

19713-599

1-19-2007

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

OFFICE OF PESTICIDE PROGRAMS  
REGISTRATION DIVISION

January 19, 2007

Ms. Luz G. Chan  
Registration Manager  
Drexel Chemical Company  
P.O. Box 13327  
Memphis, TN 38133-0327

Re: Chlorpyrifos 4E-AG2  
EPA Reg. No.: 19713-599  
December 27, 2006

Dear Ms. Chan:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated December 27, 2006, for the product Chlorpyrifos 4E-AG2. The Registration Division (RD) has conducted a preliminary screen of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions, please me directly at 703-305-6249 or Joyce Edwards, of my staff at 703-308-5479.

Sincerely,

A handwritten signature in black ink, appearing to read "Linda Arrington".

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs

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United States  
**Environmental Protection Agency**  
 Washington, DC 20460

Registration  
 Amendment  
 Other

OPP Identifier Number

**Application for Pesticide - Section I**

1. Company/Product Number 19713-599		2. EPA Product Manager JOHN HEBERT		3. Proposed Classification <input type="checkbox"/> None <input checked="" type="checkbox"/> Restricted	
4. Company/Product (Name) CHLORPYRIFOS 4E-AG2		PM# 7/Insecticide-Rodenticide Branch			
5. Name and Address of Applicant (Include ZIP Code)  Drexel Chemical Company P.O. Box 13327 Memphis, TN 38133-0327  <input type="checkbox"/> Check if this is a new address			6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____		

**Section - II**

<input type="checkbox"/> Amendment - Explain below.	<input checked="" type="checkbox"/> Final printed labels in response to Agency letter dated _____	<b>NOTIFICATION</b>  JAN 19 2007
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.	
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.	

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

Submission of label (599SP-1206) changes permitted by PR Notice 98-10. Details are in the cover letter accompanying this submission. Thank you.

**Section - III**

1. Material This Product Will Be Packaged In:					
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt No. per container	
2. Type of Container <input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____					
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/>	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph Paper glued <input type="checkbox"/> Stenciled <input type="checkbox"/> Other _____					

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name LUZ G CHAN		Title REGISTRATION MANAGER		Telephone No. (Include Area Code) (901) 774-4370	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.					6. Date Application Received  <b>(Stamped)</b>
2. Signature 		3. Title REGISTRATION MANAGER			
4. Typed Name LUZ G CHAN		5. Date December 27, 2006			

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**Drexel Chemical Company**

December 27, 2006

***Submission of Revised Label per PR Notice 98-10***  
**DREXEL CHLORPYRIFOS 4E-AG2 (EPA Reg. No. 19713-599)**

This notification is consistent with the Provisions of PR Notice 98-10 and EPA Regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the Confidential Statement of Formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under Sections 12 and 14 of FIFRA.

FOR DREXEL CHEMICAL COMPANY

LUZ G CHAN

Registration Manager

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# RESTRICTED USE PESTICIDE

For retail sale to and use only by certified applicators or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

NOTIFICATION

JAN 19 2007

# Drexel

# Chlorpyrifos 4E-AG2

## Insecticide

For control of various Insects infesting certain Field, Fruit, Nut and Vegetable crops.

### ACTIVE INGREDIENT:

Chlorpyrifos .....	44.9%
OTHER INGREDIENTS*:	55.1%
<b>TOTAL:</b> .....	<b>100.0%</b>

This product contains 4 pounds of Chlorpyrifos per gallon  
\*Contains Aromatic petroleum distillates

**KEEP OUT OF REACH OF CHILDREN**

## WARNING / AVISO

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

See **FIRST AID Below**

**SHAKE WELL BEFORE USING**

EPA Reg. No. 19713-599

EPA Est. No. 19713-

Net Contents: \_\_\_\_\_

### FIRST AID ORGANOPHOSPHATE

#### IF SWALLOWED:

- Call a poison control center or doctor immediately for treatment advice
- Do not induce vomiting unless told to do so by a poison control center or doctor
- Do not give any liquid to the person
- Do not give anything by mouth to an unconscious or convulsing person.

#### IF IN EYES:

- Hold eye open and rinse slowly and gently with water for 15 to 20 minutes
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye

#### IF ON SKIN OR CLOTHING:

- Take off contaminated clothing
- Rinse skin immediately with plenty of water for 15 to 20 minutes.

#### IF INHALED:

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.

Call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information on this pesticide product (including health concerns, medical emergencies or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378

**NOTE TO PHYSICIAN** This product contains an organophosphate that inhibits cholinesterase. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early, however, use only in conjunction with atropine. In case of severe, acute poisoning, use antidote immediately after establishing an open airway and respiration. Contains petroleum distillate. Do not induce vomiting since vomiting may cause aspiration pneumonia.

### PRECAUTIONARY STATEMENTS

#### Hazards to Humans and Domestic Animals

**WARNING:** May be fatal if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with eyes, skin or clothing. Avoid breathing vapors. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

**Mixers and loaders using a mechanical transfer loading system and applicators using aerial application equipment must wear:**

- Long-sleeved shirt and long pants
- Shoes and socks

**In addition to the above, mixers and loaders using a mechanical transfer loading system must wear:**

- Chemical-resistant gloves
- Chemical-resistant apron
- A NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any R, P, or HE filter

See Engineering Controls for additional requirements

**All other mixers, loaders, applicators and other handlers must wear:**

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves made of waterproof material such as Barrier laminate and Viton ≥ 14 mils
- Chemical-resistant apron when mixing or loading or exposed to the concentrate
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure
- A NIOSH approved respirator with any R, P, or HE filter

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 and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Manufactured By

## Drexel Chemical Company

P.O. BOX 13327, MEMPHIS, TN 38117-0327

**SINCE 1972**

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### ENGINEERING CONTROLS

Mixers and loaders supporting aerial applications must use a mechanical transfer system that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)] for dermal protection, and must:

- Wear the personal protective equipment required above for mixers/loaders
- Wear protective eyewear if the system operates under pressure, and
- Be provided and have immediately available for use in an emergency, such as broken package, spill, or equipment breakdown; coveralls, chemical-resistant footwear and chemical-resistant headgear if overhead exposure

Pilots must use an enclosed cockpit in a manner that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)].

Use of human flaggers is prohibited. Mechanical flagging equipment must be used.

When handlers use closed systems or closed cab motorized ground application equipment 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.

### USER SAFETY RECOMMENDATIONS

**User should:** 1) Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. 2) Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. 3) 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 fish, aquatic invertebrates, small mammals and birds. Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwater or rinsate. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. Protective information may be obtained from your cooperative agricultural extension service.

### PHYSICAL OR CHEMICAL HAZARDS

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

### GENERAL INFORMATION

CHLORPYRIFOS 4E-AG2 insecticide forms an emulsion when diluted with water and is suitable for use in all conventional spray equipment. Consult your State Experiment Station or State Extension Service for proper timing of applications.

### DIRECTIONS FOR USE

#### RESTRICTED USE PESTICIDE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. 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. Read all "DIRECTIONS FOR USE" carefully before applying.

### AGRICULTURAL USE REQUIREMENTS

Use this product in accordance with its labeling and with the Worker Protection Standard (WPS), 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry 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 areas during the restricted-entry interval (REI).

The REI for each crop is listed in the directions for use associated with each crop.

**Exception:** If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

Certified crop advisors or persons entering under their direct supervision under certain circumstances may be exempt from the early re-entry requirements pursuant to 40 CFR Part 170.

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 short sleeved shirt and short pants
- Chemical-resistant gloves, made out of any waterproof material

(Continued)

### AGRICULTURAL USE REQUIREMENTS (Cont.)

- Chemical-resistant footwear plus socks
  - Chemical-resistant headgear for over head exposure
- Certified crop advisors or persons entering under their direct supervision under certain circumstances may be exempt from the early re-entry requirement pursuant to 40 CFR Part 170.
- Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

### GENERAL USE PRECAUTIONS

At low spray volumes under high temperature and wind conditions, insect control may be reduced.

Some reduction in insect control may occur under unusually cool conditions.

**Flood irrigation:** To avoid contamination of irrigation tail waters, do not flood irrigate within 24 hours following a soil surface or foliar application of this product.

### SPRAY DRIFT MANAGEMENT

Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, nontarget areas, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making decision to apply this product.

Observe the following precautions when spraying this product adjacent to permanent bodies of water such as rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds.

The following treatment setbacks or buffer zones must be utilized for applications around the above listed aquatic areas with the following application equipment:

Application Method	Required Setback (Buffer Zone) (feet)
Ground boom	25
Chemigation	25
Orchard airblast	50
Aerial (fixed wing or helicopter)	150

Making applications when wind is blowing away from sensitive areas is the most effective way to reduce the potential for adverse effects.

The following spray drift best management practices are recommended to avoid off-target drift movement from applications.

#### Aerial Application

1. The boom width must not exceed 75% of the wingspan or 90% of the rotor blade.
2. Nozzles must always point backward, parallel with the air stream, and never be pointed downward more than 45 degrees.
3. Nozzles must produce a medium or coarser droplet size (255-340 microns volume median diameter) per ASE Standard 572 under application conditions. Airspeed, pressure, and nozzle angle can all effect droplet size. See manufacturer's catalog or USDA/NAAA Applicator's Guide for spray size quality ratings.
4. Applications must not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
5. Use upwind swath displacement and apply only when wind speed is 3 to 10 mph as measured by an anemometer. Do not apply product when wind speed exceeds 10 mph.
6. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

Where states have more stringent regulations, they must be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory.

#### Aerial Drift Reduction Advisory

This section is advisory in nature and does not supercede the mandatory label requirements.

#### Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent adverse effects from drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions)

#### Controlling Droplet Size

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

- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure
- **Number of nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.

#### Boom Length

For some use patterns, reducing the effective boom length to less than three-fourths of the wingspan or rotor length may further reduce drift without reducing swath width.

#### Application Height

Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

#### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.)

#### Wind

Drift potential is lowest between speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential.

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

#### Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### Temperature Inversions

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

#### Sensitive Areas

This pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive area).

#### Ground Boom Application

The following mandatory spray drift best management practices are required to reduce the likelihood of off-target drift movement from ground applications.

1. Choose only nozzles and pressures that produce a medium or coarse droplet size (255-400 microns volume median diameter), per ASAE Standard 572. See manufacturer's catalog or USDA/NAAA Applicator's Guide for spray size quality ratings.
2. Apply with nozzle height no more than 4 feet above the ground or crop canopy.
3. Do not apply product when wind speed exceeds 10 mph as measured by an anemometer.

#### Orchard Airblast Application

The following mandatory spray drift best management practices are required to reduce the likelihood of off-target drift movement from airblast applications.

1. Nozzles must be directed so spray is not projected above the canopies
2. Apply only when wind speed is 3 to 10 mph at the application site as measured by an anemometer outside of the orchard/vineyard on the upwind side.
3. Outward pointing nozzles must be shut off when turning corners at row ends

The applicator should take into account the following best management practices to reduce off-site spray drift. This section is advisory and does not supercede mandatory label requirements.

1. Number of nozzles, nozzle orientation and spray volume, air speed and wind direction are key factors in adjusting airblast spray delivery to match the height and density of the crop canopy. Airblast equipment should be adjusted to provide uniform coverage while minimizing the amount of spray movement over-the-top or completely through the crop canopy
  - High air volumes deliver spray more efficiently than air at high speed. Reducing forward travel speed decreases the air speed necessary to deliver the spray to the top of the crop canopy.
  - Use air guides along with the number and orientation of spray nozzles to achieve the desired spray coverage and directional control.
2. The following steps should be taken to minimize drift and the amount of non-target spray:
  - Orient nozzles and adjust air speed/volume/direction to force the spray through the crop canopy but not allow drift past the canopy.
  - Shut off spray delivery when passing gaps in crop canopy within rows.
  - Spray the outside rows of orchards from outside in, directing the spray into the orchard and shutting off nozzles on the side of the spray away from the orchard.
  - When treating smaller trees, vines or bushes, shut off top nozzles to minimize over-the-top spray movement.

#### MIXING DIRECTIONS

To prepare the spray, add a portion of the required amount of water to the spray tank and with agitation, add this product. Complete filling the tank with the balance of water needed. Maintain sufficient agitation during both mixing and application to ensure uniformity of the spray mixture. This product may also be used in tank mixtures with insecticides, miticides and fungicides, and/or with non-pressure fertilizer solutions as recommended under specific crop use directions. Do not tank mix with alkaline materials such as Bordeaux mixture and lime. Prepare tank mixtures in the same manner as recommended above for use of this product alone. When tank mixtures of this product and herbicides are involved, add wettable powders first, flowables second and emulsifiable concentrates last. Where a fertilizer solution is involved, it is strongly recommended that a fertilizer pesticide compatibility agent such as Unite® or Complex® be used. Maintain constant agitation during both mixing and application to ensure uniformity of the spray mixture. Do not allow spray mixtures to stand overnight.

**Note:** Test compatibility of the intended tank mixture before adding this product to the spray or tank mix. Add proportionate amounts of each ingredient to a pint or quart jar, cap, shake and let set 15 minutes. Formation of precipitates that do not readily redispense indicates an incompatible mixture that should not be used

#### APPLICATION METHODS

##### By Foliar Broadcast

Apply with conventional power-operated spray equipment using nozzles and spray pressures recommended for insecticides. Apply this product in a spray volume of not less than 2 gallons per acre for aerial application equipment (fixed wing or helicopter) or not less than 10 gallons per acre for ground equipment, unless otherwise specified. Increase spray volume to ensure adequate coverage with increased density and height of crop canopy. See Spray Drift Precautions section for recommendations on droplet size.

##### By Ground

Orient the boom and nozzles so that uniform coverage is obtained. The swath width should not be wider than the boom. Follow nozzle manufacturer's recommendations for insecticide nozzles with respect to nozzle type, pressure, and spacing.

##### By Soil Broadcast

Apply with conventional power-operated spray equipment that will apply the product uniformly to the soil surface. Use nozzles that produce medium or coarse droplets (235 to 400 microns). A spray volume of 10 gallons or more per acre is recommended unless otherwise stated. For band application, use proportionally less spray volume.

##### By Air

Use a minimum spray volume of 2 gallons per acre and follow recommendations for best management practices for aerial application, above. Marking of swaths by flagging, permanent markers or use of GPS equipment is recommended

#### SPRINKLER IRRIGATION

This product may be applied by sprinkler irrigation for the following crop uses: Alfalfa, Almonds orchard floors, Citrus orchard floors, Corn (Field, Sweet), Cotton, Cranberries, Mint, Sorghum, Soybeans, Sugarbeet, Pecan and Walnut orchard floors, and Wheat.

See the use sections for the individual crops for further application information. Do not apply this product to the above listed crops through any other type of irrigation system. Do not apply this product by chemigation to any other crop.

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**Special Use Directions**

The following use directions are to be followed when this product is applied through sprinkler irrigation systems. Thoroughly clean the injection system and tank of any fertilizer or chemical residues, and dispose of the residues according to State and Federal laws. Flush the injector with soap and water. Determine the amount of insecticide needed to cover the desired acreage. Mix according to instructions in the Mixing Directions section and bring mixture to desired volume. Do not add crop oil when this product is applied by chemigation. Continually agitate the mixture containing this product. Set the sprinkler system to deliver the desired inches of water per acre. Start the water pump and sprinkler and let the system achieve the desired pressure and speed before starting the injector. Start the injector and calibrate the injector system according to Number 14 in the "SPECIAL USE PRECAUTIONS" section. The mixture containing this product must be injected continuously and uniformly into the irrigation water line as the sprinkler is moving. This procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

**Special Use Precautions**

The following use precautions will result in a safe and successful application of mixture containing this product.

1. Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, micro sprinkler or hand move. Do not apply this product through any other type of irrigation system.
2. Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
3. If you have any questions about calibration, you should contact state extension service specialist, equipment manufacturers or other experts
4. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.
5. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
6. The system must contain a functional check valve, vacuum relief valve and a low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. Refer to the American Society of Agricultural Engineer's Engineering Practice 409 for more information.
7. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
8. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
10. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected
11. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. The metering pump must provide a greater pressure than that of the irrigation system at the point of injection. The pump must meet Section 675 for "Electrically Driven or Controlled Irrigation Machines" NEC 70 and must contain Viton or Teflon seals.
12. To ensure uniform mixing of the insecticide into the water line, inject the mixture through a nozzle placed in the fertilizer injection port or just ahead of an elbow or tee in the irrigation line so that the turbulence created at those points will assist in mixing. It is suggested that the injection point be higher than the insecticide tank to prevent siphoning.
13. The steel tank holding the insecticide mixture should be large enough to allow the system to complete a revolution with one filling. It should be free of rust, fertilizer sediment and foreign material, and equipped with an in-line strainer situated between the tank and the injector pump.
14. In order to calibrate the irrigation system and injector to apply the mixture containing this product, determine the following:
  - a) Calculate the number of acres irrigated by the system;
  - b) Set the irrigation rate and determine the number of minutes for the system to cover the intended treatment area;
  - c) Calculate the total gallons of insecticide mixture needed to cover the desired acreage. Divide the total gallons of insecticide mixture needed by the number of minutes to cover the treatment area. This value equals the gallons per minute output that the injector must deliver. Convert the gallons per minute to milliliters or ounces per minute. Calibrate the injector pump with the system in operation at the desired irrigation rate. It is suggested that the injector pump be calibrated at least twice before operation, and the system should be monitored during the operation

15. Do not apply when wind speed favors drift beyond the area intended for treatment. End guns must be turned off during the application if they irrigate non-target areas.
16. Do not allow irrigation water to collect or run off and pose a hazard to livestock, wells or adjoining crops.
17. Allow foliage to dry before reentering the field
18. Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.

**APPROVED CROPS**

**ALFALFA**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use this product to control the following pests at the dosages indicated by application as a broadcast foliar spray:

Pest	This Product (pint/A)
Aphids (blue alfalfa, cowpea, pea), Spotted alfalfa aphid (suppression) (not for use in California)	1 to 2
Com rootworm adults (Spotted cucumber beetle), Leafhoppers, Grasshoppers	0.5 to 1
Alfalfa blotch leafminers, Alfalfa caterpillars, Alfalfa loopers, Alfalfa weevil larvae and adults, Armyworms, Cutworms, Egyptian alfalfa weevil larvae and adults, Plant bugs, Spittlebugs	1 to 2

**Note:** Use higher rates to control Spotted alfalfa aphids in California and Nevada. Stubble spray may be applied to control Leafhoppers in the Northeast.

Mix the required dosage with enough water to ensure thorough coverage of crop foliage and apply using aerial (fixed-wing or helicopter) or power-operated ground spray equipment. For aerial application, use 2 to 5 gallons of water per acre. For best coverage when using ground application, a minimum of 20 gallons of water per acre with hollow cone nozzles is recommended. Control may be reduced at low spray volumes under high temperature and wind conditions. Treat when field counts or crop injury indicates that damaging pest populations are developing or present; however, do not apply more than once per crop cutting. Some reduction in insect control may be evident under excessively cool conditions.

For Egyptian alfalfa weevil control in California, apply the specified dosage in a minimum of 5 gallons of water per acre when larvae are actively feeding and populations reach 15 to 20 larvae per 180° sweep with a 15-inch diameter net.

This product may also be applied through sprinkler irrigation systems as a postemergence broadcast application to control the above listed foliar pests. For best results, use the recommended rate of this product per acre. Maintain vigorous tank agitation to assure uniformity of the application throughout the injection period. See "SPRINKLER IRRIGATION" section for further information.

This product should not be tank mixed with pesticides, surfactants or fertilizer formulations unless prior use has shown the combination is non-injurious to Alfalfa under your current conditions of use. Some phytotoxic symptoms may be observed on young, tender, rapidly growing Alfalfa when treated with this product. Alfalfa will outgrow the symptoms and no yield loss should be expected.

This product is highly toxic to bees exposed to direct treatment on Alfalfa. Do not apply if nearby bees are clustered outside of hives and bees are foraging. Protective information may be obtained from your Agricultural extension service.

To avoid contamination of irrigation tail waters, do not flood irrigate within 24 hours following an application of this product.

**RESTRICTIONS:** Do not cut or graze treated Alfalfa within 7 days after application of 0.5 pint of this product per acre, within 14 days after application of 1 pint per acre, or within 21 days after application of rates above 1 pint per acre. Do not make more than 4 applications per year or apply more than once per cutting of Alfalfa. Do not make a second application of this product or other products containing chlorpyrifos within 10 days of the first application. Maximum single application rate is 2 pints of this product (1 lb. chlorpyrifos) per acre.

**ASPARAGUS**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use this product to control the following pests as ground foliar spray in sufficient water.

Pest	This Product (pint/A)
Armyworms, Asparagus aphids, Asparagus beetles, Cutworms, Grasshoppers	2

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For Cutworms, it is preferable to apply this product when the soil is moist and worms are active on or near the soil surface. Applications may be made during the fern stage for control of Armyworms, Grasshoppers, Asparagus aphids and Asparagus beetles when field counts or crop injury indicates that damaging pest populations are developing or present. **Note:** This product may be applied aerially or with ground equipment for control of Armyworms and Grasshoppers.

**RESTRICTIONS:** Do not make more than one pre-harvest application per season or apply within one day of harvest. Do not make more than two post-harvest applications during the fern stage. Do not make a second application of this product or other products containing chlorpyrifos within 10 days of the first application. Maximum single application rate preharvest or postharvest is 2 pints of this product (1 lb. chlorpyrifos) per acre. Based on available residue data, the use of this product on Asparagus is limited to the Midwest and Pacific Northwest.

**CHERRIES**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 days unless PPE required for early entry is worn.

Use this product for the control of American plum borers, Greater peach tree borers and Lesser peach tree borers by application as a trunk spray. Mix 1.5 to 3 quarts of this product with 100 gallons of water and apply as a coarse, low-pressure spray to give uniform coverage of tree trunks and lower limbs. Make a second application two weeks after the first one and a third application after harvest. Avoid contact with foliage in Sweet cherries, as premature leaf drop may result. Consult your State Agricultural Experiment Station or Extension Service Specialist for the proper time to treat in your area.

In addition, one of the three allowable applications per year may be applied as a dormant spray for control of Climbing cutworms, Peach twig borers and San Jose scales. For control of these pests, tank-mix 0.5 to 1 pint of this product with 1 to 2 gallons of a petroleum oil recommended for dormant use in 100 gallons of water and spray the entire tree by application to runoff using ground spray equipment. For low volume (concentrate) sprays (40 to 100 gallons of spray mixture per acre), use the same amounts of this product and spray oil per acre required for application as a dilute spray and apply in a manner that will ensure thorough coverage of the trees. Use the higher dosage of this product for severe infestations. Use oil as recommended by your State Agricultural Experiment Station or Extension Service Specialist.

**RESTRICTIONS:** Make only 3 applications per year. Do not apply within 6 days before harvest. Do not allow meat or dairy animals to graze in treated orchards.

**CHRISTMAS TREES (Nurseries and Plantations)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use this product at the rate indicated to control the following insects on the Tree varieties listed. Apply as a foliar spray using power-operated ground equipment unless otherwise stated in a minimum of 10 gallons per acre finished spray. Use 20 gallons per acre or more of finished spray when foliage is dense and/or pest density is high and/or under high temperature and wind conditions.

**RESTRICTIONS:** Use this product on Tree plantations only in CT, MA, MD, ME, MI, NC, NH, NJ, NY, OH, OR, PA, SC, TN, VA, VT, WA and WI. Do not allow livestock to graze in treated areas. Do not make more than 3 applications of this product or other products containing chlorpyrifos per season. Do not make a second application of this product or other products containing chlorpyrifos within 7 days of the first application. Do not allow meat or dairy animals to graze in treated area.

Tree Variety	Pest	Dosage of This Product
Balsam fir, Blue spruce, Concolor fir, Douglas fir, Eastern white pine, Fraser fir, Grand fir, Noble fir, Scotch pine, White spruce	Adelgids (Cooley, Eastern spruce gall), Ants, Aphids, Douglas fir needle midge, European pine shoot moths, European pine sawflies, Grasshoppers, Gypsy moths, Mites (European red spider, Twospotted spider [except in WA and OR], Pales weevils (adult), Pine needle midges, Pine spittlebugs, Plant bugs, Spittlebugs, Spruce budworms, Spruce needleminers, Scales (Pine needle, Pine tortoise, Spruce bud, Black pine, Striped pine)	1 qt. per acre
	REMARKS: Before treating large numbers of other conifer species, it is recommended that a small block of plants be treated and observed 7 to 10 days for symptoms of phytotoxicity. Note: The user assumes the responsibility to determine whether it is safe to treat other conifer species with this product under commercial growing conditions. Do not treat plants under extreme heat and drought stress. Apply to foliage in sufficient water to ensure adequate coverage. For effective control of adult Spider mites, if large numbers of eggs are present, apply a second spray 7 to 10 days after initial treatment to control newly-hatched nymphs. For Scale control, apply when Scale crawlers are active.	
	Pales weevils	3 qts. per 100 gals.
	REMARKS: Apply as a cut stump drench.	

**CITRUS FRUITS (Grapefruit, Lemons, Oranges, and other Citrus fruits)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 5 days unless PPE required for early entry is worn

Use this product at the rates indicated according to the designated geographic area to control the following pests. Apply as a concentrate or dilute spray. For dilute sprays (greater than 200 gallons per acre), use a spray concentration of at least 0.5 pints of this product per 100 gallons of finished spray. Use the lower rates for light infestations and increase the dosage for heavier infestations. A petroleum spray oil recommended for use on Citrus trees may be added to dilute spray mixtures only at a rate of up to 1.8 gallons per 100 gallons of water to improve control of Aphids, Mealybugs, Scale insects and Thrips. Treat when insects become a problem or in accordance with the local spray schedule recommended by your State Extension Service Specialist.

This product may be applied in tank mixtures with ethion, dicofol, Agri-Mek or Vendex. See "MIXING DIRECTIONS" for further instructions. Read and carefully follow all applicable directions, restrictions and precautions on labeling for the other products used in combination with this product.

**PRECAUTIONS:** Observe local use directions for tankmix combinations, especially in regard to applications of this product plus spray oil. Consult with a county farm advisor, county agency, extension service personnel, agricultural commissioner or pest control advisor for such information regarding a given locality.

Do not apply when trees are stressed by drought or high temperatures. To avoid excessive ridging, do not apply this product to Citrus from December up to the initiation of bloom. This product should not be tank mixed with Difolatan 80 Sprills as crop injury may occur. This product is highly toxic to bees exposed to direct treatment and should not be applied when bees are actively visiting the area. During the bloom period in CA, apply from one hour after sunset until two hours before sunrise.

**RESTRICTIONS:** Do not apply more than 2 applications or more than 15 pints of this product (7.5 lbs. chlorpyrifos a.i.) per acre per year. Do not make second foliar application within 30 days of the first application. Do not treat within 21 days of harvest for applications up to 7 pints of this product per acre nor within 35 days for application of rates above 7 pints per acre. Do not allow livestock to graze in treated areas. Do not apply more than 8 pints (4 lbs. a.i.) per acre in a single application; 12 pints (6 lbs. a.i.) per acre for red scale only in California.

Pest	Dosage Pts. per Acre	Spray Volume (Gals. per Acre)
AZ, CA*: California Red scale	8 to 12	Ground: 100 to 2400
AZ, CA*: Thrips (suppression only), Mealybugs	6 to 12	
<b>Specific Directions:</b> Do not use this product in combination with spray oil when temperatures are expected to exceed 95°F the day of application or for several consecutive days thereafter. *The use of more than 8 pints/A is only allowed in California in the following counties: Fresno, Kern, Kings, Madera, Stanislaus, and Tulare.		
FL, TX: Citrus rust mites*	4 to 7	100 to 700
FL: Aphids, Grasshoppers**, Mealybugs, Orange dogs, Scales (Black, Brown, Soft, Chaff, Florida red, Long, Purple, Snow)	2 to 4	Ground: 100 to 1400 Aerial: Min. 20
<b>Specific Directions:</b> *For Citrus rust mites, use a spray concentration of at least 1 pint of this product per 100 gallons of water. **For Lubber grasshoppers, effective control is achieved by direct contact of the spray when Grasshoppers are less than 1 inch in length.		
Aphids (including Brown citrus aphid), Avocado leafroller, Cutworms, Fruittree leafroller, Grasshoppers*, Katydid, Lepidopterous larva, Mealybugs, Orange dogs, Orange tortrix, Scales (Black, Brown, Soft, California red, Chaff, Florida red, Long, Purple, Snow), Thrips, Western tussock moth	2 to 7	100 to 2400
<b>Specific Directions:</b> *For Lubber grasshoppers, effective control is achieved by direct contact of the spray when Grasshoppers are less than 1 inch in length.		

**SMALL TRANSPLANTED GRAPEFRUIT, ORANGES AND OTHER CITRUS TREES (TX ONLY)**

Use this product to control the following insect pests:

Pest	This Product (pint/A)
Aphids, Cutworms, Fruittree leafroller, Katydid, Mealybugs, Scales (Brown, Soft, California red, Chaff)	7 (max.)
<b>Specific Directions:</b> Apply this product at the rate of 1 fluid ounce per 1 gallon of water to point of runoff with a backpack sprayer.	



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**CITRUS ORCHARD FLOORS**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 5 days unless PPE required for early entry is worn.

Use this product to control Red imported fire ants and other Ant species by applying the specified dose in 25 or more gallons of water with ground application equipment that will uniformly apply the spray to the orchard floor. To control foraging Ants and suppress mounds, apply this product to the orchard floor at the rate of 0.75 to 1 quart per acre. Repeat as needed. For best insect control, uniform coverage of the orchard floor is necessary. Do not apply where weed growth or other obstructions would impede uniform coverage of the orchard floor. Do not apply in tank mixtures with Evik herbicide. Foliar applications of this product may be made in addition to the orchard floor.

This product may also be applied to Citrus orchard floors through sprinkler irrigation systems only if the system uniformly covers the soil surface at the base of the tree. For best results, use the recommended amount of this product per acre. See "SPRINKLER IRRIGATION" section for further information.

**Application with Dry Bulk Fertilizer:** Most dry fertilizers can be used for impregnation with this product. Apply this product at the equivalent broadcast rate using a minimum of 200 lbs. per acre of dry bulk fertilizer.

**Impregnation of Dry Bulk Fertilizer:** Use a closed rotary drum mixer suitable for blending of dry bulk fertilizer equipped with an internal spray nozzle. Add the dry fertilizer to the mixer followed by the appropriate amount of this product. After mixing the dry ingredients to ensure uniformity, add water through the spray nozzle in an amount sufficient to just dampen the mixture (4 to 8 pints of water per ton of fertilizer). The spray nozzle should be positioned within the mixer to provide uniform coverage of the tumbling mixture of fertilizer and this product. Addition of water will cause this product to uniformly adhere to the dry bulk fertilizer. Bulk fertilizers impregnated with this product should be applied immediately, not stored. Foliar applications of this product may be made in addition to the orchard floor treatments.

Compliance with any and all federal and state laws and regulations relating to this product and fertilizer mixture is the responsibility of the person offering such mixture for sale or distribution.

**RESTRICTIONS:** Do not apply last treatment within 28 days before harvest. Do not allow livestock to graze in treated areas. Do not apply more than 3 quarts of this product (3 lbs. a.i.) per acre per year. Do not make more than 3 applications of this product or other products containing chlorpyrifos per year (does not include foliar applications to Citrus trees). Do not make a second application of this product or other products containing chlorpyrifos within 10 days of the first application. Maximum single application rate is 2 qts. of this product (2 lbs. a.i.) per acre.

**CRANBERRIES**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use this product by application as a broadcast, foliar spray to control Brown spanworms, Cranberry fruitworms, Cranberry weevils, Cutworms, Fireworms and *Sparganothis* fruitworms at the rate of 3 pints per acre. Mix the specified dosage in enough water to ensure thorough coverage and apply no less than 5 gallons of spray per acre when using aerial equipment or no less than 15 gallons of spray per acre when using ground equipment. For Weevil control, apply once at flower bud development (late May, early June) and, if Weevils are present, once after 100% bloom (early- to mid-July). For other Insects, treat when field counts indicate damaging insect populations are developing or present. Apply only after the Winter flood has been removed. To avoid pesticide contamination of flood water, make no applications while bogs are flooded.

This product may also be applied through sprinkler irrigation systems to control the above listed pests. For best results, use the recommended rate of this product per acre. Maintain vigorous tank agitation to assure uniformity of the application through the injection period. See "SPRINKLER IRRIGATION" section for further information.

**RESTRICTIONS:** Do not make more than 2 applications of this product or any other chlorpyrifos containing products per season. Do not apply within 60 days before harvest. Do not make a second application of this product or other product containing chlorpyrifos within 10 days of the first application. Maximum single application rate is 3 pints of this product (1.5 lbs. a.i.) per acre.

**FIELD CORN, SWEET CORN (Including Corn Grown for Seed)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

For use to control Aphids, Armyworms, Billbugs, Chinch bugs, Common stalk borers, Corn borers, Corn earworms, Corn rootworm adults, Cutworms, Flea beetle larvae and adults, Grasshoppers, Grubs, Lesser cornstalk borers, Symphilians, Western bean cutworms, and Wireworms.

**Pre-plant Incorporation Treatment**

Use this product at the following rates by application in sufficient water to the soil surface and incorporate into the soil:

Pest	This Product (pints/A)
Cutworms, Symphilians	2
Billbugs, Flea beetle larvae, Grubs, Seedcorn beetles, Seedcorn maggots, Wireworms	2
Corn rootworm larvae, Lesser cornstalk borers	2

Use recommended rate in not less than 10 gallons of water per acre and apply as a broadcast spray to the soil surface using suitable power-operated ground spray equipment. On the same day of treatment, incorporate the insecticide into the top 2 to 4 inches of soil using a disc, field cultivator or equivalent equipment.

This product may also be applied in tank mixtures with non-pressure fertilizer solutions and/or with Bladex®, Eradicane®, Sutan®, Lasso®, Dual® and atrazine herbicides. See "MIXING DIRECTIONS" section for further information. Read and carefully follow all applicable directions, restrictions and precautions on labeling for the other products used in combination with this product.

**Pre-plant, At-plant or Pre-emergence Treatment in Conservation Tillage**  
Use this product at the following rates by application in sufficient water to surface trash and exposed soil:

Pest	This Product (pints/A)
Armyworms, Cutworms	1 to 2

Use recommended rate in not less than 20 gallons of water per acre and apply as a broadcast spray using suitable power-operated ground spray equipment. Use higher rates for residual control.

This product may also be applied in tank mixtures with non-pressure fertilizer solutions and/or with paraquat and Roundup®. See "MIXING DIRECTIONS" section for further information. Read and carefully follow all applicable directions, restrictions and precautions on labeling for the other products used in combination with this product.

**Cultivation Time Treatment**

Use this product at the rate of 2 pints per acre to control Corn rootworm larvae. Apply this product as a water emulsion on both sides of the row at the base of the plants just ahead of the cultivator shovels. Cover the insecticide with soil around the brace roots. The best time to apply a basal treatment of a soil insecticide with cultivation is near the beginning of egg hatch. A cultivation application of this product may be made in addition to an at-planting application of Chlorpyrifos 15G granular insecticide.

**Post-emergence Treatment**

Use this product at the following rate by application in sufficient water to ensure thorough coverage of treated plants:

Pest	This Product (pints/A)
Armyworms, Aphids, Chinch bugs, Corn rootworm adults, European corn borers (see "NOTE"), Southern corn leaf beetle, Webworms, Western bean cutworms	1 to 2
Billbugs, Common stalk borers, Cutworms, Flea beetle adults, Lesser cornstalk borers	2 to 3
Corn earworms, Southwestern corn borers	1.5 to 2
Grasshoppers	0.5 to 1

**Note:** The recommended dosage will control silk clipping by Corn rootworm adults. For European corn borer control, use 1.5 to 2 pints per acre when application is made with power-operated ground and aerial equipment and 1 to 2 pints per acre when application is made through a sprinkler irrigation system. See following text for generation-specific treatment. Treat when field counts indicate that pests are or may become a problem. For best Billbug, Chinch bug and Flea beetle control, apply with sufficient water to ensure a minimum spray volume of 20 to 40 gallons per acre and 40 psi using ground spray equipment. On Corn less than 6 inches tall, apply the insecticide spray in a 9- to 12-inch wide band over the row. On Corn greater than 6 inches tall, apply the insecticide spray using drop nozzles directed to the base of the plant. Do not reduce the dosage for banded or directed applications. Concentrate the full-labeled dosage rate in the treated zone. When Chinch bugs continue to immigrate to Corn over a prolonged period or under extreme pressure, a second application of this product may be needed.

For Aphids, Armyworms, Corn rootworm adults, Corn earworms and Common stalk borer control, Cutworms, European corn borers, Grasshoppers, Lesser cornstalk borers, Southwestern corn borers, Webworms, and Western bean cutworms, apply as a broadcast spray using either aerial (fixed-wing or helicopter) or power-operated ground spray equipment. For aerial application, use 2 to 5 gallons of spray per acre. Control may be reduced at low spray volumes under high temperature and wind conditions. For Cutworms, it is preferable to apply this product when soil is moist and Worms are active on or near the soil surface.

If ground is dry, cloddy or crusty at the time of treatment, Worms may be protected from the spray and effectiveness will be reduced. If such conditions exist, shallow incorporation using a rotary hoe may improve control. Consult your Agricultural Experiment Station or Extension Service Specialist for additional information concerning control practices in your area. For Webworm control, shallow incorporation using a rotary hoe or other suitable equipment, immediately before or soon after treatment, is necessary.

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For first-generation European corn borer control, treat when 25 to 50 percent of the Corn plants show pinhole feeding or leaf-feeding scars. For maximum control potential, ground applications of this product should be directed into the Corn leaf whorls. Scout fields within 5 days after application to determine if a second application is needed. University research indicates that achieving greater than 50% control of first-generation European borers with a single liquid insecticide treatment is highly dependent on timing, insecticide placement and weather conditions.

Treatment for control of second-generation European corn borers should be applied when field counts of egg masses indicate an infestation is present or about to develop. For Southwestern corn borer control, treat when field counts of egg masses indicate pests are or may become a problem. A second application may be applied 10 to 14 days later, if needed, due to reinfestation. For Common stalk borer control, treat approximately 11 days after application of Roundup herbicide or after complete burn down with paraquat herbicide (3 to 5 days). Do not use this product in combination with the burn down herbicide for control of Common stalk borers.

This product may also be applied through sprinkler irrigation systems as a post-emergence broadcast application to control the above listed foliar insects. For best results, use the recommended rate of this product in a tank mix with 2 pints per acre of non-emulsifiable oil. Maintain vigorous tank agitation to assure uniformity of this product plus oil mixture throughout the injection period. This product may also be applied through sprinkler irrigation systems at the rate of 2 pints per acre to control Corn rootworm larvae. Time application to coincide with the appearance of the second instar larvae. Maintain vigorous tank agitation to assure uniformity of the application throughout the injection period. Apply with enough water to wet the root zone to the depth control that is needed. Under saturated soil conditions, allow enough soil drying to occur so that an application using a minimum water rate will not produce runoff. Consult University Extension Personnel or other experienced consultants to determine the need to treat and to aid in application timing. See "SPRINKLER IRRIGATION" section for further information.

**RESTRICTIONS:** Do not apply within 35 days before harvest of grain. Do not apply more than 2 pints (1 lb. a.i.) per acre per application. Do not make more than 3 applications of this product or other chlorpyrifos containing products per season. Do not make a second application of this product or other product containing chlorpyrifos within 10 days of the first application. Do not apply more than 6 pints (3 lbs. a.i.) per acre per season. Do not allow livestock to graze in treated areas nor harvest treated Corn silage as feed for meat and dairy animals within 14 days after last treatment. Do not feed treated Corn fodder to meat or dairy animals within 35 days after last treatment.

**SWEET CORN (Grown Only in FL and GA)**

Use this product to control infestation of Beet armyworms, Corn earworms and Fall armyworms by application as a broadcast, foliar spray at the rate of 1 to 2 pints per acre. Mix the specified dosage in enough water to ensure thorough coverage and apply using suitable aerial or ground spray equipment. For aerial application, use at least 2 gallons of spray per acre. Treat when field counts indicate damaging pest populations are developing or present. Retreat as necessary to maintain control.

This product may also be applied through sprinkler irrigation systems as a post-emergence broadcast application to control the above listed foliar insects. For best results, use the recommended rate of this product in a tank mix with 2 pints per acre of non-emulsifiable oil. Maintain vigorous tank agitation to assure uniformity of this product plus oil mixture throughout the injection period. See "SPRINKLER IRRIGATION" section for further information.

**RESTRICTIONS:** Do not harvest Corn ears, allow livestock to graze in treated areas, nor feed treated silage, fodder or grain to meat or dairy animals within 21 days after treatment. Do not use in conjunction with post-plant broadcast, foliar applications of Chlorpyrifos 15G. Do not apply more than 2 pints (1 lb. a.i.) per application. Do not make more than 3 applications per season. Do not apply more than 6 pints (3 lbs. a.i.) per acre per season.

**COTTON**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use this product for control of the following pests in all states except AZ and CA, at the dosages indicated.

Pest	This Product (pints/acre)
Beet armyworms, Cotton bollworm, Cotton budworms, Cutworms, Pink bollworms, Saltmarsh caterpillars, Tobacco budworms	1.5 to 2
Cotton aphids, Fall armyworms, Yellowstriped armyworms	0.5 to 2
Cotton fleahoppers, Plant bugs (Lygus, Mirids)	0.375 to 1
Grasshoppers, Thrips	0.5 to 1
Spider mites	1

**Note:** The recommended dosage rate of 0.375 pint per acre will not achieve the high degree of control of the highest label rate, but will minimize the damage done by Plant bugs and Cotton fleahoppers and allow the beneficial insects to survive, build up and be available to aid in the control of Bollworms infesting Cotton. For infestations of Cotton aphids that are difficult to control, use a higher dosage within the indicated rate range.

Use this product for control of the following pests in AZ and CA at the dosages indicated:

Pest	This Product (pints/acre)
Armyworms, Cotton aphids, Cotton fleahoppers, Lygus, Saltmarsh caterpillars, Silver whitefly, Thrips	1 to 2
Boll weevils, Cotton bollworms, Cotton leaf perforator (suppression), Cutworms, Pink bollworms, Spider mites (suppression), Tobacco budworms	2

**Note:** The 2 pint rate will aid in the suppression of Cotton leafperforators and Spider mites.

Mix the required dosage with sufficient water to ensure thorough coverage of plants and apply using aerial or power-operated ground spray equipment. For aerial application, use at least 1 gallon of spray per acre. Treat when field counts indicate damaging insect populations are developing or present. Retreat as necessary to maintain control.

This product may also be applied through sprinkler irrigation systems as a post-emergence broadcast application to control the above listed foliar pests. For best results, use the recommended rate of this product per acre. Maintain vigorous tank agitation to assure uniformity of the application throughout the injection period. See "SPRINKLER IRRIGATION" section for further information. For Silver whitefly, apply this product in combination with pyrethroid insecticide labeled for control or suppression. For effective control of Spider mites when large numbers of eggs are present, apply a second spray 3 to 5 days after initial treatment to control newly hatched nymphs.

For best results on Bollworms and Budworms, it is suggested that fields be scouted twice per week and treatments made when worms are one-fourth inch or less in length. The following table illustrates the size of worms in relation to age and stage of development (instar) as a guide to timing of treatments for best control.

From the table it can be seen that a scouting schedule of only once per week will not be satisfactory since the worms may be too big to control effectively by the seventh or eighth day.

**Timing for the Best Worm Control**

	Age (Days)	Size	Instar
Get the worms at this stage	Hatch	1/16"	Hatch
	3	3/32"	I
	5	9/32"	II
	6	7/16"	III
	8	11/16"	IV



Proper application techniques help to ensure thorough spray coverage and correct dosage and are thus important in obtaining good control of pests. Consider these suggestions when applying this product on Cotton.

**Aerial Application**

Shorten boom length to avoid spray entering the vortices at the wing tips. Swath width should be reduced when wind direction is the same as direction of spraying. The proper nozzle arrangement and swath width to avoid skips and vortices effect can be checked out by flying over a paper tape (adding machine paper) using water with or without soluble dye. (The dye gives a permanent record.) Flying at a height of 5 to 15 feet above the target results in the best coverage.

Nozzle orientation of the boom is important. More breakup occurs when nozzles are pointed straight down versus the straight back position. Desired droplet size (100 to 200 microns) can be obtained by angling the nozzles somewhere in this range.

Marking of swath by flagging or permanent markers is essential.

**Ground Application**

Orient the boom and nozzles so that uniform coverage is obtained. The swath width should not be wider than the boom; drift spray is wasted spray, so do not depend on it. Use flat fan or disc-core hollow cone nozzles with maximum spacing of 20 inches and a spray pressure of 40 to 60 psi with a droplet size of 100 to 200 microns.

**RESTRICTIONS:** Do not apply within 14 days before harvest. Do not make more than 3 applications of this product or any other chlorpyrifos containing products per crop season. Do not apply more than 6 pts. (3 lbs. a.i.) per acre per season. Do not make a second application of this product or any other chlorpyrifos containing products within 10 days of the first application. Do not apply more than 2 pints (1 lb. a.i.) per acre per application. Do not allow livestock to graze in treated areas. Do not feed gin trash or treated forage to livestock.

**FIGS (CA only)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval of 4 days unless PPE required for early entry is worn.

Use this product at the rate of 2 quarts per acre for control of Dried- fruit beetles by application in sufficient water to the soil surface followed by incorporation into the top 3 inches of soil. Apply to Fig orchard soil as a dormant application in late Winter prior to Beetle emergence and prior to leaf formation.

**RESTRICTIONS:** Make only one application per year. Do not apply within 7 months of harvest.

**GRAPES (East of Rocky Mountains Only)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use this product for control of Grape root borers by application just before the pests emerge from the soil. Mix 4.5 pints of this product with 100 gallons of water and apply 2 quarts of the diluted spray mixture to the soil surface on a 15 square foot area (4.4 ft. circle) around the base of each vine. Do not allow spray to contact fruit and foliage

This product can also be used at prebloom. Apply 2 pints of this product as a spray drench ground application to control climbing Cutworms in a minimum spray volume of 25 gallons per acre. Do not use in conjunction with soil surface application for Grape borer control.

**RESTRICTIONS:** Do not make more than one application of this product or other chlorpyrifos containing products per season. Do not apply within 35 days before harvest. Maximum single application rate for soil surface application is 4.5 pints of this product (2.25 lbs. a.i.) per 100 gallons. Maximum single application rate for prebloom application is 2 pints of this product (1 lb. a.i.) per acre.

**MINT**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use this product by application as a broadcast, foliar spray to control Cutworms at the rate of 2 to 4 pints per acre and Mint root borers as well as Garden symphylans at the rate of 4 pints per acre. Mix the specified dosage in water to give no less than 10 gallons of spray per acre and apply using ground spray equipment. For Cutworm control, treat during May and June when field counts indicate damaging insect populations are developing or present. When larvae are less than three-fourths inch in length, use the 2 pint rate. When larvae are three-fourths inch or more in length, use the higher rate. For Garden symphylans, apply preplant to the soil surface. On the same day of treatment, incorporate the insecticide into the top 2 to 4 inches of soil using a disc, field cultivator, or equivalent equipment. For Mint root borer control, apply post-harvest when field counts indicate damaging Insect populations are developing or present. If ground applied, follow with approximately 1 acre inch of sprinkler irrigation immediately after application to incorporate the insecticide into the soil or apply by chemigation. Follow treatment with approximately 1 acre inch of sprinkler irrigation immediately after application to incorporate the insecticide into the soil.

This product may also be applied through sprinkler irrigation systems as a post-emergence broadcast application to control the above listed pests. For best results, use the recommended rate of this product per acre. Maintain vigorous tank agitation to assure uniformity of the application throughout the injection period. See "SPRINKLER IRRIGATION" for further information.

**RESTRICTIONS:** Do not apply within 90 days before harvest. Make only 1 application of this product or other products containing chlorpyrifos during the growing season. Do not make more than 1 preplant incorporated application in the Spring. Do not use in conjunction with a broadcast foliar application of this product for Cutworm control. Make only 1 postharvest application per season of this product or other products containing chlorpyrifos. Maximum single application rate is 4 pints of this product (2 lbs. a.i.) per acre.

**NECTARINES, PEACHES**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval of 4 days unless PPE required for early entry is worn.

Use this product for the control of Peach tree borers by application as a trunk spray before newly hatched Borers enter the trees. Mix 3 quarts of this product with 100 gallons of water and apply as a coarse, low-pressure spray to give uniform coverage of tree trunks. Thoroughly wet all bark areas from ground level to scaffold limbs. Do not allow spray to contact fruit. Consult your State Agricultural Experiment Station or Extension Service Specialist's written recommendations for proper time to treat in your area. This product may also be used as a pre-plant dip application for

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non-bearing Peach trees at the equivalent application rate of 3 quarts per 100 gallons of water for control of Peach tree borers. Dip trees several inches above the grafting bud scar and plant immediately or allow to dry before returning to storage. Do not allow Peach trees to remain in contact with the dip solution

**RESTRICTIONS:** Make only one application per season. Do not apply within 14 days before harvest. Do not allow meat or dairy animals to graze in treated orchards.

**ONIONS (Dry Bulb)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use this product to control Onion maggots by application as an in-furrow drench at plant at the rate of 1.1 fluid ounces per 1,000 linear feet of row based on 18-inch row spacing. Use a minimum of 40 gallons of total drench per acre. Incorporate to a depth of 1 to 2 inches.

**Postplant Soil Drench Application**

This product can also be applied postplant as an early season directed spray to the base of Onion seedlings or transplants during peak egg laying of Onion maggots. Use 2 pints per acre at a minimum of 100 gallons per acre for thorough wetting.

**RESTRICTIONS:** Do not make more than two applications (1 at plant and 1 at postplant) per year. Maximum single application rate is 0.96 fl. oz. of this product (0.03 lb. a.i.) per 1,000 feet of row at plant and 2 pints (1 lb. a.i.) per acre at postplant. Do not harvest within 60 days of application.

**PEANUTS**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

For suppression of Wireworms, apply this product at the rate of 4 pints per acre as a pre-plant, broadcast spray to the soil surface followed by immediate soil incorporation to a depth of 3 to 4 inches. Use a minimum of 10 gallons of total spray per acre.

**RESTRICTIONS:** Do not make more than one application per season. Do not harvest within 21 days after treatment. Do not feed treated Peanut forage or hay to meat or dairy animals. Aerial application to peanuts is prohibited in Mississippi. The combined total of preplant and postplant applications of this product or other products containing chlorpyrifos must not exceed 4 lbs. chlorpyrifos a.i. per acre per season. Maximum single application rate is 4 pints of this product (2 lbs. a.i.) per acre.

**SORGHUM**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use this product for control of the following pests at the dosage indicated as a postemergence broadcast spray using sufficient spray volume to ensure thorough coverage of treated plants, but no less than 15 gpa for ground spray equipment or 2 to 5 gpa for aircraft equipment. **Note:** Do not apply by air in Mississippi. Control may be reduced at low spray volumes under high temperature and wind conditions.

Pest	This Product (Pints/acre)
Armyworms, Cutworms, Chinch bugs, Lesser cornstalk borers	1 to 2
Corn earworms	2
SPECIFIC DIRECTIONS: Apply as a directed spray toward the base of the plant using power-operated ground spray equipment with sufficient water to ensure coverage of an 8 to 12 inch band centered on the row. On plants less than 6 inches high, apply an 8 to 12 inch band over the row. Do not reduce the dosage for banded or directed applications. Concentrate the full labeled dosage rate in the treated zone.	
European and Southwestern corn borers	1.5 to 2
Grasshoppers, Yellow sugarcane aphids and other aphids	0.5 to 1
Greenbugs	0.5 to 2
SPECIFIC DIRECTIONS: For infestations of Greenbugs that are difficult to control, use a higher dosage within the indicated rate range.	
Sorghum midges	0.5
SPECIFIC DIRECTIONS: Apply when 30 to 50% of the seed heads are in bloom. Repeat at 3 day intervals if necessary.	
Webworms	1

Mix the specified dosage in enough water to ensure thorough coverage and apply using suitable aerial or ground spray equipment. To minimize chemical injury, do not apply this product to drought-stressed Grain sorghum within 3 days following irrigation or rain, except where the product is applied in irrigation water.

Sorghum lines used in seed production fields may be more susceptible to chemical injury. Susceptible inbred lines or hybrids are likely to be at greater risk of yield-reducing chemical injury when treated at the higher application rates. Do not apply more than 1 pint of this product per acre to Seed sorghum if the additional risk of crop injury is unacceptable.

This product may also be applied through sprinkler irrigation systems as a post-emergence, broadcast application to control the above listed foliar pests. For best results, use the recommended rate of this product per acre. Maintain vigorous tank agitation to assure uniformity of the application throughout the injection period. See "SPRINKLER IRRIGATION" section for further information.

**RESTRICTIONS:** The treated crop is not to be used for grain, forage, fodder, hay or silage within 30 days after application of 1 pint of this product per acre or within 60 days after application of rates above 1 pint per acre. Do not treat sweet varieties of Sorghum. Do not apply more than 3 pints of this product (1.5 lbs. a.i.) per acre per season. Do not make more than 3 applications of this product or other chlorpyrifos containing products per season. Do not make a second application of this product or other products containing chlorpyrifos within 10 days of the first application. Maximum single application rate is 2 pints of this product (1 lb. a.i.) per acre.

**SOYBEANS**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

For use to control Armyworms, Bean leaf beetles, Corn earworms, Cutworms, European corn borers, Grasshoppers, Green cloverworms, Lesser cornstalk borers, Mexican bean beetles, Saltmarsh caterpillars and other Woollybears, Southern green stink bugs, Spider mites and Velvetbean caterpillars.

**Soil Treatment**

Use this product at the rate of 1 to 2 pints per acre to control Cutworms and Lesser cornstalk borers. Mix the specified dosage in a minimum of 10 gallons of spray per acre and apply to the soil surface using suitable ground spray equipment. Equivalent rates of insecticide spray required per 100 feet of row for various row spacing are given in the accompanying table. For at-plant treatments, apply the insecticide over the row in a 4 to 6 inch band in front of the planter shoe or press wheel or after the press wheel followed by a drag chain for light incorporation. Do not apply as an in-furrow treatment. For post-emergence rescue treatments, apply as a directed spray in a 9 to 12 inch band at the base of the plant. To plants under 6 inches high, apply over-the-top in a 6 to 12 inch band. Treat when field counts or conditions indicate that pests are or may become a problem.

Fluid Ounces of Spray Required per 100 Feet of Row for Various Row Spacing				
Spray Volume per Acre	36"	32"	28"	24"
10 gallons	8.8	7.9	6.9	5.9
15 gallons	13.2	11.8	10.3	8.8
20 gallons	17.6	15.7	13.7	11.8

**Foliar Treatment**

Use this product at the following rate by application in sufficient water to ensure thorough coverage of treated plants:

Pest	This Product (pints/acre)
Armyworms, Mexican bean beetles, Bean leaf beetles, Corn earworms, Cutworms, Saltmarsh caterpillars and other Woollybears, Soybean aphids, Spider mites	1 to 2
European corn borers, Southern green stink bugs	2
Grasshoppers, Green cloverworms, Velvetbean caterpillars	0.5 to 1

Apply as a broadcast spray using either aerial or ground equipment when field counts indicate damaging insect populations are developing or present; re-treat as necessary to maintain control. For effective control of Spider mites, when large numbers of eggs are present, apply a second spray 3 to 5 days after initial treatment. If newly-hatched nymphs are present, make a follow-up application of a non-chlorpyrifos product that is effective against mites. On determinate Soybeans, do not apply more than one application after pod set.

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This product may also be applied through sprinkler irrigation systems as a post-emergence, broadcast application to control the above listed foliar pests. For best results, use the recommended rate of this product per acre. Maintain vigorous tank agitation to assure uniformity of the application throughout the injection period. See "SPRINKLER IRRIGATION" section for further information.

**RESTRICTIONS:** Do not apply more than 6 pints (3 lbs. a.i.) per acre per season. Do not make a second application of this product or other products containing chlorpyrifos within 10 days of the first application. Do not make more than 3 applications per year of this product or other products containing chlorpyrifos. Maximum single application rate is 2 pints of this product (1 lb. a.i.) per acre. Do not apply last treatment within 28 days before harvest. Do not allow livestock to graze in treated areas or otherwise feed treated Soybean forage, hay and straw to meat or dairy animals.

**STRAWBERRIES**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

**Soil Treatment**

Preplant incorporate this product into the soil at the rate of 4 pints per acre in sufficient water to ensure uniform soil coverage in the Spring for protection of Strawberries against Garden symphylans and Grubs during the following year.

**Foliar Treatment**

Use this product by application as a broadcast foliar spray to control Strawberry bud weevils at the rate of 2 pints per acre. Apply in a minimum of 40 gallons of spray per acre when buds first appear and 10 to 14 days later. Do not apply after berries start to form or when berries are present.

**Application After Harvest**

Apply as a directed spray to crown of Strawberry plants immediately after harvest and after plants are topped at the rate of 2 pints per acre in a minimum of 100 gallons of water per acre to control Strawberry crown moth. Repeat application at 14 to 18 days later if required.

**PRECAUTIONS:** This product should not be tank-mixed with pesticides, surfactants or fertilizer formulations unless prior use has shown the combination non-injurious under your current conditions and use. Phytotoxicity may occur when this product is applied to Strawberries experiencing high temperature and drought stress.

**RESTRICTIONS:** For pre-bloom use only. Do not apply after Berries start to form or when Berries are present. Preharvest interval is 21 days. For preplant application, do not make more than 1 application per year of this product or other products containing chlorpyrifos. For foliar and postharvest application, do not make more than 2 applications per year of this product or other products containing chlorpyrifos. For postharvest application, do not sprinkle irrigate for 1 week following application. Do not make a second application of this product or other products containing chlorpyrifos within 10 days of the first foliar application and within 14 days for postharvest application. Maximum single application rate is 4 pints of this product per acre (2 lbs. a.i.) per acre for preplant incorporation and 2 pints of this product per acre (1 lb. a.i.) per acre for foliar and postharvest application.

**SUGAR BEETS**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

**Soil Treatment**

Apply at planting or as a preplant treatment and incorporate to a depth of 1 to 2 inches to reduce feeding damage from early season insects such as Cutworms. Do not apply as an in-furrow treatment. Use 1 pint of this product per planted acre to a 10-inch wide band centered over the row for furrows 30 inches apart. (For rows 30 inches apart, this is equivalent to 9.2 fl. ozs. of this product per 10,000 feet of row). For other row widths, adjust the spray volume per planted acre in proportion to the length of row actually treated.

**Postemergence Treatment**

Apply specified rate as a broadcast or banded foliar spray. Treat when field counts indicate that damaging insect populations are developing or present.

**Broadcast Application:** Apply the specified dosage in water using 2 to 5 gallons per acre of finished spray when using aerial spray equipment or 10 to 30 gallons per acre when using ground spray equipment.

**Banded Foliar Spray:** Apply using the below rates within the band in a minimum of 7 gallons of spray volume in a 5- to 7-inch wide band centered over the row. Do not reduce the rate for band applications. Concentrate the full labeled dosage rate (see band rates in table below) in the treated zone. For best results, band-applied treatments should be lightly incorporated, either mechanically or with irrigations.

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Pests	This Product (pints/acre)	
	Broadcast Application	Band Application
Grasshoppers	0.5 to 1	-
SPECIFIC DIRECTIONS: The low rate will control small nymphs (1st through 3rd instar).		
Spider mites	1	0.75
Tarnished plant (Lygus)	1	-
Fall armyworm, Yellowstriped armyworm, Webworms, Aphids	1 to 2	0.75 to 1.33
Beet armyworm	1.5 to 2	1 to 1.33
Cutworms, Fleabeetle adults	2	1.33
Sugarbeet root maggot adults*	0.5 to 1	-
SPECIFIC DIRECTIONS: Apply anytime from 7 days before until 3 days after peak adult emergence in order to target adults present at time of application based on local field trap monitoring.		
Sugarbeet root maggot larvae*	-	1.33 to 2
SPECIFIC DIRECTIONS: Use as primary treatment to control Root maggot larvae. Base application timing on local field trap monitoring. Apply anytime from 7 days before until 3 days after peak adult emergence.		
Sugarbeet root maggot larvae*	2	1.33 to 2
SPECIFIC DIRECTIONS: Use as a supplemental postemergence treatment following an at-plant insecticide application for control of Root maggot larvae. Base application timing on local field trap monitoring. Apply anytime from 7 days before until 3 days after peak adult emergence.		
*Note: To prevent potential development of insecticide resistance in Sugarbeet root maggot, users are encouraged to take the following steps: 1) Avoid making more than 2 applications of this product per season when adults are active; 2) If an organophosphate insecticide was applied at planting, make no more than 1 postemergence application of this product when adults are active		

**RESTRICTIONS:** Do not apply within 30 days before harvest of Beet roots and tops. Do not make more than 3 applications per season. Do not apply more than a total of 6 pints (3 lbs. a.i.) per acre per season. Do not allow livestock to graze in treated areas nor harvest treated Beet tops as feed for meat or dairy animals within 30 days after last treatment. Do not make a second application of this product or other products containing chlorpyrifos within 10 days of the first application. Maximum single application rate is 2 pints of this product (1 lb. a.i.) per acre.

**SUNFLOWERS**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

For use to control Banded sunflower moths, Cutworms, Grasshoppers, Seed weevils, Stem weevils, Sunflower beetle larvae and adults, Sunflower moths and Woollybears.

**Pre-Plant Incorporation Treatment**

Use this product at the following rates by application in sufficient water to the soil surface and incorporate into the soil:

Pest	This Product (pints/acre)
Cutworms	2 to 4

Use recommended rate in not less than 10 gallons of water per acre and apply as a broadcast spray to the soil surface using suitable power-operated ground spray equipment. On the same day of treatment, incorporate the insecticide into the top 2 to 4 inches of soil using a disc, field cultivator or equivalent equipment.

**Post-emergence Treatment**

Use this product for control of the following pests at the dosage indicated by application in sufficient water to ensure thorough coverage of treated plants.

Pest	This Product (pints/acre)
Cutworms	2 to 3
Banded sunflower moths, Seed weevils, Stem weevils, Sunflower beetle larvae and adults, Sunflower moths and Woollybears	1 to 1.5
Grasshoppers	1

Apply as a broadcast spray using either aerial (fixed-wing or helicopter) or power-operated ground spray equipment when field counts indicate that pests are or may become a problem. For Cutworm control, a second treatment may be made 7 to 10 days later, if needed. For Stem weevil control, optimal treatment time is within 5 to 7 days after adult Weevils begin to appear. For Sunflower moth control, make first application during early 1 to 5 percent bloom stage. A second treatment may be made 7 days later if needed. For Seed weevil control, treat when field counts indicate there are 10 to 12 adults per plant for oil crops and 1 to 3 adults per plant on confectionery crops.

Additional treatments should be made at successive 7 to 10 day intervals if field counts indicate need to re-treat. For Sunflower beetle larvae or adult control, treat when field counts indicate there are 10 larvae or 1 to 2 adults per seedling. Additional treatments may be made at successive 7 to 10 day intervals if field counts indicate need to re-treat

**RESTRICTIONS:** Do not apply more than 6 pints of this product per acre per season. Do not make more than 3 applications per season. Do not apply within 42 days before harvest. Do not allow livestock to graze in treated areas. Do not make a second application of this product or other products containing chlorpyrifos within 10 days of the first application. Maximum single application rate is 4 pints of this product (2 lbs. a.i.) per acre for preplant incorporation and 3 pints of this product (1.5 lbs. a.i.) per acre for postemergence broadcast treatment.

**SWEET POTATOES**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 2 days unless PPE required for early entry is worn

Use this product to reduce the feeding damage caused by populations of *Conoderus* wireworms, *Systema* flea beetles and the Sweet potato flea beetle. Apply at the rate of 4 pints per acre as a broadcast (overall) spray to the soil surface followed by incorporation. Mix the specified dosage with enough water to obtain uniform coverage and apply as coarse spray using suitable ground spray equipment. Incorporate the insecticide to a depth of 4 to 6 inches as soon as possible after application by using a rotary hoe, disc cultivator or other suitable incorporation equipment. Plant the crop in the usual manner no later than 14 days after treatment (any delay in planting will reduce the length of time that this product will protect against feeding damage). This product will not control False wireworms or Whitefringed beetles or other Grubs that attack Sweet potatoes.

**RESTRICTIONS:** Do not make more than one application of this product or any other chlorpyrifos containing products per season. Do not harvest within 125 days of treatment. Maximum single application rate is 4 pints of this product (2 lbs. a.i.) per acre.

**TOBACCO**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use this product for pre-plant treatment to control larvae of Cutworms, Flea beetles, Mole crickets, Root maggots and Wireworms. Apply 4 pints of this product per acre in not less than 10 gallons of water as a broadcast (overall) spray to the soil surface one week before transplanting. Immediately following application, incorporate the insecticide into the soil to a depth of 2 to 4 inches using suitable equipment. The application of this product will also suppress the movement of imported Fire ants into treated fields.

To control the above insect pests and low to moderate populations of Rootknot nematodes in NC, SC and VA, use this product at the rate of 4 pints per acre. To control the above insects and moderate populations of Rootknot nematode in all Tobacco growing regions, use 4 pints of this product in tank mix with 8 pints of Nematicur® 3 per acre. Read and carefully follow all applicable directions, restrictions and precautions on labeling for Nematicur 3 used in combination with this product.

Apply the specified dosage in not less than 10 gallons of water as a broadcast (overall) spray to the soil surface 24 to 48 hours before bedding and transplanting. Immediately following application, incorporate into the soil surface 24 to 48 hours before bedding and transplanting. Immediately following application, incorporate into the soil to a depth of at least 4 inches using suitable equipment. Where the nematode species *Meloidogyne arenaria* or *M. javanica* are present or high populations of *M. incognita*, apply Telone® II soil fumigant at the recommended label rate.

**RESTRICTION:** Do not apply more than 4 pints of this product per acre (2 lbs. a.i.) per application. Do not make more than one application of this product or any other chlorpyrifos containing products per season.

**TREE FRUITS**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 days unless PPE required for early entry is worn.

Use this product as a dormant or delayed dormant spray at the rates indicated to control the following insects on the crops listed. While this product may be used without oil, oil is recommended to control additional pests such as European red mites.

Crop	Pest	This Product per 100 Gals. of Spray*
Almonds, Cherries, Nectarines, Peaches, Pears, Plums, Prunes,	American plum borer, Brown almond mite, Climbing cutworms, European red mite, Greater peach tree borer, Lesser peach tree borer, Mealy plum aphid, Peach twig borer, Pear psylla adults, San Jose scale	0.5 to 1 pt. (Use a minimum of 1.5 pts. per acre)
Apples	Climbing cutworms, Lygus, Oblique-banded leafrollers, <i>Pandemis</i> leafrollers, Rosy apple aphids, San Jose scales	

SPECIFIC DIRECTIONS: On Apples, postbloom use is prohibited

\*Based on 200 to 600 gallons per acre as a dilute spray

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For dilute spray, tank mix the specified dosage with 1 to 2 gallons of petroleum spray oil recommended for dormant use in 100 gallons of water and spray the entire tree by application to runoff using suitable ground spray equipment. (See "ADDITIONAL PRECAUTIONS SPECIFIC TO CA" section for use in CA.)

For low volume (concentrate) sprays (less than 200 gallons of spray mixture per acre), use the same amount of this product as for a dilute spray and apply in a manner that will ensure thorough coverage of trees. Use the higher dosage of this product for severe infestations. Use oil as recommended by your State Agricultural Experiment Station or Extension Service Specialist.

**PRECAUTIONS:** Because cold or dry conditions may cause this product plus oil sprays to infuse trees resulting in bud damage or drop, do not apply until Winter rains or irrigation has replenished soil moisture such that bark and twigs are not desiccated. Do not use more than 4 pints of this product per acre.

**Additional Precautions For CA:** Use a minimum of 250 gallons of total spray volume per acre. Do not use more than 1% dormant oil in less than 4 year old Almond orchards. Use up to 2% Supreme oil with no more than 4 gallons per acre on Almonds. Use up to 2% Supreme oil with no more than 6 gallons per acre on Peaches and Nectarines. Refer to the University of California pest management guide for Apples, Pears, Plums, and Prunes. In orchards with high overwintering populations of European red mite or Brown almond mite, use higher spray volumes that allow for the use of higher per acre rates of oil. Do not use any adjuvants or surfactants in addition to or as a substitute for a petroleum spray oil in a tank mix with this product. Do not apply on Almonds in the following counties in CA: Butte, Colusa, Glenn, Solano, Sutter, Tehama, Yolo and Yuba.

**RESTRICTIONS:** Make only one application during the dormant season. Do not allow meat or dairy animals to graze in treated orchards. Do not make post-bloom applications on Apples. Do not use more than 4 pints of this product (2 lbs. a.i.) per acre per season as a dormant/delayed dormant application. Do not make a soil or foliar application of this product or products containing chlorpyrifos within 10 days of a dormant/delayed dormant application of chlorpyrifos to the orchard.

**TREE NUTS**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use this product at the dosage indicated by application as a foliar spray to control pests listed in the following table. Mix the required dosage in sufficient water to ensure thorough and complete coverage of the foliage and crop and apply as a concentrate or dilute spray using conventional, power-operated spray equipment. For dilute sprays applied to Tree nut crops, mix the required dosage in sufficient water to allow for spray to runoff. For concentrate sprays, apply an equivalent amount of this product per acre. Treat when pests appear or in accordance with local conditions. Insect control by aerial application may be less effective than control by ground application because of less coverage. Consult your State Agricultural Experiment Station, Certified Pest Control Advisor or Extension Service Specialist for specific use information in your area.

**ALMONDS, FILBERTS, WALNUTS**

Use this product at the rates indicated to control the listed pests.

Crop	Pest	This Product (pints/acre)
Almonds	Navel orangeworms, Peach twig borers, San Jose scales	4
Filberts	Eyespotted bud moths, Filbert aphids, Filbert leafrollers, Filbert worms, Obliquebanded leafrollers, Omnivorous leaf tiers, Winter moths	3 to 4
Walnuts	Codling moths, Walnut husk fly, Walnut scales	4

**RESTRICTIONS:** Make no more than 3 foliar applications of this product or any other chlorpyrifos containing products per season on Almonds and Filberts and no more than 2 applications per season on Walnuts. Do not apply within 14 days of harvest. Do not allow livestock to graze in treated orchards. Do not apply more than 8 pints (4 lbs. a.i.) per acre per season.

**PECANS**

Use this product at the rates indicated to control the listed pests.

Pest	Dosage of This Product Dilute or Concentrate Pts. per Acre
Black margined aphids, Yellow pecan aphids	1 to 4 pts. plus 5.33 fl. ozs. of Pydrin 2.4E OR 1.7 fl. ozs. Asana 1.9EC OR 3.0 fl. ozs. of Ammo 2.5EC OR 2.56 fl. ozs. of Cymbush 3E
Spittlebugs	
SPECIFIC DIRECTIONS Use 2 to 4 pints per acre for concentrate sprays to control Spittlebugs	

(Continued)

**PECANS (Con't.)**

Pest	Dosage of This Product Dilute or Concentrate Pts. per Acre
Black pecan aphids, Fire ants and other Ant species, Hickory shuckworms, Pecan leaf scorch mites (suppression), <i>Phylloxera</i> spp.	2 to 4
SPECIFIC DIRECTIONS: For Ant control, apply as an orchard floor spray. Do not apply where weed growth or other obstructions prevent uniform coverage of the orchard floor. For best results against Hickory shuckworms, make 2 applications, 10 to 14 days apart. To suppress Pecan leaf scorch mites, use a preventative program. For best <i>Phylloxera</i> spp. control, make 2 applications at 7 to 10 day intervals using a minimum of 1 pt. of this product per acre, starting at bud swell.	
Fall webworms, Pecan nut casebearers	1.5 to 4

**RESTRICTIONS:** Make no more than three applications per season. Do not apply more than 8 pints (4 lbs. a.i.) of this product or any other chlorpyrifos containing product per acre per season. Do not apply within 28 days of harvest. Do not allow livestock to graze in treated orchards. Make no applications of tank mixtures closer to harvest than the longest pre-harvest interval shown for any of the products in the tank mixture. For dilute applications with ground equipment, use at least the minimum rate of this product listed for the pest. Apply in 100 to 600 gallons of water per acre. For aerial applications, use 5 to 15 gals. of water per acre. Do not apply by air in Mississippi.

**TREE FRUITS AND TREE NUTS (Trunk Spray or Preplant Dip)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 days unless PPE required for early entry is worn.

Apply this product to tree trunks and lower branches using a coarse, low-pressure spray to control pests listed in the table below. Use the high rate when pest pressure is increased. Unless otherwise specified, a second application may be made after 2 weeks and a third application may be made after harvest. Avoid spray contact with foliage in Sweet cherries as premature leaf drop may result. Consult your State Agricultural Experiment Station or Extension Service Specialist for proper application timing for your area.

Crop	Pest	This Product (pints/100 gals.)
Cherries	American plum borer, Greater peach tree borer, Lesser peach tree borer	1.5 to 3
Almonds, Peaches, Nectarines	Peach tree borers	3

**REMARKS:** For preplant dip application in Peaches and Nectarines only to control Peachtree borer, use this product at the equivalent application rate of 6 pints per 100 gallons of water. Dip trees several inches above the grafting bud scar and plant immediately or allow them to dry before returning to storage. Do not allow Peach trees to remain in contact with the dip solution. For control of Peach tree borer in established trees, apply before newly hatched borers enter the tree. Use as a coarse, low-pressure trunk spray and thoroughly wet all bark areas from ground level to scaffold limbs. Do not allow spray to contact fruit. Consult written recommendations provided by your State Agricultural Experiment Station or Extension Service Specialist for proper time to treat in your area.

**RESTRICTIONS:** Not for use in Mississippi. Do not apply within 14 days of harvest of Almonds, Peaches and Nectarines or within 21 days before harvest of Cherries. Do not make more than 1 chlorpyrifos application per year in Peaches and Nectarines and no more than 3 chlorpyrifos applications per year in Cherries. Do not allow meat or dairy animals to graze in treated orchards.

**ALMOND, PECAN AND WALNUT ORCHARD FLOORS**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use this product to control Fire ants and other ant species by applying the specified dose with ground application equipment that will uniformly apply the spray to the orchard floor or through sprinkler irrigation systems that covers the soil surface at the base of the tree at the rate of 4 to 8 pints per acre. See "Sprinkler Irrigation" section of this label for additional instructions.

Do not apply where weed growth or other obstructions would impede uniform coverage of the orchard floor. Mow or chemically control weeds before the application of this product. Foliar applications of this product may be made in addition to the orchard floor treatment.

Use when Ant activity becomes evident within the orchard since worker Ants cease most of their foraging activity at temperatures above 90°F. Best results will be achieved with applications made at temperatures below 90°F at the time of application. Dosage of this product and spray volume may vary depending on the irrigation method employed in the orchard as follows.



### Ant Control in Sprinkler- or Drip-irrigated Orchards

Apply this product as a broadcast spray to the entire orchard floor using ground spray equipment at 4 to 8 pints per acre in 25 or more gallons of water. Use the high rate for heavy infestations and the low rate for light infestations. In orchards where Ant activity is concentrated around the irrigation emitters, apply the high rate to a 6 to 8 foot band along the drip-irrigation line and the low rate to the rest of the orchard.

### Ant Control in Flood-irrigated Orchards

Apply this product at 4 to 8 pints per acre in 25 or more gallons of water to the entire orchard floor using ground spray equipment. Apply the high rate to heavily infested areas and the low rate to lightly infested areas. Where Ant colonies are abundant only in the berm areas, apply this product at 8 pints per treated acre in 50 or more gallons of water to a 6 to 10 foot band along the treeline (berm).

**RESTRICTIONS:** Do not make more than 2 applications of this product or any other chlorpyrifos containing products per season. Do not apply more than 8 pints (4 lbs. a.i.) per season to the orchard floor. Do not apply the last treatment within 14 days of harvest. Do not allow livestock to graze in treated orchards. Do not make a second application of this product or other products containing chlorpyrifos within 10 days of the first application.

### TURFGRASS GROWN FOR SOD

Use this product to control the pests listed in the following table by application at the recommended dosages. Dilute this product in water and apply using suitable application equipment. For best results, Turf should be moist at time of treatment.

Pest	This Product	
	1,000 sq. ft.	Acre
Ants, Armyworm (such as: Beet, Fall, Yellowstriped), Centipedes, Chiggers, Chinch bugs, Crickets, Cutworms, Deer ticks, Earwigs, European crane fly larvae, Fiery skipper, Fire ants (foraging workers), Fire ants (mounds), Fleas, Gnats, Grasshoppers, Greenbug aphids, Green June beetle grubs, Leafhoppers, Lucerne moth, Millipedes, Mites (such as: Clover, Bermudagrass stunt, Winter grain), Mosquitoes, Pillbugs, Springtails, Sod webworms (lawn moths), Sowbugs, Ticks	0.75 fl. oz.	2 pts.
<p><b>SPECIFIC DIRECTIONS:</b> For individual Fire ant mounds, apply this product as a drench. Dilute 1 fl. oz. per 4 gallons of water. Gently sprinkle 1 to 2 gallons of the diluted insecticide over the surface of each mound and surrounding areas to a diameter of 2 feet. For best results, apply in cool weather, 65 to 80°F, or in early morning or late evening hours. Treat new mounds as they appear. Pressurized sprays may disturb the gnats and cause migration, reducing product effectiveness.</p> <p>For Sod webworms, watering or mowing of the treated area should be delayed for 12 to 24 hours after treatment.</p>		
Billbug adults (such as: Bluegrass, Denver, Hunting)	0.75 to 1.5 fl. ozs.	2 to 4 pts.
<p><b>SPECIFIC DIRECTIONS:</b> For Billbugs, spray early in the season just prior to or coinciding with first appearance of adults as recommended by your local Agricultural Extension Service Specialists.</p>		
Annual bluegrass weevil (Hyperodes), Black turfgrass <i>Ataenius</i> adults, Mole crickets	1.5 fl. ozs.	4 pts.
<p><b>SPECIFIC DIRECTIONS:</b> To control Annual bluegrass weevil, spray suspected problem areas in mid-April and again in mid-May, or as recommended by your local Agricultural Extension Service Specialist. For Black turfgrass <i>Ataenius</i> adults, spray early in the season as recommended by your local Agricultural Extension Service Specialist. A repeat application may be needed 1 to 2 weeks later. To control Mole crickets in Turfgrass, apply this product through high-pressure injection or other suitable subsurface placement application equipment. Depending on the application equipment used, follow the manufacturers recommendation for calibration and the volume of spray per acre needed to provide control or as recommended by your local Agricultural Extension Service Specialist. For best results, apply when young nymphs are active.</p>		
White grubs (such as: Black turfgrass <i>Ataenius</i> , European chafer, Japanese beetle larvae, and Northern and Southern masked chafers)	1.5 to 3 fl. ozs.	4 to 8 pts.
<p><b>SPECIFIC DIRECTIONS:</b> For White grubs, spray when grubs are young and actively feeding near the soil surface, usually during late July and August or as recommended by your local Agricultural Extension Service Specialist, for best results, soil should be moist prior to treatment. For best results, immediately after spraying, irrigate the treated area with one-half to one inch of water to wash the insecticide into the thatch and underlying soil.</p>		

### VEGETABLES

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days for Cauliflower and 24 hours for all other vegetables unless PPE required for early entry is worn.

Use this product at the dosages indicated to control the pests listed in the following table. To avoid phytotoxicity in Vegetables, except Brussels sprouts, do not mix with other pesticide products or treat plants that are under extreme heat and drought stress.

Crop	Pest	Amount of This Product
Broccoli, Cabbage	Root aphids	1.2 fl. ozs. per 1,000 ft. of row for single row plantings and 2.4 fl. ozs. per 1,000 linear ft. of row for double row plantings
	<p><b>USE DIRECTIONS:</b> Apply this product in a water or with liquid fertilizer injected as a side dress on each side of the row after plants are established. Avoid mechanical damage to crop roots. Use a minimum of 15 gals. of total spray volume per acre.</p>	
<p><b>RESTRICTIONS:</b> Do not apply more than 2.6 pints of this product per acre when planted in 40 inch rows. Do not apply more than 4.5 pints of this product per acre to these crops in 20 inch rows (or two rows per bed). Use proportional amounts for other row spacings not to exceed 4.5 pints of this product per acre. Do not make more than one application per season within 30 days before harvest.</p>		
Broccoli, Brussels sprouts, Cabbage, Chinese cabbage, Collards, Kale, Kohlrabi, Turnips	Root maggots	1.6 to 2.75 fl. ozs. per 1,000 linear ft. of row
	<p><b>USE DIRECTIONS:</b> For direct-seeded crops, apply the specified dosage in a water-based spray as a 4 inch wide band over the row at planting time. Shallow incorporation is necessary. Placement behind the planter shoe and in front of the press wheel is recommended. For transplanted crops, apply this product as a water-based spray directed to the base of the plants immediately after setting. Use a minimum of 40 gals. of total spray per acre. Do not add any additional adjuvants, surfactants or spreader stickers. Do not apply as a foliage application.</p>	
<p><b>RESTRICTIONS:</b> Do not apply more than 2.6 pts. of this product per acre when planted in 40 inch rows. Do not apply more than 4.5 pts. of this product per acre to these crops in 20 inch rows (or two rows per bed). Use proportional amounts for other row spacings not to exceed 4.5 pts. of this product per acre. Do not make more than one application per season within 30 days before harvest.</p>		
Brussels sprouts	Armyworms, Cabbage aphids, Cutworms, Imported cabbage-worms, Striped flea beetles (adult)	1 to 2 pts. per acre
	<p><b>USE DIRECTIONS:</b> Apply this product with conventional power-operated equipment in 20 to 150 gals. of water per acre. Apply when insects appear on foliage and at 7 to 14 day intervals or thereafter as needed. Consult your State Agricultural Station Extension Service Specialist or Integrated Pest Control Advisor for proper time to treat in your area.</p>	
<p><b>RESTRICTIONS:</b> Do not make more than 3 applications of this product or any other chlorpyrifos containing products per crop. Do not apply within 21 days before harvest. Do not make a second application of this product or other products containing chlorpyrifos within 10 days of the first application.</p>		
Cauliflower	Root maggots	1.6 to 2.4 fl. ozs. per 1,000 linear ft. of row
	<p><b>USE DIRECTIONS:</b> For direct-seeded crop, apply the specified dosage in a water-based spray as a 4 inch wide band over the row at planting time. Shallow incorporation is necessary. Placement behind the planter shoe and in front of the press wheel is recommended. For transplanted crops, apply this product as a water-based spray directed to the base of the plants immediately after setting. Use a minimum of 40 gals. of total spray per acre. Do not add any additional adjuvants, surfactants or spreader stickers. Do not apply as a foliage application.</p>	
<p><b>RESTRICTIONS:</b> Do not apply more than 2 pints of this product when planted in 40 inch rows. Use proportional amounts for other row spacings not to exceed 4 pts. of this product per acre. Do not make more than one application per crop within 30 days before harvest.</p>		
Radish	Root maggots	1 fl. oz. per 1,000 linear ft. of row
	<p><b>USE DIRECTIONS:</b> Apply the specified dosage as a water-based drench in the seed furrows with the seed at planting time. Use a minimum of 40 gals. of total drench per acre.</p>	
<p><b>RESTRICTIONS:</b> Do not apply more than 5.5 pts. of this product per acre or make more than one application per crop.</p>		

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**VEGETABLES (Con't.)**

Crop	Pest	Amount of This Product
Rutabagas	Root maggots	1.6 to 3.3 fl. ozs. per 1,000 linear ft. of row
	USE DIRECTIONS: Apply the specified dosage in a water-based spray as a 4 inch wide band over the row at planting time, behind the planter shoe and in front of the press wheel to achieve shallow incorporation. Use a minimum of 40 gals. of total spray volume per acre.	
RESTRICTIONS: Do not apply more than 4.5 pts. of this product per acre or make more than one application per crop. Do not use Rutabaga tops for food or feed purposes.		

**WHEAT**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

For use only in Arizona, California, Colorado, Idaho, Kansas, Minnesota, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming. For use to control Aphids (including Russian wheat aphid), Wheat midge, Brown wheat mite, Grasshoppers, Army cutworms and to provide suppression of other Cutworm species.

Pest	Amount of This Product (pints/acre)
Aphids (including Russian wheat aphid), Brown wheat mite, Grasshoppers	0.5 to 1
USE DIRECTIONS: From emergence to flowering, treat when 15 to 20% of tillers are infested. From flowering to early milk stage, treat when 20% or more of tillers are infested.	
Army cutworms, Other Cutworm species (suppression only), Wheat midge	1
USE DIRECTIONS: Control may be reduced under high temperature conditions (greater than 80°F), under dry soil conditions, or if larvae are more than one-half inch long. Treat when field counts or crop injury indicates that damaging pest populations are developing or present. A second application of 1 pint per acre may be made for additional control. For control of Wheat midge, application is recommended when 75% of the Wheat heads have emerged from the boot and when midge adults are found in the crop (1 midge per 4 to 5 heads). Application timing is critical to ensure good control. If possible, apply in the late afternoon of early evening when temperatures exceed 50°F and wind speed is less than 7 mph.	
Cereal leaf beetle	1 to 2
USE DIRECTIONS: Target application when eggs are near hatching and larvae emerging as monitored by plant inspection.	

Mix the required dosage with water and apply in a minimum of 2 gallons per acre finished spray volume. Apply using aerial (fixed wing or helicopter) or power-operated ground spray equipment. For effective coverage of wheat heads using ground application, apply in a minimum of 10 gallons per acre of spray through appropriate nozzles. Higher spray volumes have increased crop protection at the recommended dosage. This product may also be applied through sprinkler-irrigation systems at recommended broadcast application rates to control listed foliar pests (see directions above).

**RESTRICTIONS:** Do not make more than 2 applications of this product or any other chlorpyrifos containing products per crop. Do not apply within 28 days of harvest for grain or straw or within 14 days of harvest for forage or hay. Do not allow livestock to graze or otherwise feed on treated forage within 14 days of application. Do not feed straw from treated Wheat within 28 days of application. Maximum single application rate is 1 pint of this product (0.5 lb. a.i.) per acre. Do not apply directly to bodies of water. Do not apply this product where runoff is likely to occur to aquatic habitats (including lakes, public reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries or other natural waters). Do not apply when weather conditions favor drift or runoff from treated areas.

**Ground Application**

For ground applications, the distance from treated areas to aquatic habitats (including lakes, public reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries or other natural waters) must be 30 feet or more. Do not make ground application if wind speed is greater than 15 mph. Do not apply at spray boom pressures greater than 15 mph. Do not apply at spray boom pressures greater than 45 psi.

**Aerial Application**

Do not apply by air within 300 feet of aquatic habitats (including lakes, public reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries or other natural waters). Do not make aerial applications of this product when wind speeds exceed 10 mph or when an atmospheric temperature inversion exists. Boom length should not exceed 75% of the wing span and release height for aerial applications should be no greater than 10 feet above the crop canopy.

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal.

**PESTICIDE STORAGE:** Store in original container in secured, dry storage area. Prevent cross-contamination with other pesticides and fertilizers. Do not store above 100°F for extended periods of time. Storage below 20°F may result in formation of crystals. If product crystallizes, store at 50° to 70°F and agitate to redissolve crystals. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

**PESTICIDE DISPOSAL:** Open dumping is prohibited. Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL FOR NON-REFILLABLE CONTAINERS:** Triple rinse (or equivalent). Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and Local authorities.

—OR—

Triple rinse (or equivalent). Then puncture and dispose in a sanitary landfill or by incineration or if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

**WARRANTY—CONDITIONS OF SALE**

OUR RECOMMENDATIONS FOR USE of this product are based upon tests believed reliable. Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the Seller. Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith.

To the extent consistent with applicable laws, in no case shall the Manufacturer or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with directions given herewith. The foregoing is a condition of sale by the Seller and is accepted as such by the Buyer.

Bladex is a registered trademark of E. I. duPont de Nemours and Company.  
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December 27, 2006

Document Processing Desk (**NOTIF**)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
Rm S-4900  
One Potomac Yard  
2777 S Crystal Drive  
Arlington, VA 22202  
(Tel. 703 3056470)

**Re: Submission of Revised label by Notification per PR Notice 98-10  
DREXEL CHLORPYRIFOS 4E-AG2 (EPA Reg. No. 19713-599)**

Reference is made to the above. Herewith:

1. Completed EPA Form 8570-1.
2. One (1) copy of the label (599SP-1206) with the following changes:
  - a) On page 5 of the label, under Asparagus, the sentence "Applications may be made during the fern stage to control Asparagus aphids and Asparagus beetles.....are developing or present." was revised to read "Applications may be made during the fern stage to control Armyworms, Grasshoppers, Asparagus aphids, Asparagus beetles.....are developing or present." These two insect pests appearing in the table of recommendations for Asparagus on page 4 of the label were inadvertently left of the sentence. Also, this now matches the verbiage in the Lorsban-4E (EPA Reg. No. 62719-220) label.
  - b) On page 10, "Aphids" was added in the table of recommendations for Sugarbeets. Aphids occur on various sites on the approved label. Also, the addition of aphids does not change the dosage, frequency, concentration or method of application of this product and it does not increase exposure of the pesticide to humans or environment. Further, aphids is not a public health pest and is not subject to quarantine requirements.
  - c) The '®' symbol was added to Telone and Nemaicur brand names on page 10 and ownership of these trade marks were acknowledged on page 13 of the label.
3. Required certification statement

If you have questions/clarification regarding this submission, I can be reached at (901) 774-4370. My e-mail address is [Lchan@drexchem.com](mailto:Lchan@drexchem.com). Thank you.

Respectfully yours,  
DREXEL CHEMICAL COMPANY

  
Luz Chan  
Registration Manager

1700 Channel Avenue • Post Office Box 13327 • Memphis, Tennessee 38113-0327  
Phone: (901) 774-4370 • Fax: (901) 774-4666 • E-Mail: [drexchem@bellsouth.net](mailto:drexchem@bellsouth.net) • [www.DrexChem.com](http://www.DrexChem.com)

SINCE 1977