



## OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

September 30, 2024

Marcia Trostle, PhD, BCE  
Senior Crop Protection Regulatory Specialist  
3005 Rocky Mountain Ave  
Loveland, CO 80538

Subject: Label Amendment – Label changes based on the 2022 National Marine Fisheries Service Biological Opinion on Chlorpyrifos  
Product Name: Match-up Insecticide  
EPA Registration Number: 34704-1086  
Application Date: April 23, 2024  
Decision Number: 595253

Dear Marcia Trostle:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all of the information submitted with your application to support the Registration Review of the above referenced product in connection with the Chlorpyrifos 2022 Biological Opinion. The Agency has concluded that your submission is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. The next label printing of this product must use this labeling unless subsequent changes have been approved by the Agency. In accordance with 40 CFR § 152.130(c), you may distribute or sell this product under the previously approved labeling until April 30, 2025. After April 30, 2025, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR § 152.3.

Should you wish to add/retain a reference to the company's website on your label, please be aware that the website becomes labeling under FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) lists examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

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

If you have any questions, please contact Patricia Biggio at 202-566-1938 or at [biggio.patricia@epa.gov](mailto:biggio.patricia@epa.gov).

Sincerely,

A handwritten signature in blue ink that reads "Dana L. Friedman". The signature is written in a cursive, flowing style.

Dana L. Friedman  
Branch Chief  
Risk Management and Implementation Branch I  
Pesticide Re-evaluation Division

Enclosure

CC: Michael Walsh, Registration Division, PM11

**ACCEPTED**

Sep 30, 2024

Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 34704-1086

**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.



<b>CHLORPYRIFOS</b>	<b>GROUP</b>	<b>1B</b>	<b>INSECTICIDE</b>
<b>BIFENTHRIN</b>	<b>GROUP</b>	<b>3A</b>	<b>INSECTICIDE</b>

**Match-Up®**  
INSECTICIDE

**For control of insects infesting Citrus Orchard Floors, Cotton, Soybean and Tobacco.**

**ACTIVE INGREDIENT:**

Chlorpyrifos: O,O-diethyl-O-(3,5,6-trichloro-2-pyridinyl) phosphorothioate .....	28.6%
Bifenthrin*: .....	9.0%
<b>OTHER INGREDIENTS</b> .....	<b>62.4%</b>
<b>TOTAL</b>	<b>100.0%</b>

Contains 2.47 pounds of chlorpyrifos per gallon and 0.78 pound of bifenthrin per gallon.

\*Cis isomers 97% minimum, trans isomers 3% maximum. This product contains petroleum distillates.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

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.)

<b>FIRST AID</b> <b>Organophosphate</b>	
<b>If swallowed:</b>	<ul style="list-style-type: none"><li>• Call poison control center or doctor immediately for treatment advice.</li><li>• Do not give any liquid to the person.</li><li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"><li>• Take off contaminated clothing.</li><li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

**FOR MEDICAL EMERGENCY INVOLVING THIS PRODUCT, CALL: 1-800-424-9300**

**NOTE TO PHYSICIAN:** Bifenthrin is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

Chlorpyrifos is a cholinesterase inhibitor. 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 - vomiting may cause aspiration pneumonia.

[See] [inside] [label] [booklet] [for] [First Aid][,] [additional] [Precautionary Statements][,] [and] [Directions for Use] [including] [Storage and Disposal] [instructions][.]

For Medical Emergencies or for Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC at 1-800-424-9300.

*[Note to Reviewer: optional customer service info]*

[(For Product Use Information) (CALL: (# to be added to FPL)) (or email (email to be added to FPL))]

**EPA REG . NO . 34704-1086**

**EPA EST . NO . \_\_\_\_\_**

**NET CONTENTS 2 .5 GAL (9 .46 L)**

*[Note to Reviewer: internal label version Identifier may be included on final printed label.]*

**MANUFACTURED FOR:**

**LOVELAND PRODUCTS, INC.**

**P.O. BOX 1286**

**GREELEY, COLORADO 80632-1286**

*[May include a logo for Loveland Products, Inc.]*

**PRECAUTIONARY STATEMENTS**  
**HAZARD TO HUMANS AND DOMESTIC ANIMALS**  
**CAUTION**

**CAUTION.** Harmful if swallowed. Harmful if inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Causes moderate eye irritation.

**Personal Protective Equipment (PPE)**

Some Materials that are chemical-resistant to this product are barrier laminate and viton ≥ 14 mils.

**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 made of barrier laminate or viton ≥ 14 mils,
- 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 handlers must wear:**

- Coveralls over long-sleeved shirt and long pants,
- Chemical-resistant gloves made of barrier laminate or 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 dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any R, P, or HE filter

**USER SAFETY REQUIREMENTS**

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

**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 cab motorized ground application equipment in a manner that meets the requirements listed in the 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**

**Users should:**

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

## ENVIRONMENTAL HAZARDS

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 from treated areas may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply this product or allow it to drift to blooming crops or weeds if bees are actively visiting the treatment area.

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. **Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms.**

The use of bifenthrin is prohibited in areas that may result in exposure of endangered species to bifenthrin. Prior to use in a particular county, contact the local extension service for procedures and precautions to use to protect endangered species.

## PHYSICAL OR CHEMICAL HAZARDS

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

## DIRECTIONS FOR USE

### Restricted Use Pesticide

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying. The Certified Applicator is responsible for understanding all use restrictions, including Endangered Species application restrictions.

Match-Up® Insecticide is an emulsifiable concentrate for use in listed crops. Target pests and application rates are provided in the accompanying tables.

## RESTRICTIONS and PRECAUTIONS

This product cannot be reformulated or repackaged into other end-use products.

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.

Insect control may be reduced at low spray volumes under high temperature and wind conditions.

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 Match-Up Insecticide.

**Use as a Wide Area/ General Outdoor Treatment for Ants and other Miscellaneous Pests (excludes wide-area mosquito adulticide use) is Prohibited.**

### Endangered Species Protection Requirements

It is a Federal offense to use any pesticide in a manner that results in an unauthorized “take” (e.g., kill or otherwise harm) of an endangered species and certain threatened species under the Endangered Species Act section 9. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the area in which you are applying the product. **You must obtain a Bulletin no earlier than six months before using this product. To obtain Bulletins, consult <http://www.epa.gov/espp/>, or call 1-844-447-3813 or email ESPP@epa.gov. You must use the Bulletin valid for the month in which you will apply the product.**

**Reporting Ecological Incidents:** To report ecological incidents, including mortality, injury or harm to plants and animals, call 1-800-424-9300.

### Pollinator Best Management Practices

Following best management practices can help reduce risk to terrestrial pollinators. Examples of best management practices include applying pesticides in the evening and at night when pollinators are not foraging and checking to confirm hive locations before spraying. For additional resources on pollinator best management practices, visit <https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators>.



**Managed pollinator protection plans** are developed by states/tribes to promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees to pesticides. If available, visit state plans for additional information on how to protect pollinators.

### How to Report Bee Kills

It is recommended that users contact both the state lead agency and the U.S. Environmental Protection Agency to report bee kills due to pesticide application. Bee kills can be reported to EPA at [beekill@epa.gov](mailto:beekill@epa.gov). To contact your state lead agency, see the current listing of state pesticide regulatory agencies at the National Pesticide Information Center's website: [http://npic.orst.edu/reg/state\\_agencies.html](http://npic.orst.edu/reg/state_agencies.html).

### AGRICULTURAL USE REQUIREMENTS

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

**Do not enter or allow 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 reentry requirements pursuant to 40 CFR Part 170. PPE required for early entry into treated areas that is permitted under the Worker Protection Standard and 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 of barrier laminate or viton  $\geq$  14 mils
- Chemical-resistant footwear plus socks,
- Chemical-resistant headgear for overhead exposure.

Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

### INSECTICIDE RESISTANCE MANAGEMENT (IRM)

Match-Up Insecticide contains a Group 1B insecticide and a Group 3 insecticide. Any insect/mite population may contain individuals naturally resistant to this product and other Group 1B or Group 3A insecticides. Insect/mite biotypes with acquired resistance to Group 1B and Group 3 may eventually dominate the insect/mite population if Group 1B and Group 3 insecticides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by Match-Up Insecticide or other Group 1B and Group 3 insecticides.

Appropriate resistance-management strategies should be followed. To delay development of insecticide resistance, the following practices are recommended:

- Avoid application of more than the maximum number of prescribed sprays and consecutive sprays of this product or other insecticides of Group 1B or Group 3A in a season.
- Use tank mixtures with insecticides/acaricides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
  - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual

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insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.

- Adopt an integrated pest management program for insecticides use that includes scouting; uses record keeping and historical information related to pesticide use and crop rotation; and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance to Chlorpyrifos or Bifenthrin, contact Loveland Products at [www.LovelandProducts.com](http://www.LovelandProducts.com) using the "Contact Us" link or call **1-866-944-8565**.

### **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, non-target crops, aquatic and wetland sites, 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 these factors when making decisions to apply this product.

Observe the following precautions when spraying Match-Up Insecticide 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:

<b>Application Method</b>	<b>Required Setback (Buffer Zone) (Feet)</b>
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 Applications:**

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 affect droplet size. See manufacturer's catalog or USDA/NAAA Applicators 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 application 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 must be familiar with and take into account the information covered in the Aerial Drift Reduction Instructions.

### **Aerial Drift Reduction Instructions**



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**Information on Droplet Size:** the most effective way to reduce drift 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 a higher rated flows produce large droplets.
- **Pressure** – Do not exceed the nozzle manufacturer's recommended pressures. Form 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 the largest droplets and the lowest drift.

**Boom Length:** For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing the swath width.

**Application Height:** Application should 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.

**Swath Adjustment:** When applications are made with a cross wind, 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 wind 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 1.5 mph due to variable wind direction and high inversion potential. **Note:** Local terrain can influence wind patterns. Every applicator must 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:** The 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 areas).

**Ground Boom Application**

The following mandatory spray drift best managements 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 to 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 found or crop canopy.
3. Do not apply product when wind speeds 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.

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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 must take into account the following best management practices to reduce off-site spray drift. This section is advisory and does not supersede 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 must 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 sprayer away from the orchard.
  - When treating smaller trees, vines or bushes, shut off top nozzles to minimize over-the-top spray movement.

## **BUFFER ZONES**

### **Vegetative Buffer Strips**

Construct and maintain a vegetative filter strip, according to the width specified below, of grass or other permanent vegetation between the field edge and nearby down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; rivers; streams; marshes or natural ponds; estuaries; and commercial fish farm ponds).

Only apply products containing Bifenthrin onto fields where a maintained vegetative buffer strip of at least 10 feet exists between the field and down gradient aquatic habitat.

For guidance, refer to the following publication for information on constructing and maintaining effective buffers:

*Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. USDA, NRCS. 2000. Fort Worth, Texas. 21 pp.* [Conservation Buffers to Reduce Pesticide Losses \(usda.gov\)](https://efotg.sc.egov.usda.gov/references/Public/VA/ConservationBufferToReducePesticideLosses.pdf)

<https://efotg.sc.egov.usda.gov/references/Public/VA/ConservationBufferToReducePesticideLosses.pdf>

### **Buffer Zone for Ground Application (groundboom, overhead chemigation, or airblast)**

Do not apply within 25 feet [(100 feet in New York)] of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).

### **Buffer Zone for ULV Aerial Application**

Do not apply within 450 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).

### **Buffer Zone for Non-ULV Aerial Application**

Do not apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, marshes, ponds, estuaries, and commercial fish ponds).

### **Buffer Zone for New York for Non-ULV Aerial Application**

In New York State, this product may not be applied within 300 feet of coastal marshes or streams that drain into coastal marshes.

## **SPRAY DRIFT REQUIREMENTS**

### **Wind Direction and Speed**

Only apply this product if the wind direction favors on-target deposition.

Do not apply when the wind velocity exceeds 15 mph.

### **Temperature Inversion**

Do not make aerial or ground applications into temperature inversions.

Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

### **Droplet Size**

Use only medium or coarser spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition, for standard nozzles. In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

### **Additional Requirements for Ground Applications**

Wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.

For ground boom applications, apply using a nozzle height of not more than 4 feet above the ground or crop canopy.

For airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

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### **Additional Requirements for Aerial Applications**

The spray boom should be mounted on the aircraft as to minimize drift caused by wingtip or rotor vortices. The minimum practical boom length should be used and must exceed 75% of the wingspan or 80% of rotor diameter.

Flight speed and nozzle orientation must be considered in determining droplet size.

Spray must be released at the lowest height consistent with pest control and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.

When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

### **Buffer Zones**

The buffer distances specified in the below table are the distances in feet that must exist to separate sensitive sites from the targeted application site. Buffers are measured from the edge of the sensitive site to the edge of the application site. Sensitive sites are areas frequented by non-occupational bystanders (especially children). These include residential lawns, pedestrian sidewalks, outdoor recreational areas such as school grounds, athletic fields, parks and all property associated with buildings occupied by humans for residential or commercial purposes. Sensitive sites include homes, farm worker housing, or other residential buildings, schools, daycare centers, nursing homes, and hospitals. Non-residential agricultural buildings, including barns, livestock facilities, sheds, and outhouses are not included in this prohibition.

Application Rate (lb AI/A)	Nozzle Droplet Type	Required Setback (Buffer Zones) (Feet)		
		Aerial	Airblast	Ground
>0.5 to 1.0	coarse or very coarse	10	10	10
>0.5 to 1.0	medium	25	10	10
>1.0 to 2.0	coarse or very coarse	50	10	10
>1.0 to 2.0	medium	80	10	10
>2.0 to 3.0	coarse or very coarse	80 <sup>1</sup>	10	10
>2.0 to 3.0	medium	100 <sup>1</sup>	10	10
>3.0 to 4.0	medium or coarse	NA <sup>2</sup>	25	10
>4.0	medium or coarse	NA	50	10

<sup>1</sup> Aerial application of greater than 2.0 pounds active ingredient per acre is only permitted for Asian Citrus Psylla control, up to 2.3 pounds active ingredient per acre.

<sup>2</sup> NA is not allowed.

Only pesticide handlers are permitted in the setback area during application of this product. Do not apply this product if anyone other than a mixer, loader, or applicator, is in the setback area. Exception: Vehicles and persons riding bicycles that are passing through the setback area on public or private roadways are permitted.

## **APPLICATION INSTRUCTIONS**

### **Broadcast Foliar Application**

Apply with conventional power-operated spray equipment using nozzles and spray pressures specified for insecticides. Apply Match-Up Insecticide in a spray volume of not less than 2.0 gallons per acre for aerial application equipment (fixed wing or helicopter) or not less than 10.0 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 Management section for specifications on droplet size.

**Ground Application:** 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 specifications for insecticide nozzles with respect to nozzle type, pressure, and spacing.

### **Broadcast Soil Application**

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). Unless otherwise indicated, a spray volume of 10.0 gallons or more per acre is recommended. For band application, use proportionally less spray volume.

### **Aerial Application**

Use a minimum spray volume of 2.0 gallons per acre and follow the **best management practices** for aerial application, above. Marking of swaths by flagging, permanent markers or use of GPS equipment is recommended.

### Chemigation (Sprinkler Irrigation)

Match-Up Insecticide may be applied to the following crops through sprinkler irrigation equipment: cotton and soybeans. Do not apply this product by chemigation unless specified in crop-specific directions in this label or state-specific 24(c) supplemental labeling. Do not apply to labeled crops through any other type of irrigation system.

**Note:** Unless otherwise indicated in specific use directions, the application rates for chemigation are the same as those specified for broadcast application.

### Use Directions for Sprinkler Irrigation

The following use directions must be followed when Match-Up Insecticide 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 Match-Up 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 Match-Up Insecticide is applied by chemigation. Maintain continuous agitation during mixing and throughout the application period. 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 Calibration Instructions in the following Special Use Precautions section. The mixture containing Match-Up Insecticide must be injected continuously and uniformly into the irrigation water line as the sprinkler is moving to ensure uniform application at the correct rate. When the application is finished, flush and clean the entire irrigation and injector system prior to shutting down the system.

### Use Precautions for Sprinkler Irrigation

The following use precautions will result in a safe and successful application of mixtures containing Match-Up Insecticide:

1. Apply this product only through the following sprinkler irrigation systems: 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. Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.
2. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non uniform distribution of treated water.
3. If you have questions about calibration, you should contact state extension service specialists, equipment manufacturers, or other experts.
4. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.
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 low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow. 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 that 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 will assist in mixing. It is suggested that the injection point be higher than the insecticide tank to prevent siphoning.
13. The tank holding the insecticide mixture should be large enough to allow the system to complete the application with 1 filling. It must 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. **Calibration:** In order to calibrate the irrigation system and injector to apply the mixture of Match-Up Insecticide, determine the following: 1) Calculate the number of acres irrigated by the system; 2) Set the irrigation rate and determine

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the number of minutes for the system to cover the intended treatment area; 3) 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 timed output of the injector pump be checked at least twice before operation, and the system monitored during 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. Reentry: Follow requirements in the Agricultural Use Requirements section or crop-specific sections of this label.
18. Do not apply through sprinkler systems that deliver a low coefficient of uniformity such as certain water drive units.

### **Mixing Directions**

To prepare the spray, add a portion of the required amount of water to the spray tank and with the spray tank agitator operating add Match-Up Insecticide. 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.

Match-Up Insecticide is compatible with insecticides, miticides, and fungicides and non-pressure fertilizer solutions commonly recommended except for alkaline materials such as Bordeaux mixture and lime. It is always recommended that a small jar compatibility test be run prior to tank mixing. Prepare tank mixtures in the same manner as recommended above for use of Match-Up Insecticide alone. When tank mixing Match-Up Insecticide with herbicides, add wettable powders first, flowables second, and emulsifiable concentrates last. When a fertilizer solution is involved, it is strongly recommended that a fertilizer pesticide compatibility agent such as E-Z Mix 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.

**Tank Mix Compatibility Test:** Test compatibility of the intended tank mixture before adding Match-Up Insecticide to the spray or mix tank. Add proportional amounts of each tank mix ingredient to a pint or quart jar, cap, shake, and let set for 15 minutes. Formation of precipitates that do not readily redisperse indicates an incompatible mixture that should not be used.

For any tank mix, it is the certified applicators' responsibility to ensure all products are registered for the intended use. And, the most restrictive label language among all the products is followed.

## **CROP SPECIFIC USES**

### **CITRUS ORCHARD FLOORS (Bearing Trees)**

**For use in only Alabama, Florida, Georgia, North Carolina, South Carolina, and Texas**

**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.

Apply Match-Up Insecticide by ground equipment to bare soil beneath citrus trees. Remove weed growth or other obstructions that might prevent the spray from reaching the soil surface.

Match-Up Insecticide must be uniformly applied from the trunk to the drip line of tree. Apply the dosage specified in the table below in a minimum of 40.0 gallons of dilute spray per acre, using equipment that will apply the spray uniformly to the soil surface. Greater spray volume should insure greater uniformity of coverage. A pre and post application irrigation may aid in the uniformity of coverage as well.



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**For use in only Alabama, Florida, Georgia, North Carolina, South Carolina, and Texas**

Citrus Orchard Floor Pest	Rate/A	Use Instructions
Blue-green citrus root weevil ( <i>Pachnaeus opalus</i> ) Brown leaf notcher ( <i>Epicarus mexicanus</i> ) Diaprepes root weevil ( <i>Diaprepes abbreviates</i> ) Little leaf notcher ( <i>Artipus floridanus</i> ) Southern blue-green root weevil ( <i>Pachnaeus litus</i> )u	<p><b><u>Recommended rate</u></b> 40.9 to 51.8 fl oz</p> <p>(0.79 – 1.0 lb a.i. chlorpyrifos/ A) (0.25 – 0.3 lb a.i. bifenthrin/ A)</p> <p><b><u>Max application rate</u></b> 82.0 oz</p> <p>(1.6 lb a.i. chlorpyrifos/A) (0.5 lb a.i. bifenthrin/A)</p> <p><b>Max of 1 application per year</b></p>	<p>The use of this product protects citrus tree roots from Diaprepes and other Citrus root weevil feeding by creating a barrier. As Citrus root weevil eggs hatch in new foliage, neonates fall to the soil surface beneath the tree and come in contact with this product as they attempt to burrow into the root zone. Disturbance of the soil beneath trees should be minimized. Timing of this product's applications is critical. Peak emergence of Diaprepes adults varies by citrus growing region and environmental factors such as soil moisture can affect emergence. Usually, 2 peaks are observed for Diaprepes, first in the spring then late summer or early fall. Southern blue-green and Blue-green citrus weevils and Fuller rose beetle usually have a single emergence peak in the spring. Brown and Little leaf notches usually have 3 emergence peaks, spring, summer, and fall. Since emergence varies by region and season, the best way to time application is to observe the adults. Adults are most active early morning and late afternoon; numbers can be estimated by trapping throughout spring and summer (emergence periods). Eggs are laid 8 to 10 weeks following the adult emergence from the soil; larval invasion into the soil will begin 2 to 3 weeks following adult emergence. It is critical to have this product soil barrier in place prior to drop of the neonates.</p> <p>This product is one of several effective tools in an integrated pest management program for Citrus root weevils. Application of this product should be used in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus root weevils and other pests.</p> <p>Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer. Peak emergence of Diaprepes root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of Diaprepes root weevil may also occur in the fall. If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring, this product should be applied in a manner to obtain the longest residual management of Diaprepes root weevil. If the citrus grove to be treated is in an area where weather conditions will promote more than 1 peak of pest emergence this product can be applied early season and a non-chlorpyrifos containing product must be applied later in the season.</p>

**Use Restrictions:**

- **DO NOT** apply in tank mixture with Evik® herbicide.
- **DO NOT** apply through irrigation systems.
- **DO NOT** allow any application of this product to contact fruit or foliage.
- **DO NOT** allow meat or dairy animals to graze in treated areas.
- For each application, follow all chlorpyrifos Endangered Species Protection Requirements.
- **DO NOT** apply more than a total of 82.0 fluid ounces of Match-Up Insecticide per acre per year, (1.6 lbs. a.i. chlorpyrifos/ A/Yr) based upon a maximum limit of 0.5 pound active ingredient bifenthrin per acre per year.
- Ground application only. Do not apply by air.
- **DO NOT** apply treatment within 28 days of harvest.
- **DO NOT** make more than one (1) Chlorpyrifos application to bearing citrus (soil or foliar) per year. In bearing citrus, a foliar application of chlorpyrifos may not be made when a chlorpyrifos treatment has been made to the orchard floor.



**CITRUS ORCHARD FLOORS (Nonbearing Trees)  
(NOT FOR USE IN MISSISSIPPI)**

**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.

Apply Match-Up Insecticide by ground equipment to bare soil beneath citrus trees. Remove weed growth or other obstructions that might prevent the spray from reaching the soil surface.

Match-Up Insecticide must be uniformly applied from the trunk to the drip line of tree. Apply the dosage specified in the table below in a minimum of 40.0 gallons of dilute spray per acre, using equipment that will apply the spray uniformly to the soil surface. Greater spray volume should insure greater uniformity of coverage. A pre and post application irrigation may aid in the uniformity of coverage as well.

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Nonbearing Citrus Orchard Floor Pest	Rate/A	Use Instructions
Blue-green citrus root weevil ( <i>Pachnaeus opalus</i> ) Brown leaf notcher ( <i>Epicarus mexicanus</i> ) Diaprepes root weevil ( <i>Diaprepes abbreviates</i> ) Little leaf notcher ( <i>Artipus floridanus</i> ) Southern blue-green root weevil ( <i>Pachnaeus litus</i> )	40.9 to 51.8 fl oz  (0.79 – 1.0 lb a.i. chlorpyrifos/ A) (0.25 – 0.3 lb a.i. bifenthrin/ A)	<p>The use of this product protects citrus tree roots from Diaprepes and other Citrus root weevil feeding by creating a barrier. As Citrus root weevil eggs hatch in new foliage, neonates fall to the soil surface beneath the tree and come in contact with this product as they attempt to burrow into the root zone. Disturbance of the soil beneath trees should be minimized. Timing of this product's applications is critical. Peak emergence of Diaprepes adults varies by citrus growing region and environmental factors such as soil moisture can affect emergence. Usually, 2 peaks are observed for Diaprepes, first in the spring then late summer or early fall. Southern blue-green and Blue-green citrus weevils and Fuller rose beetle usually have a single emergence peak in the spring. Brown and Little leaf notches usually have 3 emergence peaks, spring, summer, and fall. Since emergence varies by region and season, the best way to time application is to observe the adults. Adults are most active early morning and late afternoon; numbers can be estimated by trapping throughout spring and summer (emergence periods). Eggs are laid 8 to 10 weeks following the adult emergence from the soil; larval invasion into the soil will begin 2 to 3 weeks following adult emergence. It is critical to have this product soil barrier in place prior to drop of the neonates.</p> <p>This product is one of several effective tools in an integrated pest management program for Citrus root weevils. Application of this product should be used in conjunction with good cultural practices, biological control of larvae and foliar control of adults. Consult local university extension personnel for current information to protect citrus trees from Citrus root weevils and other pests.</p> <p>Apply to individual citrus resets, when not in solid planted rows, using hand-gun or shielded sprayer. Peak emergence of Diaprepes root weevil generally occurs in the spring. Depending on weather conditions, a minor emergence of Diaprepes root weevil may also occur in the fall. If the citrus grove to be treated is in an area where weather conditions are conducive to primary emergence occurring in the spring, 51.8 fl oz of this product should be used to obtain the longest residual management of Diaprepes root weevil. If the citrus grove to be treated is in an area where weather conditions will promote more than 1 peak of pest emergence, 40.9 fl oz of this product can be applied early season and 40.9 fl oz of this product can be applied later in the season.</p>

**Use Restrictions:**

- **DO NOT** apply in tank mixture with Evik® herbicide.
- **DO NOT** apply through irrigation systems.
- **DO NOT** allow any application of this product to contact foliage.
- **DO NOT** allow meat or dairy animals to graze in treated areas.
- Maximum single application rate, based upon maximum single application limit of 1.0 pound active ingredient chlorpyrifos per acre, is 51.8 fluid ounces of Match-Up Insecticide.
- **DO NOT** apply more than a total of 82.0 fluid ounces of Match-Up Insecticide per acre per year, based upon a maximum limit of 0.5 pound active ingredient bifenthrin per acre per year.
- **DO NOT** make more than 3 applications of Match-Up Insecticide or other products containing chlorpyrifos per year (does not include foliar applications to citrus trees).
- **DO NOT** make a second application of Match-Up Insecticide or other product containing chlorpyrifos within 10 days of the first application.
- Nonbearing Foliar applications of other products containing chlorpyrifos may be made in addition to the nonbearing

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orchard floor treatments but must comply with the 10-day re-treatment interval.

- For each application, follow all chlorpyrifos Endangered Species Protection Requirements.
  - Ground application only. Do not apply by air.
  - **DO NOT** apply within 365 days of harvest for food or feed.
  - **DO NOT** apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds).
  - **DO NOT** apply directly to, or allow the product to enter sewers or storm drains, or to any area like a drain or gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur.
  - **DO NOT** apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment.
  - **DO NOT** apply to vertical surfaces directly above pervious or impervious surfaces that drain into ditches, storm drains, gutters, or surface waters.
  - **DO NOT** apply or irrigate to the point of runoff.
- 

## COTTON

For use in only Alabama, Florida, Georgia, North Carolina, South Carolina, Virginia

**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.

Apply as a broadcast foliar spray using ground spray equipment. Use a higher rate in the rate range when there is increased pest pressure. Use sufficient spray volume to ensure thorough coverage of treated plants, but no less than 10.0 gallons per acre for ground spray equipment. Increase spray volume when foliage is dense and/or pest population is high and/ or under high temperature and wind conditions. Treat when field counts indicate damaging insect populations are developing or present.

**Chemigation:** This product may be applied through sprinkler irrigation systems at instructed broadcast application rates to control listed foliar pests. See Chemigation section for application instructions.

Proper application methods are necessary to ensure thorough spray coverage and correct rate, and minimize off-target drift. Follow Application Directions for ground application and Spray Drift Management instructions of this label.

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For use in only Alabama, Florida, Georgia, North Carolina, South Carolina, Virginia

Cotton Pests	Rate/A	Use Instructions
European corn borer Soybean (banded) thrips Tobacco thrips	<p>Recommended rate: 3.4 to 16.4 fl oz (0.07 – 0.3 lb a.i. Chlorpyrifos/ A) (0.02 – 0.1 lb a.i. Bifenthrin/ A)</p> <p>Max single application rate: 25.9 fl oz (0.5 lb a.i. Chlorpyrifos/ A) (0.15 lb a.i. Bifenthrin/ A)</p>	<p><b>Pest-Specific Instructions:</b>  <b>Boll Weevil:</b> This product will not control an ongoing Boll Weevil infestation requiring treatment every 3-4 days. However, this product can be used as part of a resistance management plan for Boll Weevil.  <b>Mites and Aphids:</b> Apply when pests first appear. Higher rates within the listed rate range will be required once a damaging threshold is established. This product may be used 1 time per year. Applications of non-chlorpyrifos containing products may be necessary to control pests as a part of a resistance management program.</p>
Boll weevil Cabbage looper Cotton aphid Cotton fleahopper Cotton leaf perforator Cutworms Fall armyworm Grasshoppers Leafhopper Plant bugs Saltmarsh caterpillar Southern Garden leafhopper Stink bugs Tobacco budworm Whitefly Yellow-striped armyworm	<p>Recommended rate: 6.7 to 16.4 fl oz (0.13 - 0.3 lb a.i. Chlorpyrifos/ A) (0.06 – 0.1 lb a.i. Bifenthrin/ A)</p> <p>Max application rate: 25.9 fl oz (0.5 lb a.i. Chlorpyrifos/ A) (0.15 lb a.i. Bifenthrin/ A)</p>	
Beet armyworm Carmine spider mite Cotton bollworm Kudzu bug <i>Lygus</i> spp. Pink bollworm Two-spotted spider mite	<p>Recommended rate: 9.75 to 16.4 fl oz (0.19- 0.3 lb a.i. Chlorpyrifos/ A) (0.04 – 0.1 lb a.i. Bifenthrin/ A)</p> <p>Max application rate: 25.9 fl oz (0.5 lb a.i. Chlorpyrifos/ A) (0.15 lb a.i. Bifenthrin/ A)</p>	

**Use Restrictions:**

- **DO NOT** apply more than 25.9 fluid ounces of this product in a single application, based on the single max application rate of 0.5 pound active ingredient chlorpyrifos per acre.
- **DO NOT** make more than 1 application of Match-Up Insecticide or other products containing chlorpyrifos per acre per year.
- **DO NOT** apply more than 25.9 fluid ounces of this product per acre per year.
- **DO NOT** allow meat or dairy animals to graze in treated areas.
- **DO NOT** feed gin trash or treated forage to meat or dairy animals.
- **DO NOT** make more than 10 synthetic pyrethroid applications (of one product or combination of products) to a cotton crop in one growing season.
- **DO NOT** apply within 14 days of harvest.
- Maximum application rates are based on the maximum amount of chlorpyrifos allowed per year. Application at higher than recommended rates may cause decreased yields, plant injury and/or plant death. If plant injury, death and/or reduced yields cannot be tolerated, do not apply at higher than recommended rates.

## SOYBEAN

For use in only Alabama, Colorado, Florida, Georgia, Iowa, Illinois, Indiana, Kansas, Kentucky, Minnesota, Missouri, Montana, North Carolina, North Dakota, Nebraska, New Mexico, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Virginia, Wisconsin, West Virginia, and Wyoming.

**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.

Apply when field counts indicate damaging pest populations are developing or present.

This product may be tank mixed with glyphosate products when application is to be made to glyphosate-tolerant soybeans. Use a higher rate in the rate range when there is increased pest pressure.

### Ground Application:

For use in AL, CO, FL, GA, IA, IL, IN, KS, KY, MN, MO, MT, NC, ND, NE, NM, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV, WY unless prohibited by state, local, or tribal regulations or laws.

Apply as a postemergence broadcast spray using sufficient spray volume to ensure thorough coverage of treated plants, but no less than 10.0 gallons per acre at a rate of up to 16.4 fluid ounces of Match-Up Insecticide for ground spray equipment.

### Aerial Application:

For use only in CO, IA, IL, KS, MO, MN, MT, ND, NE, NM, OK, SD, TX, WI, WY unless prohibited by state, local, or tribal regulations or laws.

Apply as a postemergence broadcast spray using sufficient spray volume to ensure thorough coverage of treated plants, but no less than 2.0 to 5.0 gallons per acre at a rate of up to 16.4 fluid ounces of Match-Up Insecticide for aircraft equipment.

### Chemigation Application:

For use in AL, CO, FL, GA, IA, IL, IN, KS, KY, MN, MO, MT, NC, ND, NE, NM, OH, OK, PA, SC, SD, TN, TX, VA, WI, WV, WY unless prohibited by state, local or tribal regulations or laws.

This product may be applied through sprinkler irrigation systems at instructed broadcast application rates to control listed foliar pests. See Chemigation section for application instructions.

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**For use in only Alabama, Colorado, Florida, Georgia, Iowa, Illinois, Indiana, Kansas, Kentucky, Minnesota, Missouri, Montana, North Carolina, North Dakota, Nebraska, New Mexico, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Virginia, Wisconsin, West Virginia, and Wyoming**

<b>Soybean Pest</b>	<b>Rate/A</b>	<b>Use Instructions</b>
Alfalfa caterpillar Aphids Aster leafhopper Bean leaf beetle Beet armyworm Cloverworm Corn earworm Corn rootworm (adults) Cowpea curculio Cucumber beetles Cutworms Dectes stem borer European corn borer Fall armyworm Flea beetle Grasshoppers Green cloverworm Imported cabbageworm Japanese beetle (adults) Leafhoppers Leaf miner Lesser cornstalk borer Loopers Mexican bean beetle (adults) Pea leaf weevil Pea weevil Plant bug Saltmarsh caterpillar Sap beetle Southern armyworm Stink bugs Tarnished plant bug Thrips Tobacco budworm Velvetbean caterpillar Webworms Western bean cutworm Whitefly Woollybear caterpillar Yellow-striped armyworm	<p style="text-align: center;"><b><u>Recommended Rate:</u></b>  5.5 to 16.4 fl oz  ( 0.1 – 0.3 lb a.i. Chlorpyrifos/ A)  ( 0.03 – 0.1 lb a.i. Bifenthrin/ A)</p> <p style="text-align: center;"><b><u>Max Application Rate: (0.3 lb a.i. Bifenthrin/A)</u></b>  <b>AL, IA, FL, GA, NC, SC, VA, WI</b>  49.2 fl oz  (0.95 lb a.i. Chlorpyrifos/ A)  ( 0.3 lb a.i. Bifenthrin/ A)</p> <p style="text-align: center;"><b><u>Max Application Rate: (0.75 lb a.i. Chlorpyrifos/)</u></b>  <b>CO, IL, IN, KS, KY, MN, MO, MT, ND,</b>  <b>NE, NM, OH, OK,</b>  <b>PA, SD, TN, TX, WV and WY</b>  38.85 fl oz  (0.75 lb a.i. Chlorpyrifos/ A)  (0.24 lb a.i. Bifenthrin/ A)</p>	<p>On determinate soybeans, do not make more than 1 application after pod set.</p> <p>Do not make more than one application of product containing chlorpyrifos per year.</p>
Kudzu bug Lygus spp. Two-spotted spider mite Whitefly Velvetbean caterpillar	<p style="text-align: center;"><b><u>Recommended Rate:</u></b>  13.2 to 16.4 fl oz  (0.25 – 0.3 lb a.i. Chlorpyrifos/ A)  (0.08 – 0.1 lb a.i. Bifenthrin/ A)</p> <p style="text-align: center;"><b><u>Max Application Rate:</u></b>  <b>AL, IA, FL, GA, NC, SC, VA, WI</b>  49.2 fl oz  (0.95 lb a.i. Chlorpyrifos/ A)  (0.3 lb a.i. Bifenthrin/ A)</p> <p style="text-align: center;"><b><u>Max Application Rate:</u></b>  <b>CO, IL, IN, KS, KY, MN, MO, MT, ND, NE, NM, OH, OK,</b>  <b>PA, SD, TN, TX, WV and WY</b>  38.85 fl oz  (0.75 lb a.i. Chlorpyrifos/ A)  ( 0.24 lb a.i. Bifenthrin/ A)</p>	



**Restricted Use Pesticide  
MATCH-UP® INSECTICIDE  
EPA REG. NO. 34704-1086**

**Use Restrictions:**

- **DO NOT** make more than 1 application per year of Match-Up Insecticide or other product containing chlorpyrifos.
- **DO NOT** make a foliar chlorpyrifos application if a soil application of chlorpyrifos has already been made on that acre in this calendar year.
- **DO NOT** apply more than 49.2 fluid ounces of this product in a single application in AL, IA, FL, GA, NC, SC, VA and WI based upon a maximum limit of 0.3 pound active ingredient bifenthrin per acre per season. (49.2 fl oz of Match-up Insecticide is 0.95 lb a.i. Chlorpyrifos/A and 0.3 lb a.i. Bifenthrin/A.)
- **DO NOT** apply more than 38.85 fluid ounces of this product per acre in a single application in CO, IL, IN, KS, KY, MN, MO, MT, ND, NE, NM, OH, OK, PA, SD, TN, TX, WV and WY based upon a maximum single application limit of 0.75 pound active ingredient chlorpyrifos per acre. (38.85 fl oz of Match-up Insecticide is 0.75 lb a.i. Chlorpyrifos/A and 0.24 lb a.i. Bifenthrin/A.)
- **DO NOT** allow meat or dairy animals to graze in treated areas or otherwise feed treated soybean forage, hay, and straw to meat or dairy animals.
- **DO NOT** apply within 28 days of harvest.
- Maximum application rates are based on the maximum amount of chlorpyrifos or bifenthrin allowed per year. Application at higher than recommended rates may cause decreased yields, plant injury and/or plant death. If plant injury, death and/or reduced yields cannot be tolerated, do not apply at higher than recommended rates.

**TOBACCO  
(Preplant Soil Application)**

**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.

Apply as a preplant broadcast spray to reduce the feeding damage caused by listed pests. Apply 24 to 48 hours before bedding and transplanting using a spray volume of 10.0 gallons per acre or more. Incorporate immediately after application to a depth of 4 inches using suitable incorporation equipment.

<b>Pest</b>	<b>Rate/A</b>	<b>Use Instructions</b>
Armyworm spp. Cutworm spp. Mole crickets Stalk borers Tobacco flea beetle (larvae) Wireworms White grubs	10.3 to 16.4 fl oz  (0.2 – 0.3 lb a.i. Chlorpyrifos/ A) ( 0.06 – 0.1 lb a.i. Bifenthrin/ A)	Before broadcast application of this product onto existing beds, knock down beds to final shape for transplanting. Use PTO-driven implements that will incorporate this product to a depth of 4 inches.
Aphid spp. Armyworm spp. Chinch bugs Cucumber beetle Cutworm spp. Flea beetle (adults) Grasshoppers Green bugs Japanese beetles Saltwater caterpillar Stink bugs Tarnished plant bugs Thrips Tobacco budworm Tobacco hornworm Whiteflies	6.6 to 16.4 fl oz  (0.13 – 0.3 lb a.i. Chlorpyrifos/ A) (0.04- 0.1 lb a.i. Bifenthrin/ A)	
Lygus spp. Spider mites	16.4 fl oz  ( 0.3 lb a.i. Chlorpyrifos/ A) (0.1 lb a.i. Bifenthrin/ A)	

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- **DO NOT** make more than 1 application of Match-Up Insecticide or other product containing chlorpyrifos per year.
- **DO NOT** apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds).
- **DO NOT** apply directly to, or allow the product to enter sewers or storm drains, or to any area like a drain or gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur.
- **DO NOT** apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment.
- **DO NOT** apply to vertical surfaces directly above pervious or impervious surfaces that drain into ditches, storm drains, gutters, or surface waters.
- **DO NOT** apply or irrigate to the point of runoff.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Handle and open container in a manner as to prevent spillage. If the container is leaking, invert to prevent leakage. If container is leaking or material spilled for any reason or cause, carefully dam up spilled material to prevent runoff. Refer to Precautionary Statements on label for hazards associated with the handling of this material. Do not walk through spilled material. Absorb spilled material with absorbing type compounds and dispose of as directed for pesticides below. In spill or leak incidents, keep unauthorized people away.

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

**CONTAINER HANDLING: Nonrefillable container.** Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at [www.acrecycle.org](http://www.acrecycle.org). If not recycled, then puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

**For packages up to 5 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**For packages greater than 56 gallons:** To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**For refillable containers:** Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC – 1-800-424-9300.**

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**CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND  
LIABILITY**

BEFORE BUYING OR USING THIS PRODUCT, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVELAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

Subject to the foregoing inherent risks, LOVELAND PRODUCTS, INC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use when the product is used in strict accordance with such Directions for Use under normal conditions of use. EXCEPT AS WARRANTED IN THIS LABEL AND TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THIS PRODUCT IS SOLD "AS IS," AND LOVELAND PRODUCTS, INC. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ELIGIBILITY OF THIS PRODUCT FOR ANY PARTICULAR TRADE USAGE.

IN THE UNLIKELY EVENT THAT BUYER OR USER BELIEVES THAT LOVELAND PRODUCTS, INC. HAS BREACHED A WARRANTY CONTAINED IN THIS LABEL AND TO THE EXTENT REQUIRED BY APPLICABLE LAW, BUYER OR USER MUST SEND WRITTEN NOTICE OF ITS CLAIM TO THE FOLLOWING ADDRESS: LOVELAND PRODUCTS, INC., ATTENTION: LAW DEPARTMENT, P.O. BOX 1286, GREELEY, CO 80632-1286.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE BUYER'S OR USER'S EXCLUSIVE REMEDY FOR ANY INJURY, LOSS, OR DAMAGE RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT, INCLUDING BUT NOT LIMITED TO CLAIMS OF BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR OTHER TORTS, SHALL BE LIMITED TO ONE OF THE FOLLOWING, AT THE ELECTION OF LOVELAND PRODUCTS, INC. OR THE SELLER: DIRECT DAMAGES NOT EXCEEDING THE PURCHASE PRICE OF THE PRODUCT OR REPLACEMENT OF THE PRODUCT. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, LOVELAND PRODUCTS, INC. AND THE SELLER SHALL NOT BE LIABLE TO THE BUYER OR USER OF THIS PRODUCT FOR ANY CONSEQUENTIAL, SPECIAL, OR INDIRECT DAMAGES, OR DAMAGES IN THE NATURE OF A PENALTY.

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