| BUCTRIL® 4EC<br>+<br>Accent®<br>+<br>Non-ionic surfactant   | 1/2 pint/A<br>+<br>2/3 oz/A<br>+<br>1 qt/100 gal of water<br>(0.25% v/v) | Apply to field corn preemergence or postemergence up to 36 inches tall. Use drop nozzles when corn is 24 to 36 inches tall. Do not apply this tankmix to sorghum.   | All broadleaf weeds controlled by BUCTRIL® 4EC at 1/2 or 3/4 pint/A plus grasses and broadleaves controlled by Accent®. For optimum weed control, treat when broadleaves and grasses are in the recommended growth stage or size. Follow the weed size guideline on the BUCTRIL® 4EC or Accent® labels that are least restrictive. |
|   | 3/4 pint/A<br>+<br>2/3 oz/A<br>+<br>1 qt/100 gal of water<br>(0.25% v/v) | Apply to field corn between the 4 leaf stage up to 36 inches in height. Use drop nozzles when corn is 24 to 36 inches tall. Do not apply this tankmix to sorghum.   |  |

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|  |  | APPLICATION TIMING AND SPECIFIC COMMENTS   |   |
|--|--|--|---|
| PRODUCT  | RATE   | CROP   | WEEDS   |
| BUCTRIL® 4EC<br>+<br>atrazine<br>+<br>Accent®<br>+<br>Non-ionic surfactant | 1/2 pint/A<br>+<br>1/2 - 1 1/5 lb ai/A<br>+<br>2/3 oz/A<br>+<br>1 qt/100 gal of water<br>(0.25% v/v)                 | Apply to field corn preemergence or postemergence but before the corn is 12 inches tall. Do not apply this tankmix to sorghum.           | All broadleaf weeds controlled by BUCTRIL® 4EC+ atrazine plus grasses and broadleaves controlled by Accent®. For optimum weed control, treat when broadleaves and grasses are in the recommended growth stage or size. Follow the weed size guideline on the BUCTRIL® 4EC or Accent® labels that are least restrictive.   |
|  | 3/4 pint/A<br>+<br>1/2 - 1 1/5 lb ai/A<br>+<br>2/3 oz/A<br>+<br>1 qt/100 gal of water<br>(0.25% v/v)                 | Apply to field corn between the 4 leaf stage of crop growth but before the corn is 12 inches tall. Do not apply this tankmix to sorghum. |   |
| BUCTRIL® 4EC<br>+<br>Beacon®<br>+<br>Non-ionic surfactant                  | 1/2 pint/A<br>+<br>0.38-0.76 oz/A <sup>1</sup><br>(1-2 packets/4 acres)<br>+<br>1 qt/100 gal of water<br>(0.25% v/v) | Apply to field corn from 4 to 20 inches in height. Do not apply this tankmix to sorghum.   | All broadleaf weeds controlled by BUCTRIL® 4EC at 1/2 pint/A plus grasses and broadleaves controlled by Beacon®. For optimum weed control treat when broadleaves and grasses are in the recommended growth stage or size. Follow the weed size guidelines on the BUCTRIL® 4EC or Beacon® labels that are least restrictive.   |
| BUCTRIL® 4EC<br>+<br>Exceed®<br>+<br>Non-ionic surfactant                  | 3/8-1/2 pint/A<br>+<br>0.5 - 1.0 oz/A<br>+<br>1 qt/100 gal of water<br>(0.25% v/v)                                   | Apply to field corn from 4-48 inches in height and before tasseling, whichever comes first. Do not apply this tankmix to sorghum.        | Addition of Exceed® at 0.5 ounce/A to BUCTRIL® 4EC at 3/8-1/2 pint/A will control all weeds on the BUCTRIL® 4EC label at 1/2 pint/A plus improved control of velvetleaf and pigweed species.<br>Addition of Exceed® at 1.0 ounce/A to BUCTRIL® 4EC at 3/8-1/2 pint/A will control all weeds on both the BUCTRIL® 4EC and Exceed® labels. Follow the weed size guidelines on the BUCTRIL® 4EC and Exceed® labels that are least restrictive. |
| BUCTRIL® 4EC<br>+<br>Permit®<br>+<br>Non-ionic surfactant                  | 3/8-1/2 pint/A<br>+<br>1/3-2/3 oz/A<br>+<br>1 qt/100 gal of water<br>(0.25% v/v)                                     | Apply to field corn from the 3-leaf stage to layby. Do not apply this tankmix to sorghum.  | Addition of Permit® at 1/3 ounce/A to BUCTRIL® 4EC at 3/8-1/2 pint/A will control all weeds on the BUCTRIL® 4EC label at 1/2 pint/A plus improved control of velvetleaf and pigweed species.<br>Addition of Permit® at 2/3 ounce/A to BUCTRIL® 4EC at 3/8-1/2 pint/A will control all weeds on both the BUCTRIL® 4EC and Permit® labels. Follow the weed size guidelines on the BUCTRIL® 4EC and Permit® labels that are least restrictive. |



CORN (FIELD AND POP) AND SORGHUM (GRAIN AND FORAGE)  
 ADDITIONAL BUCTRIL® 4EC® TANK MIXTURE RECOMMENDATIONS (continued)

| PRODUCT  | RATE   | APPLICATION TIMING AND SPECIFIC COMMENTS  |  |
|--|--|---|--|
|  |  | CROP  | WEEDS  |
| BUCTRIL® 4EC<br>+<br>Stinger®  | 1/2 pint/A<br>+<br>1/3-2/3 pint/A  | Apply to field corn after emergence up to 24 inches in height. Do not apply this tankmix to sorghum.  | All weeds controlled by BUCTRIL® 4EC at recommended rates of application plus improved Canada thistle burndown. For optimum performance apply to Canada thistle at least 4 inches in diameter or height but before bud stage.                          |
|  | 3/4 pint/A<br>+<br>1/3 - 2/3 pint/A  | Apply to field corn from 4 leaf stage up to 24 inches in height. Do not apply this tankmix to sorghum.  |  |
| BUCTRIL® 4EC<br>+<br>Atrazine<br>+<br>Stinger®   | 1/2 pint/A<br>+<br>1/2-1 1/5 lb ai/A<br>+<br>1/3-2/3 pint/A                              | Apply to field corn after emergence but before corn is 12 inches tall. Do not apply this tankmix to sorghum.  | All weeds controlled by BUCTRIL® 4EC + atrazine tank mixtures at recommended rates of application plus improved Canada thistle burndown. For optimum performance apply to Canada thistle at least 4 inches in diameter or height but before bud stage. |
|  | 3/4 pint/A<br>+<br>1/2 - 1 1/5 lb ai/A<br>+<br>1/3 - 2/3 pint/A                          | Apply to field corn from 4 leaf stage but before corn is 12 inches tall. Do not apply this tankmix to sorghum.  |  |
| BUCTRIL® 4EC<br>+<br>Pursuit®<br>+<br>Non-ionic surfactant<br>+<br>UAN Fertilizer solution | 3/8-1/2 pint/A<br>+<br>4 ounces/A<br>+<br>1 qt/100 gallons<br>+<br>1-2 quarts/A          | Apply this tankmix only on field corn hybrids possessing resistance to Pursuit® herbicide. Contact your seed supplier for further information. Apply this tank mix to corn between the 3 leaf to 8 leaf stage of growth. Do not use crop oil concentrates when applying BUCTRIL® 4EC + Pursuit® tank mixtures.  | This tank mix will control all broadleaf weeds listed as controlled by BUCTRIL® 4EC at 1/2 pint/A plus giant foxtail, redroot pigweed, and other grass and broadleaf weeds listed on the Pursuit® label.   |
| BUCTRIL®<br>+<br>Bladex® 80W<br>or<br>Bladex® 90DF   | 1/2 pint/A<br>+<br>1 1/2-2 1/2 lb/A <sup>1</sup><br>or<br>1 3/10-2 1/5 lb/A <sup>1</sup> | Apply to field corn between the 3 leaf stage but before the fifth leaf is visible in the whorl. Tank mixture with Bladex® or Extrazine® may cause browning, yellowing or stunting of field corn. Do not apply BUCTRIL® 4EC in tank mixture with Bladex® or Extrazine® under cold, wet weather conditions or to weather, storm, disease or insect-stressed field corn. Do not add adjuvants such as surfactants or crop oils or fertilizer solutions as excessive crop injury may occur. Do not apply to popcorn or corn grown for seed. | All weeds controlled by BUCTRIL® 4 E C at 3/4 pint/A plus suppression or control of foxtails and other annual grasses that do not exceed 1 1/2 inches in height.   |
| BUCTRIL® 4EC<br>+<br>Extrazine® II DF<br>or Extrazine® 90DF                                | 1/2 pint/A<br>+<br>1 3/10-2 1/5 lb/A <sup>1</sup>  |   | Determine the Bladex® or Extrazine® use rate by consulting the tank mixture product use directions for soil texture, organic matter and previous herbicide application to that crop.   |

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| PRODUCT                       | RATE   | APPLICATION TIMING AND SPECIFIC COMMENTS   |  |
|-------------------------------|--|--|--|
|                               |  | CROP   | WEEDS  |
| BUCTRIL® 4EC<br>+<br>Roundup® | Preemergence<br>1/2-3/4 pint/A<br>+<br>1/2-3 pints/A | Apply to corn or sorghum before planting time up until just prior to crop emergence. | All weeds controlled by BUCTRIL® 4EC at recommended rates of application plus control of certain grass and perennial weeds. Refer to Roundup® label for rate to use depending on weeds present at time of application. |

**RESTRICTIONS AND PRECAUTIONS: Corn (Field and Pop) and Sorghum (Grain and Forage), and Sudangrass**

- BUCTRIL® 4EC does not control grasses. Therefore, it is recommended that a suitable grass control program be used to provide any required grass control.
- Addition of a spray additive or mixture with liquid fertilizers may cause excessive crop leafburn.
- Seed corn producers should consult the respective seed corn company regarding tolerance of certain seed production inbred lines to BUCTRIL® 4EC.
- Do not apply BUCTRIL® 4EC to postemergence to seed corn inbreds or popcorn prior to the 3 leaf stage of crop growth as excessive crop leaf burn may occur.
- Do not plant rotational crops within 30 days following BUCTRIL® 4EC Herbicide application.
- Do not cut crop for feed, fodder or graze within 45 days of application.
- The total cumulative rate should not exceed 1 pint/A per season.
- Postemergence application prior to the 3 leaf growth stage of corn or sorghum may result in increased crop leaf burn.
- Tank mixtures with Accent®/nonionic surfactant or Beacon®/nonionic surfactant may result in increased initial crop leaf burn. Use of crop oil concentrate, nitrogen fertilizer solution or other adjuvants in BUCTRIL® 4EC + Accent® or BUCTRIL® 4EC + Beacon® tank mixtures may result in a further increase in crop leaf burn.
- Special care should be taken when using BUCTRIL® 4EC and Banvel®, Clarity®, or 2,4-D tank mixtures to avoid off target drift to sensitive crops.
- Tank mixtures with 2,4-D, Banvel®, or Clarity® can cause stalk brittleness to field corn. Tank mixtures with 2,4-D and Banvel®, can cause stalk brittleness to sorghum. Winds or cultivation may cause breakage while crop is brittle.
- Follow all restrictions and precautions on the label of all products used in tank mixture with BUCTRIL® 4EC.
- Do not apply BUCTRIL® 4EC at any rate to sorghum after the preboot stage of growth (growth stage 4) as severe crop injury, including loss of crop yield may result.
- Do not apply the 1 pint/A rate of BUCTRIL® 4EC to sorghum.
- Do not apply the BUCTRIL® 4EC + Pursuit® tankmix except to field corn hybrids known to possess resistance to Pursuit®, or severe crop injury may result.

## SMALL GRAINS (WHEAT, BARLEY, OATS, RYE AND TRITICALE)

### BUCTRIL® 4EC RECOMMENDATIONS

| PRODUCT      | RATE   | APPLICATION TIMING AND SPECIFIC COMMENTS   |  |
|--------------|--|--|--|
|              |  | CROP   | WEEDS  |
| BUCTRIL® 4EC | 1/2-1 pint/A   | Spring seeded wheat, barley, oats, rye and triticale. Use in all states except Idaho, Oregon, Washington, Colorado, Wyoming, and Montana. Apply from emergence up and prior to the boot stage.   | Apply 1/2 pint/A to MOST SUSCEPTIBLE and 3/4-1 pint/A to SUSCEPTIBLE weeds that do not exceed the 4 leaf stage or 2 inches in height, whichever comes first. If weed forms rosette, apply before weeds exceed 1 inch in diameter.<br><br>Use BUCTRIL® 4EC at 3/4-1 pint/A for control of kochia that is 2-4 inches in height and pigweed that does not exceed the 4 leaf stage or 2 inches in height, whichever comes first. |
|              | 3/4-1 pint/A   | Fall seeded wheat, barley, oats, rye and triticale throughout the United States. Apply from emergence to the boot stage.<br><br>Spring seeded wheat, barley, oats, rye and triticale in Idaho, Oregon, Washington, Colorado, Wyoming, and Montana. Apply from emergence up and prior to the boot stage.            | Apply to MOST SUSCEPTIBLE weeds (see GENERAL WEED LIST) up to the 8 leaf stage or 4 inches in height, whichever comes first. If weed forms rosette apply before weeds exceed 2 inches in diameter. Apply to SUSCEPTIBLE broadleaf weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.   |
|              | Chemigation<br>1 pint/A only                               | Apply to wheat, barley, oats, rye and triticale from emergence to the boot stage. Apply through automated sprinkler irrigation systems with a mechanical transfer loading system only. See MIXING, LOADING AND HANDLING INSTRUCTIONS section for complete details.   | Apply to MOST SUSCEPTIBLE broadleaf weeds up to the 8 leaf stage or 4 inches in height or 2 inches in diameter, whichever comes first. Apply to SUSCEPTIBLE broadleaf weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. Do not use chemigation for control of weeds that exceed 4 inches in height because control may be unacceptable.   |
|              | Small Grains<br>underseeded with Alfalfa<br>1/2-3/4 pint/A | Apply to small grains (wheat, barley, oats, rye or triticale) underseeded with alfalfa after small grains emergence up to the boot stage and when underseeded alfalfa has a minimum of 4 trifoliolate leaves. Follow all precautions and restrictions listed under the small grains and seedling alfalfa sections. | Apply 1/2 pint/A to MOST SUSCEPTIBLE and 3/4 pint/A to SUSCEPTIBLE broadleaf weeds that do not exceed the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.   |

## BUCTRIL® 4EC TANK MIXTURE RECOMMENDATIONS

| PRODUCT  | RATE  | APPLICATION TIMING AND SPECIFIC COMMENTS   |  |
|--|---|--|--|
|  |   | CROP   | WEEDS  |
| BUCTRIL® 4EC<br>+<br>2,4-D<br>(such as WEEDONE® and<br>WEEDAR® brand<br>Herbicide) | 1/2-1 pint/A<br>+<br>1/4-1/2 lb ai/A                              | Apply to wheat, barley, oats and rye from the fully tillered but before jointing stage.  | This tankmix improves control of mustards and pigweed. Apply to weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.   |
|  | 3/8-1/2 pint/A<br>+<br>1/4-1/2 lb ai/A                            | Apply to wheat and barley in Minnesota, North and South Dakota from the fully tillered but before jointing stage.  | This tankmix improves control of wild buckwheat, redroot pigweed and wild mustard. Apply to weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.                   |
| BUCTRIL® 4EC<br>+<br>MCPA<br>(such as RHONOX® or<br>RHOMENE®)                      | 1/2-1 pint/A<br>+<br>1/4-1/2 lb ai/A                              | Apply to wheat, barley, oats and rye from the 4 leaf stage but before jointing.  | This tankmix improves control of mustards, pigweed and kochia. Apply to weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.                                       |
| BUCTRIL® 4EC<br>+<br>Banvel®   | 1/2-3/4 pint/A<br>+<br>1/8-1/4 pint/A                             | Fall seeded wheat apply prior to the jointing stage. Spring seeded wheat apply up to the 5 leaf stage.   | This tankmix improves control of broadleaves such as prostrate knotweed. Apply to weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.                             |
| BUCTRIL® 4EC<br>+<br>Glean®<br>+<br>Non-ionic surfactant                           | 3/8-3/4 pint/A<br>+<br>1/6-1/3 oz/A<br>+<br>1 qt/100 gal of water | Apply to wheat and barley from the 2 leaf stage but before boot stage. Refer to Glean® label for crop rotation and other restrictions.                   | This tankmix improves control of broadleaves such as henbit, tansy mustard and pigweed. Apply to weeds up to the 4 leaf stage, 4 inches in height or 2 inches in diameter, whichever comes first.            |
| BUCTRIL® 4EC<br>+<br>Ally®<br>+<br>Non-ionic surfactant                            | 3/8-3/4 pint/A<br>+<br>1/10 oz/A<br>+<br>1 qt/100 gal of water    | Apply to wheat and barley from the 2 leaf stage but before the boot stage. Refer to Ally® label for crop rotation and other restrictions.                | This tankmix improves control of broadleaves such as tansy mustard and pigweed. Apply to weeds up to the 4 leaf stage, 4 inches in height or 2 inches in diameter, whichever comes first.                    |
| BUCTRIL® 4EC<br>+<br>Finesse®<br>+<br>Non-ionic surfactant                         | 3/8-3/4 pint/A<br>+<br>1/6-1/3 oz/A<br>+<br>1 qt/100 gal of water | Apply to wheat and barley from the 2 leaf stage but before the boot stage. Refer to Finesse® label for crop rotation and other restrictions.             | This tankmix improves control of broadleaves such as tansy mustard, henbit, chickweed and pigweed. Apply to weeds up to the 4 leaf stage, 4 inches in height or 2 inches in diameter, whichever comes first. |
| BUCTRIL® 4EC<br>+<br>Amber®<br>+<br>Non-ionic surfactant                           | 3/8-3/4 pint/A<br>+<br>0.28-0.56 oz/A<br>+<br>0.25-0.5% v/v       | Apply to wheat and barley after the 3 leaf stage but before the flagleaf is visible. Refer to the Amber® label for crop rotation and other restrictions. | This tankmix improves control of broadleaves such as tansy mustard, henbit, and pigweed. Apply to weeds up to the 4 leaf stage, 4 inches in height or 2 inches in diameter, whichever comes first.           |

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SMALL GRAINS (WHEAT, BARLEY, OATS, RYE AND TRITICALE)

BUCTRIL® 4EC TANK MIXTURE RECOMMENDATIONS (continued)

| PRODUCT  | RATE   | APPLICATION TIMING AND SPECIFIC COMMENTS   |   |
|--|--|--|---|
|  |  | CROP   | WEEDS   |
| BUCTRIL® 4EC<br>+<br>Express®<br>+<br>Non-ionic surfactant       | 1/2-3/4 pint/A<br>+<br>1/6-1/3 oz/A<br>+<br>1 qt/100 gal of water  | Winter wheat. Apply after crop is in the 2 leaf stage but before the flag leaf is visible. Refer to Express® label for crop rotation and other restrictions.   | This tankmix improves control of broadleaf weeds such as redroot pigweed, tansy mustard and suppression of Canada thistle. Apply to annual weeds up to the 4 leaf stage, 4 inches tall or across, whichever comes first, and to Canada thistle 4 to 8 inches tall with 2 to 6 inches of new growth.   |
|  | 3/8-3/4 pint/A<br>+<br>1/6-1/3 oz/A<br>+<br>1 qt/100 gal of water  | Spring wheat and barley. Apply after crop is in the 2 leaf stage but before the flag leaf is visible. Refer to Express® label for crop rotation and other restrictions.  |   |
| BUCTRIL® 4EC<br>+<br>Harmony® Extra<br>+<br>Non-ionic surfactant | 3/8-3/4 pint/A<br>+<br>3/10-1/2 oz/A<br>+<br>1 qt/100 gal of water | Winter wheat. Apply after the 2 leaf stage but before the 3rd node is detectable. Refer to the Harmony® Extra label for crop rotation and other restrictions.  | This tankmix improves control of broadleaf weeds such as henbit, chickweed and redroot pigweed. Apply to weeds up to the 4 leaf stage, 4 inches in height or across, whichever comes first.   |
|  |  | Spring wheat and barley. Apply after the 2 leaf stage but before the 1st node is detectable. Refer to the Harmony® Extra label for crop rotation and other restrictions.   |   |
| BUCTRIL® 4EC<br>+<br>Curtail® or Curtail® M4                     | 1/2-3/4 pint/A<br>+<br>2 pints/A                                   | Apply to wheat and barley after the crop begins to tiller up to the 1st node detectable.   | This tankmix improves control of kochia, wild buckwheat and Canada thistle. Apply to annual broadleaf weeds up to the 8 leaf stage up to 4 inches in height or 2 inches in diameter and Canada thistle in the rosette to prebud stage.  |
| BUCTRIL® 4EC<br>+<br>metribuzin<br>(Sencor® or Lexone®)          | 1/2-5/8 pint/A<br>+<br>1/8-1/4 lb ai/A                             | Winter wheat in Idaho, Montana, Oregon and Washington. Apply in spring after growth has started and secondary roots with a minimum of 3 to 4 tillers have been established but before boot stage. Avoid application when crop has experienced winter kill, frost damage, disease or drought. | This tankmix improves control of broadleaves such as chickweed, filaree, henbit and dogfennel. Apply to weeds that do not exceed 2 inches tall or rosettes of 2 inches in diameter. The higher use rates of both products should be used only in emergency weed situations and if some minor crop injury is acceptable. A recognized authority should be consulted concerning the use of this mixture in your area. |
| BUCTRIL® 4EC<br>+<br>diuron                                      | 1/2 pint/A<br>+<br>4/10 lb ai/A                                    | Winter wheat and winter barley in Idaho, Oregon and Washington. Use only in areas where annual rainfall exceeds 16 inches. One fall application after emergence but before soil freezes or in spring as soon as soil thaws.  | This tankmix improves control of broadleaves such as henbit and groomwell. Apply to weeds before they are 2 inches tall or 2 inches in diameter.  |
| BUCTRIL® 4EC<br>+<br>Tiller®                                     | 1/2 pint/A<br>+<br>1 pint/A  | Spring wheat. Apply when crop begins to tiller (3 - 4 leaf stage) up to the 6 leaf stage. Refer to the Tiller label for complete use directions and restrictions.  | In addition to broadleaf weeds controlled by BUCTRIL® 4EC this tankmix will control green foxtail from the 2-leaf to 2-tiller stage of growth.  |

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SMALL GRAINS (WHEAT, BARLEY, OATS, RYE AND TRITICALE)

BUCTRIL<sup>®</sup> 4EC TANK MIXTURE RECOMMENDATIONS (continued)

| PRODUCT   | RATE   | APPLICATION TIMING AND SPECIFIC COMMENTS   |  |
|---|--|--|--|
|   |  | CROP   | WEEDS  |
| BUCTRIL <sup>®</sup> 4EC<br>+<br>Hoelon <sup>®</sup>                                  | 1/2-1 pint/A<br>+<br>2 2/3 pints/A                           | Spring Barley. After emergence but before jointing. Avoid using this tank mixture on barley exposed to cold (lower than 40 degrees F) and/or prolonged wet weather conditions as crop injury may result. | This tankmix will provide wild oat, green foxtail and annual ryegrass control in addition to broadleaves. Apply to grasses 1-3 leaf stage and broadleaves no larger than 4 leaf stage or rosettes of 1.5 inches in diameter.   |
|   | 1/2-1 pint/A<br>+<br>2 2/3-3 1/3 pints/A                     | Winter wheat and spring wheat. After emergence but before jointing.  |  |
| BUCTRIL <sup>®</sup> 4EC<br>+<br>Hoelon <sup>®</sup><br><br>+<br>Crop Oil Concentrate | 1/2-1 pint/A<br>+<br>2-2 2/3 pints/A<br><br>+<br>1-2 pints/A | Winter wheat and spring wheat. After emergence but before jointing. Use a minimum of 10 gallons of spray volume per acre.<br><br><b>DO NOT USE ON BARLEY.</b>  |  |
| BUCTRIL <sup>®</sup> 4EC<br>+<br>Avenge <sup>®</sup>                                  | 1/2-1 pint/A<br>+<br>2 1/2-4 pints/A                         | Spring Wheat. Five to 6 leaf stage. Refer to Avenge <sup>®</sup> label for varietal and other restrictions.  | This tankmix will provide wild oat control in addition to broadleaves. Apply to wild oats in the 3-5 leaf stage and broadleaves that do not exceed the 4 leaf stage or rosettes of 1.5 inches in diameter. Avenge use rates per acre are 2.5 pints (1-10 oats per sq. ft.), 3 pints (11-25 oats per sq. ft.) or 4 pints (more than 25 oats per sq. ft.). |
|   |  | Barley. Two to 7 leaf stage.   |  |

**RESTRICTIONS AND PRECAUTIONS: Small Grains (Wheat, Barley, Oats, Rye and Triticale)**

- Do not graze treated fields within 45 days following treatment.
- Do not apply when crops are under moisture stress.
- Do not apply when crop canopy covers the weeds as poor weed control will result.
- Do not apply when underseeded alfalfa is under moisture, temperature, insect or disease stress or has been stressed by other pesticide carryover or application.
- Do not add a surfactant or crop oil when applying to underseeded alfalfa or increased injury will occur.
- Do not cut for feed or graze spring treated underseeded alfalfa within 30 days following treatment.
- Do not cut for feed or graze fall or winter treated underseeded alfalfa until spring, at least 60 days following treatment.
- Reduced weed control may occur when weeds are stressed from lack of moisture or cold temperatures.
- Refer to labels of products used in tank mixture for additional restrictions and precautions.
- Do not plant rotational crops within 30 days following BUCTRIL<sup>®</sup> 4EC Herbicide application.
- The total cumulative rate should not exceed 1 pint/A per season.

**FORAGE, FIBER AND SPECIALTY CROPS**

**ALFALFA (SEEDLING)**

**BUCTRIL® 4EC RECOMMENDATIONS**

| PRODUCT      | RATE                         | APPLICATION TIMING AND SPECIFIC COMMENTS   |   |
|--------------|------------------------------|--|---|
|              |                              | CROP   | WEEDS   |
| BUCTRIL® 4EC | 1/2 - 3/4 pint/A             | <p>In the states of California, Washington, Oregon, Idaho, Montana, Wyoming, Colorado, Utah, Nevada, Arizona, New Mexico, and the western halves of North Dakota, South Dakota, Nebraska and Kansas:</p> <p>Apply in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 2 trifoliates. Unacceptable crop injury may occur to alfalfa seedlings less than the 2 trifoliolate stage. BUCTRIL® 4EC applications made when temperatures are expected to exceed 80°F at and 3 days following application can result in unacceptable crop injury.</p> <p>In the remaining states, apply in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 4 trifoliolate leaves. When alfalfa stand is uneven and conditions favor leafburn, unacceptable crop injury may occur to alfalfa in the 2 trifoliolate or smaller stage of growth. If you are unsure of growth stage conditions, contact your local extension service. BUCTRIL® 4EC applications made when temperatures are expected to exceed 70°F at and 3 days following application can result in unacceptable crop injury.</p> <p>Follow all other use directions listed on the BUCTRIL® 4EC label.</p> | <p>Apply 1/2 pint/A to MOST SUSCEPTIBLE broadleaf weeds and 1 3/4 pint/A to SUSCEPTIBLE broadleaf weeds (See GENERAL WEED LIST) when weeds do not exceed 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. BUCTRIL® 4EC will not adequately control over-wintered pennycress, henbit and mustards.</p> |
| BUCTRIL® 4EC | Chemigation Only<br>1 pint/A | <p>Apply to seedling alfalfa with a minimum of 2 trifoliolate leaves. Apply through automated sprinkler irrigation systems with a mechanical transfer loading system only. See MIXING LOADING AND HANDLING INSTRUCTIONS Section for complete details. BUCTRIL® 4EC applications made when temperatures are expected to exceed 85°F at and 3 days following application can result in unacceptable crop injury.</p>   | <p>Apply to MOST SUSCEPTIBLE broadleaf weeds up to the 8 leaf stage, 4 inches in height or 2 inches in diameter, whichever comes first. Apply to SUSCEPTIBLE broadleaf weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first.</p>   |

**BUCTRIL® 4EC TANK MIXTURE RECOMMENDATIONS**

| PRODUCT  | RATE   | APPLICATION TIMING AND SPECIFIC COMMENTS  |  |
|--|--|---|--|
|  |  | CROP  | WEEDS  |
| BUCTRIL® 4EC<br>+<br>BUTYRAC® 200<br>(2,4-DB)              | 1/2 pint/A<br>+<br>1 quart/A                                 | Apply in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 4 trifoliolate leaves. When alfalfa stand is uneven and conditions favor leafburn, unacceptable crop injury may occur to alfalfa in the 2 trifoliolate or smaller stage of growth. If you are unsure of growth stage conditions, contact your local extension service. In the states of California, Washington, Oregon, Idaho, Montana, Wyoming, Colorado, Utah, Nevada, Arizona, New Mexico, and the western halves of North Dakota, South Dakota, Nebraska and Kansas, BUCTRIL® 4EC applications made when temperatures are expected to exceed 80° F at and 3 days following application can result in unacceptable crop injury. In the remaining states BUCTRIL® 4EC applications made when temperatures are expected to exceed 70°F at and 3 days following application can result in unacceptable crop injury. Rainfall or overhead irrigation within 7-10 days following a BUTYRAC® 200 application can cause unacceptable crop injury. | This tankmix improves control of pigweed species, kochia, and tansy mustard. Apply when weeds do not exceed the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. BUCTRIL® 4EC + BUTYRAC 200 tank mixtures will not adequately control over-wintered pennycress, henbit and mustards.     |
| BUCTRIL® 4EC<br>+<br>Pursuit®<br>+<br>Non-ionic surfactant | 3/8-1/2 pint/A<br>+<br>3-6 ounces/A<br>+<br>1 qt/100 gallons | In the states of California, Washington, Oregon, Idaho, Montana, Wyoming, Colorado, Utah, Nevada, Arizona, New Mexico, and the western halves of North Dakota, South Dakota, Nebraska and Kansas:<br><br>Apply in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 2 trifoliolate leaves. When alfalfa stand is uneven and conditions favor leafburn, unacceptable crop injury may occur to alfalfa treated prior to the 2nd trifoliolate stage of growth. If you are unsure of growth stage conditions, contact your local extension service. BUCTRIL® 4EC + Pursuit® applications made when temperatures are expected to exceed 80°F at and 3 days following application can result in unacceptable crop injury.  | This tank mix will control MOST SUSCEPTIBLE broadleaf weeds (See GENERAL WEED LIST) when weeds do not exceed the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first; and other grass and broadleaf weeds listed on the Pursuit® label. Weeds should be 1-3 inches tall for optimum control. |



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**BUCTRIL® 4EC TANK MIXTURE RECOMMENDATIONS**

| PRODUCT  | RATE   | APPLICATION TIMING AND SPECIFIC COMMENTS  |   |
|--|--|---|---|
|  |  | CROP  | WEEDS   |
| BUCTRIL® 4EC<br>+<br>Pursuit®<br>+<br>Non-ionic surfactant | 1/4 - 3/8 pint/A<br>+<br>3-6 ounces/A<br>+<br>1 qt/100 gallons | <p>In all states except California, Washington, Oregon, Idaho, Montana, Wyoming, Colorado, Utah, Nevada, Arizona, New Mexico, and the western halves of North Dakota, South Dakota, Nebraska and Kansas:</p> <p>Apply in the fall or spring to seedling alfalfa when the majority of the field has a minimum of 2 trifoliolate leaves. When alfalfa stand is uneven and conditions favor leafburn, unacceptable crop injury may occur to alfalfa treated prior to the 2nd trifoliolate stage of growth. If you are unsure of growth stage conditions, contact your local extension service. BUCTRIL® 4EC + Pursuit® applications made when temperatures are expected to exceed 70°F at and 3 days following application can result in unacceptable crop injury.</p> | <p>BUCTRIL® 4EC at 1/4 pint/A tankmixed with Pursuit® will control common lambsquarters up to 2 inches in height plus weeds listed on the Pursuit® label.</p> <p>BUCTRIL® 4EC at 3/8 pint/A + Pursuit® will control the MOST SUSCEPTIBLE annual broadleaf weeds (See GENERAL WEED LIST) when weeds do not exceed the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first plus weeds listed on the Pursuit® label.</p> <p>Applications should be made when the majority of the weeds are 1-3 inches tall and when common lambsquarters do not exceed 4 inches in height. For low growing weeds (such as mustards), apply before the rosette exceeds 3 inches in diameter.</p> <p>Refer to the Pursuit® label for a list of susceptible weeds at each of the recommended rates.</p> |

**RESTRICTIONS AND PRECAUTIONS: Alfalfa (Seedling)**

- Crop leafburn can occur following BUCTRIL® 4EC application. Warm, humid conditions may enhance leaf burn. New crop growth will not be affected. Alfalfa yield should not be reduced although total biomass tonnage may decrease compared to a weedy field due to weed removal.
- Do not apply when alfalfa is under moisture, temperature, insect or disease stress or has been stressed by other pesticide carryover or application.
- Do not add a surfactant or crop oil unless specified in the use directions because increased alfalfa injury will occur.
- Do not cut for feed or graze spring treated alfalfa within 30 days following treatment.
- Do not cut for feed or graze fall or winter treated alfalfa until spring, at least 60 days following treatment.
- The total cumulative rate of BUCTRIL® 4EC should not exceed 1 pint/A per season.
- The use of Eptam® preemergence may enhance crop leaf burn from postemergence application of BUCTRIL® 4EC and should be considered prior to using BUCTRIL® 4EC.
- Follow all restrictions and precautions on the tank mixture product label when a BUCTRIL® 4EC tank mixture is used.
- Tank mixture with 2,4-DB may result in unacceptable crop leaf burn especially under warm, humid weather conditions.
- BUCTRIL® 4EC alone can be applied to seedling alfalfa that has been underseeded into small grains that include wheat, barley, oats, rye and triticale. See application restrictions under the SMALL GRAINS SECTION.
- Rainfall or overhead irrigation within 7 - 10 days following BUTYRAC® 200 application can cause unacceptable crop injury.

# FLAX (*Linum usitatissimum* only)

## BUCTRIL® 4EC RECOMMENDATIONS

| PRODUCT      | RATE       | APPLICATION TIMING AND SPECIFIC COMMENTS  |   |
|--------------|------------|---|---|
|              |            | CROP  | WEEDS   |
| BUCTRIL® 4EC | 1/2 pint/A | Apply to flax that is 2 to 8 inches in height. Do not apply BUCTRIL® 4EC to flax during or after the bud stage. | Apply to MOST SUSCEPTIBLE weeds that do not exceed the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. |
|              |            |   |   |

## BUCTRIL® 4EC TANK MIXTURE RECOMMENDATIONS

| PRODUCT   | RATE  | APPLICATION TIMING AND SPECIFIC COMMENTS   |   |
|---|---|--|---|
|   |   | CROP   | WEEDS   |
| BUCTRIL® 4EC<br>+<br>Poast®<br>+<br>Crop oil Concentrate<br>or<br>Dash® | 1/2 pint/A<br>+<br>1-1 1/2 pints/A<br>+<br>2 Pints/A<br>or<br>2 pints/A | Apply to flax that is 2 to 8 inches in height. Do not apply this tankmix to flax during or after the bud stage, or within 75 days of flax harvest. | This tankmix will control broadleaf weeds plus grassy weeds listed on the Poast label. Apply to MOST SUSCEPTIBLE broadleaf weeds (see list on the BUCTRIL® 4EC label) that do not exceed the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. |

### RESTRICTIONS AND PRECAUTIONS: Flax (*Linum usitatissimum* only)

- Do not apply if temperatures are expected to exceed 85° F at or 3 days following application or crop injury may occur.
- Unacceptable crop injury may occur following BUCTRIL® 4EC application to flax grown on high organic, peat type soils.
- Application under high humidity conditions can injure flax.
- Unless otherwise instructed, do not apply BUCTRIL® 4EC to flax with crop oil concentrate, surfactants or nitrogen solutions.
- Do not use on ornamental flax.
- Follow all precautions, directions and restrictions on the Poast® label when using this tank mixture with BUCTRIL® 4EC.

## GARLIC

### BUCTRIL® 4EC RECOMMENDATIONS

| PRODUCT  | RATE           | APPLICATION TIMING AND SPECIFIC COMMENTS  |  |
|--|----------------|---|--|
|  |                | CROP  | WEEDS  |
| BUCTRIL® 4EC   | 3/4 - 1 pint/A | Apply to garlic after emergence but before 12 inches in height.   | Apply to MOST SUSCEPTIBLE and SUSCEPTIBLE broadleaf weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. |
| BUCTRIL® 4EC<br>(Only for garlic grown in muck soils in Northeastern United States)* | 3/4 - 1 pint/A | Apply to garlic after emergence but before 12 inches in height.<br><br>*May be harvested 60 days after treatment. |  |

**PRECAUTIONS AND RESTRICTIONS: Garlic**

- Use a minimum of 20 gallons per acre for ground application.
- BUCTRIL® 4EC can be applied through automated sprinkler irrigation application.
- Do not harvest within 112 days following treatment (except garlic grown in muck soils in Northeastern United States).

## MINT

### (ESTABLISHED PEPPERMINT AND SPEARMINT ONLY)

#### BUCTRIL® 4EC RECOMMENDATIONS

| PRODUCT      | RATE                         | APPLICATION TIMING AND SPECIFIC COMMENTS  |   |
|--------------|------------------------------|---|---|
|              |                              | CROP  | WEEDS   |
| BUCTRIL® 4EC | 1/2-3/4 pint/A               | Apply to dormant or actively growing established peppermint or spearmint crops that exhibit good vigor.   | Apply to MOST SUSCEPTIBLE and SUSCEPTIBLE weeds that do not exceed the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. |
|              | Chemigation<br>1 pint/A only | Apply to dormant or actively growing established peppermint or spearmint crops that exhibit good vigor.<br><br>Apply through automated sprinkler irrigation systems with a mechanical transfer loading system only. See MIXING, LOADING AND HANDLING INSTRUCTIONS section for complete details. |   |

**RESTRICTIONS AND PRECAUTIONS: Mint**

- Application made to mint when temperatures are expected to exceed 70°F at or 5 days following application may result in unacceptable crop injury. This injury is more likely to occur following BUCTRIL® 4EC application in the spring.
- Do not apply to mint growing under adverse conditions including diseases, insects, nematodes, high salt content soil, drought, excessive moisture, winter damage or other environmental stress.
- Application of BUCTRIL® 4EC to mint should not be made within two weeks of a Sinbar® application or unacceptable crop injury may result.
- Do not use in spring on newly established mint. Fall applications to spring planted mint should be acceptable if the crop is well established.
- BUCTRIL® 4EC can cause temporary stunting and discoloration of the mint particularly from the spring application. However the injury symptoms are only temporary and have not caused yield reduction.
- Use of BUCTRIL® 4EC in combination with other products may increase temporary stunting and discoloration.
- Do not harvest within 70 days following treatment.
- Do not apply more than 3 pints of BUCTRIL® 4EC per acre to mint in a single growing season.

# ONIONS

## BUCTRIL® 4EC RECOMMENDATIONS

| PRODUCT      | RATE                            | APPLICATION TIMING AND SPECIFIC COMMENTS   |   |
|--------------|---------------------------------|--|---|
|              |                                 | CROP   | WEEDS   |
| BUCTRIL® 4EC | Preemergence<br>1/2-3/4 pint/A  | Preemergence use is restricted to onions grown east of the Mississippi River only on muck soils containing greater than 10% organic matter. Apply at least 3 to 4 days prior to emergence. Rainfall or irrigation within 2 days following preemergence applications or 3 days prior to crop emergence may result in unacceptable crop injury. Preemergence applications can be applied using either ground or aerial equipment.  | Apply BUCTRIL® 4EC at 1/2 pint/A to control MOST SUSCEPTIBLE weeds and 3/4 pint/A for SUSCEPTIBLE weeds. Weeds should not exceed the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. |
|              | Postemergence<br>1/2-3/4 pint/A | Apply only to onions which have 2 to 5 true leaves.<br><br>Use at least 50-70 gallons of water per acre and apply by ground equipment or chemigation only. Water volume is important - <b>CONCENTRATED SPRAYS KILL ONIONS.</b> Thorough and uniform coverage is necessary for good weed control.<br><br>In onion-producing areas, certain environmental conditions reduce development of waxy coating on the onion leaves, thus increasing the possibility of injury. Dry soil, dry onion foliage, high light intensity, low humidity, and high temperatures tend to increase the waxy coating on onion leaves and thus reducing chances for injury. It is essential that the soil and onion foliage be dry at the time of application. Humidity should be low and dew should be off the plants. |   |

### RESTRICTIONS AND PRECAUTIONS: Onions

- The sensitivity of onions to BUCTRIL® 4EC varies with the variety and environmental conditions. Therefore, even if all the label directions are followed, BUCTRIL® 4EC application still may cause injury to onions under certain circumstances.
- Do not irrigate onions that have received a preemergence application of BUCTRIL® 4EC for 2 days following application or within 3 days of crop emergence.
- Do not apply BUCTRIL® 4EC preemergence to onions grown West of the Mississippi River.
- Do not use BUCTRIL® 4EC on onions grown under low light intensity, in areas such as Oregon, west of the Cascades.
- Do not treat onions damaged by sand, insects, or diseases.
- Do not apply postemergence applications of BUCTRIL® 4EC to onions with aerial equipment.
- Do not add surfactant.

# TRANSGENIC BXN® COTTON

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## BUCTRIL® 4EC RECOMMENDATIONS

### GENERAL INFORMATION

Applications of BUCTRIL® 4EC can be made only to cotton that has been genetically modified for crop tolerance to postemergence over-the-top applications of bromoxynil. It is recommended that postemergence applications of BUCTRIL® 4EC be used in conjunction with a standard preplant or preplant/preemergence herbicides that provide control of annual grasses and control or suppression of some annual broadleaf weeds.

Ground applications of BUCTRIL® 4EC can be applied both as a broadcast application or as an over-the-row band application (see Banded Applications section below). In either case, the maximum use rate per planted acre per application is 0.5 lb ai/A or one pint/A. The total cumulative rate of BUCTRIL® 4EC applied must not exceed 3 pints/A per planted acre per season.

**Use Restrictions:** Use of BUCTRIL® 4EC on genetically modified cotton is prohibited in Florida, South of Tampa (Florida Route 60), and in Hawaii, except for test plots or breeding nurseries.

### BROADCAST APPLICATIONS

| PRODUCT   | RATE                                    | APPLICATION TIMING AND SPECIFIC COMMENTS   |  |
|---|---|--|--|
|   |   | CROP   | WEEDS  |
| BUCTRIL® 4EC  | 1/2 - 1 Pint/A                          | Apply from just prior to planting cotton until 75 days prior to harvest. Do not exceed 2 applications before cotton is 12 inches tall and 1 application after cotton exceeds 12 inches in height. Make the last application during bloom, but not later than 75 days before harvest. | See TRANSGENIC BXN® COTTON APPLICATION RATE TABLE BUCTRIL® 4EC for list of weeds and corresponding stages of growth that are controlled by broadcast postemergence applications of BUCTRIL® 4EC at recommended rates.  |
| BUCTRIL® 4EC<br>+<br>MSMA<br>(Such as Bueno 8 or Arsonate Liquid) | 3/4 - 1 Pint/A<br>+<br>0.75-1.0 lb ai/A | Apply as an over-the-top spray when cotton is 3 inches high to first bloom. Do not apply this tank mixture after first bloom. When MSMA is tankmixed with BUCTRIL® 4EC, slight burning and reddish discoloration of the cotton foliage may occur.                                    | This tankmix improves the control of pigweed and provides suppression of sicklepod. Apply as a broadcast or over-the-row band application.<br><br>Apply to pigweed up to 2 inches in height and sicklepod from the cotyledonary stage up to the first true leaf, or 1 inch in height, whichever comes first. |

### BANDED APPLICATIONS

The recommended band widths range from 1/3 to 1/2 of the row width (see table below). For 40 inch rows, the band width would be 13 1/3 to 20 inches, depending upon local grower practices. For band applications, the sprayer should be set up using 1, 2 or 3 nozzles per row. One even flat fan nozzle per row may provide adequate coverage of the weeds when cotton does not exceed 3 inches in height. When cotton exceeds 3 inches in height, a 2 or 3 nozzle arrangement is recommended to provide adequate spray coverage of the weeds within the band. These nozzles can be either flat fan or hollow cone nozzles. Weed control outside the band area treated should be provided by either cultivation or using other herbicides that are recommended for this use.

## RECOMMENDED BAND WIDTHS FOR COMMONLY USED COTTON ROW WIDTHS

| Cotton Row Width | Band Width                        |                  |
|------------------|-----------------------------------|------------------|
|                  | 1/3 of Row Width                  | 1/2 of Row Width |
|                  | Band Width to be Sprayed (Inches) |                  |
| 30               | 10                                | 15               |
| 36               | 12                                | 18               |
| 38               | 12-2/3                            | 19               |
| 40               | 13-1/3                            | 20               |

Since the rates of BUCTRIL® 4EC are expressed as broadcast amounts per treated acre, the amount actually applied on a per acre basis when banding is proportionately less. Use the following formula to calculate the amount of BUCTRIL® 4EC needed per crop acre when banded applications are made.

$$\frac{\text{band width in inches}}{\text{row spacing in inches}} \times \text{broadcast rate per acre} = \text{amount needed per acre of field}$$

Note: If BUCTRIL® 4EC is applied in a band, do not concentrate the use rate in the banded area.

## Special Use Directions

### Controlling grasses and broadleaf weeds:

BUCTRIL® 4EC at 3/4-1 pint/A applied sequentially with postemergence graminicides (Assure II, Fusilade 2000, Poast, Select) will control the broadleaf weeds listed in the TRANSGENIC BXN® COTTON APPLICATION RATE TABLE - BUCTRIL® 4EC and the grasses listed on the respective Assure II, Fusilade 2000, Poast, or Select labels. When BUCTRIL® 4EC is applied first, wait at least 7 days before applying Assure II, Fusilade 2000, Poast, or Select. When the grass herbicide is applied first, wait a minimum of 3 days before applying BUCTRIL® 4EC. If Assure II, Fusilade 2000, Poast, or Select is tankmixed with BUCTRIL® 4EC, reduced grass control may occur.

### Controlling large broadleaf weeds:

For improved activity on broadleaf weeds larger than listed in the TRANSGENIC BXN® COTTON APPLICATION RATE TABLE - BUCTRIL® 4EC, multiple applications of BUCTRIL® 4EC at 3/4-1pint/A can be used. Follow the first application with the second application when new weed growth is observed, generally 10-14 days after the initial application.

TRANSGENIC BXN® COTTON APPLICATION RATE TABLE - BUCTRIL® 4EC

| WEED SPECIES  | RATE                                  |                                       |
|---|---------------------------------------|---------------------------------------|
|   | (3/4 Pint/Acre)                       | (1.0 Pint/Acre)                       |
|   | Weed Height Range for Optimum Control | Weed Height Range for Optimum Control |
| Bristly Starbur ( <i>Acanthospermum hispidum</i> )          | 1-3                                   | 1-4                                   |
| Buffalobur ( <i>Solanum rostratum</i> )                     | 1-4                                   | 1-4                                   |
| Cocklebur ( <i>Xanthum strumarium</i> )                     | 1-4                                   | 1-6                                   |
| Coffee Senna ( <i>Cassia occidentalis</i> )                 | 1-3                                   | 1-4                                   |
| Common Ragweed ( <i>Ambrosia artemisiifolia</i> )           | 1-4                                   | 1-6                                   |
| Entireleaf Morningglory ( <i>Ipomoea hederacea</i> )        | 1-3                                   | 1-4                                   |
| Florida Beggarweed ( <i>Oesmodium fortuneum</i> )           | 1-2                                   | 1-2                                   |
| Florida Pusley ( <i>Richardia scabra</i> )                  | 1-3                                   | 1-4                                   |
| Giant Ragweed ( <i>Ambrosia trifida</i> )                   | 1-4                                   | 1-8                                   |
| Hemp Sesbania ( <i>Sesbania exalta</i> )                    | 1-4                                   | 1-8                                   |
| Ivyleaf Morningglory ( <i>Ipomoea hederacea</i> )           | 1-3                                   | 1-4                                   |
| Jimsonweed ( <i>Datura stramonium</i> )                     | 1-4                                   | 1-6                                   |
| Ladysthumb ( <i>Polygonum persicaria</i> )                  | 1-4                                   | 1-6                                   |
| Lambsquarters ( <i>Chenopodium album</i> )                  | 1-6                                   | 1-8                                   |
| Kochia ( <i>Kochia scoparia</i> )                           | 1-2                                   | 1-4                                   |
| Lanceleaf Sage ( <i>Salvia reflexa</i> )                    | -                                     | 1-2                                   |
| Nightshade Spp. ( <i>Solanum spp.</i> )                     | 1-4                                   | 1-6                                   |
| Palmer Amaranth ( <i>Amaranthus palmeri</i> )               | 1                                     | 1-2                                   |
| Palmleaf Morningglory ( <i>Ipomoea wrightii</i> )           | 1-3                                   | 1-4                                   |
| Pennsylvania Smartweed ( <i>Polygonum pennsylvanicum</i> )  | 1-4                                   | 1-6                                   |
| Pitted Morningglory ( <i>Ipomoea lacunosa</i> )             | 1-3                                   | 1-4                                   |
| Prickly Sida ( <i>Sida spinosa</i> )                        | -                                     | 1                                     |
| Purple Moonflower Morningglory ( <i>Ipomoea muricata</i> )  | 1-3                                   | 1-4                                   |
| Redroot Pigweed ( <i>Amaranthus retroflexus</i> )           | 1                                     | 1-2                                   |
| Russian Thistle ( <i>Salsola ibetica</i> )                  | 1-2                                   | 1-4                                   |
| Sharpod Morningglory ( <i>Ipomoea inchoarpa</i> )           | 1-2                                   | 1-3                                   |
| Smallflower Morningglory ( <i>Jacquemontia tamnifolia</i> ) | 1-2                                   | 1-3                                   |
| Smooth Pigweed ( <i>Amaranthus hybridus</i> )               | 1                                     | 1-2                                   |
| Spiny Pigweed ( <i>Amaranthus spinosus</i> )                | 1                                     | 1-2                                   |
| Spurred Anoda ( <i>Anoda cristata</i> )                     | 1                                     | 1-2                                   |
| Sunflower ( <i>Helianthus annuus</i> )                      | 1-6                                   | 1-8                                   |
| Tall Morningglory ( <i>Ipomoea purpurea</i> )               | 1-3                                   | 1-4                                   |
| Tall Waterhemp ( <i>Amaranthus tuberculatus</i> )           | 1                                     | 1-2                                   |
| Tropic Croton ( <i>Croton glandulosus</i> )                 | 1-3                                   | 1-4                                   |
| Velvetleaf ( <i>Abutilon theophrasti</i> )                  | 1-3                                   | 1-4                                   |
| Vernice Mallow ( <i>Hibiscus trionum</i> )                  | 1-2                                   | 1-3                                   |
| Wild Okra ( <i>Abelmoschus esculentus</i> )                 | 1-4                                   | 1-6                                   |
| Wild Poinsettia ( <i>Euphorbia heterophylla</i> )           | 1-3                                   | 1-4                                   |

RESTRICTIONS AND PRECAUTIONS

- o Only use BUCTRIL® 4EC on cotton that has been genetically modified for crop tolerance to postemergence over-the-top applications of bromoxynil.
- o Do not use BUCTRIL® 4EC at a rate higher than 1 pint per application for each planted acre of transgenic BXN® cotton
- o The total cumulative rate of BUCTRIL® 4EC must not exceed 3 pints/A per planted acre per season
- o After applying up to 1 pint/A/season of BUCTRIL® 4EC, wait a minimum of 30 days from the date of the last application, and then plant any rotational crop.
- o After applying more than 1 pint/A/season of BUCTRIL® 4EC, only Transgenic BXN® cotton may be planted as a rotational crop.
- o Do not graze any portion of crop.
- o Do not cut crop for feed or fodder.
- o BUCTRIL® 4EC does not control grasses and nutsedges. Therefore, it is recommended that a suitable control program be used to provide any required grass and nutsedge control.
- o Do not apply within 75 days of harvest
- o Follow all precautions, directions and restrictions on labels containing MSMA when using these tank mixtures with BUCTRIL® 4EC on Stoneville Originator cotton that contains the patented BXN® gene

## GRASS CROPS

### CONSERVATION RESERVE PROGRAM (CRP) AREAS BUCTRIL® 4EC RECOMMENDATIONS

| PRODUCT      | RATE                         | APPLICATION TIMING AND SPECIFIC COMMENTS   |  |
|--------------|------------------------------|--|--|
|              |                              | CROP   | WEEDS  |
| BUCTRIL® 4EC | 1/2- 1 pint/A                | Apply to grasses after emergence. If alfalfa is planted apply after the 4 trifoliate leaf stage.   | Apply to MOST SUSCEPTIBLE and SUSCEPTIBLE broadleaf weeds up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. |
|              | Chemigation<br>1 pint/A only | Apply to grasses after emergence. If alfalfa is planted apply after the 4 trifoliate leaf stage.<br><br>Apply through automated sprinkler irrigation systems with a mechanical transfer loading system only. See MIXING, LOADING AND HANDLING INSTRUCTIONS section for complete details. |  |

#### BUCTRIL® 4EC TANK MIXTURE RECOMMENDATIONS

| PRODUCT  | RATE                                    | APPLICATION TIMING AND SPECIFIC COMMENTS  |  |
|--|---|---|--|
|  |   | CROP  | WEEDS  |
| BUCTRIL® 4EC<br>+<br>Rhomene®<br>or Rhonox® (MCPA) | 1/2 - 1 pint/A<br>+<br>1/4 - 1/2 pint/A | Apply to CRP areas after grasses have reached the 3 leaf stage. Do not use this tank mixture in areas where alfalfa or other legumes have been planted. | This tankmix improves control of mustards, pigweed, and kochia. Apply up to the 4 leaf stage, 2 inches in height or 1 inch in diameter, whichever comes first. |

#### RESTRICTIONS AND PRECAUTIONS: CRP AREAS

- Do not allow livestock to graze in treated areas or feed treated grass and forage to livestock.
- Do not add spray adjuvants or fluid fertilizers when applying BUCTRIL® 4EC to CRP areas planted with alfalfa or other legumes.
- Do not apply BUCTRIL® 4EC to CRP areas planted with alfalfa if temperatures are expected to exceed 80°F or severe crop injury may occur. If legumes other than alfalfa have been planted, severe crop injury may occur at any application temperature.
- Do not apply more than 3/4 pint/A of BUCTRIL® 4EC to CRP areas that are underseeded with alfalfa.



## GRASSES GROWN FOR SEED OR SOD PRODUCTION

### BUCTRIL® 4EC RECOMMENDATIONS Seedling and Established Grasses

| PRODUCT      | RATE                       | RATE                      | APPLICATION TIMING AND SPECIFIC COMMENTS  |  |
|--------------|----------------------------|---------------------------|---|--|
|              | Per ACRE                   | Per 1000 SQ. FT..         | CROP  | WEEDS  |
| BUCTRIL® 4EC | 0.5 to 1.0<br>Pint         | 0.188 to 0.375<br>Fl. Oz. | Apply to established and newly seeded grasses grown for seed or sod production before the boot stage. Established grasses tolerant to BUCTRIL® 4EC include bentgrasses, Kentucky Bluegrass, Fescues, Ryegrass, Bermudagrass, St. Augustinegrass and Zoysiagrass. BUCTRIL® 4EC may also be used on seedling grasses such as Merion, Park, Delta, or common Kentucky Bluegrasses, Pennlawn, Chewings, Illahee or Alta Fescues, Orchard grass, Highland, Seaside or Astoria Bentgrasses, perennial Ryegrasses, Bahiagrass and Zoysiagrass. | Refer to the GENERAL WEED LIST for a listing of susceptible broadleaf weeds.<br><br>Optimal control will be attained when weeds are treated in the seedling stage (less than 4 leaf stage, 2 inches in height, or 1 inch in diameter). |
| BUCTRIL® 4EC | Chemigation<br>1 Pint Only | 0.375<br>Fl. Oz.          | Apply to established and newly seeded grasses grown for seed or sod production before the boot stage. Apply through automated sprinkler irrigation systems with mechanical transfer loading system only. See MIXING LOADING AND HANDLING INSTRUCTIONS section for complete details. Refer to the list of established grasses that are tolerant to BUCTRIL® 4EC.   |  |

#### RESTRICTIONS AND PRECAUTIONS: Grasses grown for seed or sod production

- Do not allow livestock to graze in treated areas or feed treated forage, hay or straw for at least 130 days after treatment.
- Do not apply BUCTRIL® 4EC to grasses grown for seed or sod production with backpack or hand-held application equipment.

## NON-RESIDENTIAL TURFGRASS

### BUCTRIL® 4EC RECOMMENDATIONS Seedling and Established Non-Residential Turfgrass

| PRODUCT      | RATE                | RATE                      | APPLICATION TIMING AND SPECIFIC COMMENTS  |  |
|--------------|---------------------|---------------------------|---|--|
|              | Per ACRE            | Per 1000 SQ.FT.           | CROP  | WEEDS  |
| BUCTRIL® 4EC | 0.5 to 1.0<br>Pints | 0.188 to 0.375<br>Fl. Oz. | Apply to established and newly seeded non-residential turfgrass when weeds are small and actively growing. Established turfgrasses that are tolerant to BUCTRIL® 4EC include bentgrasses, Kentucky Bluegrass, Fescues, Ryegrass, Bermudagrass, St. Augustinegrass and Zoysiagrass. BUCTRIL® 4EC may also be used on seedling grasses such as Merion, Park, Delta, or common Kentucky Bluegrasses, Pennlawn, Chewings, Illahee or Alta Fescues, Orchard grass, Highland, Seaside or Astoria Bentgrasses, perennial Ryegrasses, Bahiagrass and Zoysiagrass. | Refer to the GENERAL WEED LIST for a listing of susceptible broadleaf weeds.<br><br>Optimal control will be attained when weeds are treated in the seedling stage (less than 4 leaf stage, 2 inches in height, or 1 inch in diameter). |

**RESTRICTIONS AND PRECAUTIONS: Non-residential turfgrasses**

- Do not allow livestock to graze in treated areas or feed treated grasses to livestock.
- Do not apply BUCTRIL® 4EC to non-residential turf with backpack or hand-held application equipment.

**BUCTRIL® 4EC TANKMIXTURE RECOMMENDATIONS**  
**Established Non-Residential Turfgrass**

| PRODUCT                                    | RATE                               | RATE                                       | APPLICATION TIMING AND SPECIFIC COMMENTS   |  |
|--|------------------------------------|--|--|--|
|  | Per ACRE                           | Per 1000 SQ.FT.                            | CROP   | WEEDS  |
| BUCTRIL® 4EC<br>+<br>WEEDONE®<br>DPC Ester | 1 Pint<br>+<br>3 to 4 Pints        | 0.375 Fl. Oz.<br>+<br>1.125 to 1.5 Fl. Oz. | Apply to established non-residential turfgrass only. This treatment may cause injury to bentgrasses, St. Augustinegrass, centipede grass, and carpetgrass. | All weed species previously listed in the GENERAL WEED LIST for BUCTRIL® 4EC plus the following species:<br><br>Dandelion ( <i>Taraxacum officinale</i> )<br>Plantains ( <i>Plantago spp.</i> )<br>Ground Ivy ( <i>Glechoma hederacea</i> )<br>Red Clover ( <i>Trifolium pratense</i> )<br>White Clover ( <i>Trifolium repens</i> )<br>Hop Clover ( <i>Trifolium agrarium</i> )<br>Common Chickweed ( <i>Stellaria media</i> )<br>Prostrate Spurge ( <i>Euphorbia supina</i> )<br>Oxalis ( <i>Oxalis europaea</i> )<br>Knotweed ( <i>Polygonum aviculare</i> )<br><br>Optimal control will be attained when weeds are treated in the seedling stage (less than 4 leaf stage, 2 inches in height, or 1 inch in diameter). |
| BUCTRIL® 4EC<br>+<br>MCPP                  | 1 Pint<br>+<br>1.0 lb ai           | 0.375 Fl. Oz.<br>+<br>0.025 lb ai          | Apply to established non-residential turfgrass only. This treatment is not recommended for use on St. Augustinegrass or centipede grass.                   | All weed species previously listed in the GENERAL WEED LIST for BUCTRIL® 4EC plus the following species:<br><br>Red Clover ( <i>Trifolium pratense</i> )<br>White Clover ( <i>Trifolium repens</i> )<br>Common Chickweed ( <i>Stellaria media</i> )<br>Mouseear Chickweed ( <i>Cerastium vulgatum</i> )<br>Ground Ivy ( <i>Glechoma hederacea</i> )<br>Stitchwort ( <i>Stellaria gramminea</i> )<br>Knotweed ( <i>Polygonum aviculare</i> )<br>Prostrate Spurge ( <i>Euphorbia supina</i> )<br><br>Optimal control will be attained when weeds are treated in the seedling stage (less than 4 leaf stage, 2 inches in height, or 1 inch in diameter).  |
| BUCTRIL® 4EC<br>+<br>dicamba               | 1 Pint<br>+<br>0.125 to 0.25 lb ai | 0.375 Fl. Oz.<br>+<br>0.006 to 0.012 lb ai | Apply to established non-residential turfgrass only. This treatment may cause injury to bentgrasses, St. Augustinegrass, centipede grass, and carpetgrass. | All weed species previously listed in the GENERAL WEED LIST for BUCTRIL® 4EC plus the following species:<br><br>Red Clover ( <i>Trifolium pratense</i> )<br>White Clover ( <i>Trifolium repens</i> )<br>Common Chickweed ( <i>Stellaria media</i> )<br>Mouseear Chickweed ( <i>Cerastium vulgatum</i> )<br>Pepperweed ( <i>Lepidium spp.</i> )<br>Knotweed ( <i>Polygonum aviculare</i> )<br><br>Optimal control will be attained when weeds are treated in the seedling stage (less than 4 leaf stage, 2 inches in height, or 1 inch in diameter).  |

Established Non-Residential Turfgrass (CONT)

| PRODUCT                                   | RATE  |   | APPLICATION TIMING AND SPECIFIC COMMENTS  |  |
|---|---|---|---|--|
|   | Per ACRE  | Per 1000 SQ.FT.   | CROP  | WEEDS  |
| BUCTRIL® 4EC<br>+<br>MCPP<br>+<br>dicamba | 1 Pint<br>+<br>0.5 to 1.0 lb ai<br>+<br>0.125 to 0.25 lb ai | 0.375 Fl. Oz.<br>+<br>0.0125 to 0.025 lb ai<br>+<br>0.003 to 0.006 lb ai  | Apply to established non-residential turfgrass only. This treatment is not recommended for use on St. Augustinegrass or centipedegrass. | All weed species previously listed in the GENERAL WEED LIST for BUCTRIL® 4EC and BUCTRIL® 4EC/Dicamba tankmixtures plus the following species:<br><br>Dandelion ( <i>Taraxacum officinale</i> )<br>Plantains ( <i>Plantago spp.</i> )<br><br>Optimal control will be attained when weeds are treated in the seedling stage (less than 4 leaf stage, 2 inches in height, or 1 inch in diameter).  |
| BUCTRIL® 4EC<br>+<br>MCPP<br>+<br>2,4-D   | 1 Pint<br>+<br>0.5 to 1.0 lb ai<br>+<br>0.5 to 1.0 lb ai    | 0.375 Fl. Oz.<br>+<br>0.0125 to 0.025 lb ai<br>+<br>0.0125 to 0.025 lb ai | Apply to established non-residential turfgrass only. This treatment is not recommended for use on St. Augustinegrass or centipedegrass. | All weed species previously listed in the GENERAL WEED LIST for BUCTRIL® 4EC and BUCTRIL® 4EC/2,4-D tankmixtures plus the following species:<br><br>Dandelion ( <i>Taraxacum officinale</i> )<br>Plantains ( <i>Plantago spp.</i> )<br>Red Sorrell ( <i>Rumex acetosella</i> )<br>Knotweed ( <i>Polygonum aviculare</i> )<br><br>Optimal control will be attained when weeds are treated in the seedling stage (less than 4 leaf stage, 2 inches in height, or 1 inch in diameter).<br><br>Optimal control of red sorrell will require the high use rate of 2,4-D or MCPP. |

**RESTRICTIONS AND PRECAUTIONS: Non-residential turfgrasses**

- BUCTRIL® 4EC/WEEDONE® DPC tankmixes are not allowed in California.
- Do not allow livestock to graze in treated areas or feed treated grasses to livestock.
- Do not apply BUCTRIL® 4EC to non-residential turf with backpack or hand-held application equipment.

# NON-CROPLAND

## NON-CROPLAND AND INDUSTRIAL SITES

### BUCTRIL® 4EC RECOMMENDATIONS

| PRODUCT      | RATE             | RATE                      | APPLICATION TIMING AND SPECIFIC COMMENTS   |  |
|--------------|------------------|---------------------------|--|--|
|              | Per ACRE         | Per 1000 SQ.FT.           | CROP   | WEEDS  |
| BUCTRIL® 4EC | 0.5 to 1<br>Pint | 0.188 to 0.375<br>Fl. Oz. | Apply to non-cropland and industrial sites when weeds have emerged and are actively growing. | Refer to the GENERAL WEED LIST for a listing of susceptible broadleaf weeds. Use adequate spray volumes to ensure thorough coverage.<br><br>Optimal control will be attained when weeds are treated in the seedling stage (less than 4 leaf stage, 2 inches in height, or 1 inch in diameter). |

#### RESTRICTIONS AND PRECAUTIONS: Non-Cropland and Industrial Sites

- Do not allow livestock to graze in treated areas or feed treated plant material to livestock.
- Addition of surfactant or crop oil concentrate may improve burndown of broadleaf weeds under cool, dry conditions.
- Do not apply BUCTRIL® 4EC to non-cropland and industrial sites with backpack or hand-held application equipment.

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Rhône-Poulenc Ag Company  
P.O. Box 12014, 2 T.W. Alexander Drive  
Research Triangle Park, North Carolina 27709

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