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

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

Richard A. Carver
DuPont Crop Protection
P.O. Box 30
Newark, DE 19714-0030

JUN 15 2010

Dear Dr. Carver:

Subject:

Labeling Amendment; Revised Resistance Management Section

Dupont Altacor Insect Control EPA Registration No. 352-730 Submission Date: June 2, 2010

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable. A stamped copy is enclosed for your records. Please submit one (1) final printed copy for the above mentioned label before releasing the product for shipment. If you have any questions regarding this label, please contact Kable Bo Davis at (703) 306-0415 or <a href="mailto:davis.kable@epa.gov">davis.kable@epa.gov</a>.

Sincerely yours,

Venus Eagle

Product Manager (01)

Insecticide-Rodenticide Branch Registration Division (7505P)

Ecegla

**Enclosure-Stamped Label** 



# **DuPont™ Altacor®**

# insect control

with the active ingredient RYNAXYPYR®

ı			
	GROUP	28	INSECTICIDE

ALTACOR® is a water dispersible granule.

Active Ingredient	By Weight
Chlorantraniliprole	
3-Bromo-N-[4-chloro-2-methyl-6-	
[(methylamino)carbonyl]phenyl]-1-	
(3-chloro-2-pyridinyl)-1H-pyrazole-	
5-carboxamide	35.0%
Other Ingredients	65.0%
TOTAL	100.0%
EPA Reg. No. 352-730 EPA Est. No	
Nonrefillable Container	
Net:	
OR	
Refillable Container	
Net:	
E. I. du Pont de Nemours and Company 1007 Market Street Wilmington, DE 19898	

ACCEPTED

Phone: 1-800-441-7515 (Toll Free)

JUN 15 2010

Under the Federal Insecticitie, Fungicide, and Rodenticitie Act, as amended, for the posticide registered under EPA Reg. No. 352-734

# PRECAUTIONARY STATEMENTS KEEP OUT OF REACH OF CHILDREN

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

#### FIRST AID

For questions regarding emergency medical treatment, you may contact 1-800-441-3637 for information.

# HAZARDS TO HUMANS AND DOMESTIC ANIMALS

When used as directed this product does not present a hazard to humans or domestic animals.

#### PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear: Long-sleeved shirt and long pants.

Shoes plus socks.

After the product has been diluted in accordance with label directions for use, shirt, pants, socks, and shoes are sufficient Personal Protective Equipment. Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

### **USER SAFETY RECOMMENDATIONS**

**USERS SHOULD:** Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### **ENVIRONMENTAL HAZARDS**

This pesticide is toxic to aquatic invertebrates, oysters, and shrimp. Do not apply directly to water. Drift and runoff may be hazardous to aquatic organisms in water adjacent to use sites.

Surface Water Advisory-

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water. This product is classified as having high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of chlorantraniliprole from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours..

Ground Water Advisory-

This chemical has properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

#### **DIRECTIONS FOR USE**

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

#### RESTRICTIONS

- Use this product only in commercial and farm plantings.
- Not for use in home plantings.
- Not for use on ornamental plants or plants being grown for ornamental purposes.
- May be used on crops on this label grown for seed production.
- Do not use in greenhouses.
- Do not apply DuPont<sup>TM</sup> ALTACOR® through any irrigation system unless specified in the crop section of this label or in supplemental labeling.

# New York State Only:

The following restrictions are required to permit use of ALTACOR® Insect Control in the State of New York:

- This product may not be applied within 100 feet of a water body (lake, pond, river, stream, wetland, or drainage ditch).
- Aerial application of this product is prohibited.
- Not for sale, sale into, distribution and/or use in Nassau, Suffolk, Kings, and Queens counties of New York State.

### AGRICULTURAL USE REQUIREMENTS

ALTACOR® insect control must be used 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 the label about personal protective equipment, restricted-entry interval, and notification to workers (as applicable).

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 State or Tribal agency responsible for pesticide regulation.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

For early entry into 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, wear:

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

ALTACOR® insect control must be used only in accordance with directions on this label or in separate DuPont supplemental labeling that may be made temporarily available through local distributors, as a result of new EPA approvals. DuPont will not be responsible for losses or damages

resulting from use of this product in any manner not specifically stated on this label or other labels or bulletins published by DuPont. User assumes all risks associated with such nonspecified use.

ALTACOR® insect control is a water dispersible granule that can be applied as a foliar spray, using ground or aerial application to control listed insects. ALTACOR® is mixed with water for application.

ALTACOR® is a member of the anthranilic diamide class of insecticides with a novel mode of action acting on insect ryanodine receptors. Although ALTACOR® has contact activity, it is most effective through ingestion of treated plant material. After exposure to ALTACOR®, affected insects will rapidly stop feeding, become paralyzed, and typically die within 1 - 3 days. Time applications to the most susceptible insect pest stage, typically at egg hatch and/or newly hatched larvae, before populations reach damaging levels. For best results, applications must be made at or before egg deposition

#### INTEGRATED PEST MANAGEMENT

DuPont supports the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an IPM program, which can include biological, cultural, and genetic practices, aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, rotation of insecticides with different modes-of-action, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop or site systems in your area

#### **SCOUTING**

Monitor insect populations to determine whether or not there is a need for application of ALTACOR® based on locally determined economic thresholds. More than one treatment of ALTACOR® may be required to control a population of pests.

#### RESISTANCE MANAGEMENT

For resistance management, ALTACOR® is a Group 28 Insecticide. Repeated and exclusive use of ALTACOR® (chlorantraniliprole, belonging to the anthranilic diamide class of chemistry), or other Group 28 Insecticide may lead to the buildup of resistant strains of insects in some crops.

Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, this product may be used as part of resistance management strategies established for the use area. These strategies may include incorporation of cultural and biological control practices, alternation of mode-of-action classes of insecticides on succeeding generations and targeting the most susceptible life stage. Consult your local or state agricultural authorities for details.

Unless directed otherwise in the specific crop/pest sections of this label, the best practices are to follow these instructions to delay the development of insecticide resistance. Apply DuPont<sup>TM</sup> ALTACOR® or other Group 28 insecticides using a "treatment window" approach to avoid exposure of successive insect pest generations to the same mode of action. A "treatment window" is defined as the period of residual activity provided by single or sequential applications of products with the same mode of action. This "treatment window" should not exceed approximately the length of one generation of the target pest.

Within the "Group 28 treatment window", make no more than 3 applications of ALTACOR® or other Group 28 insecticides within a single generation of the target pest on a crop.

Following a "Group 28 treatment window", rotate to a treatment window of effective products with a different mode of action. This "Non-Group 28 Window" should approximate the duration of one generation of the target pest.

Target the most susceptible insect life stages, whenever possible.

If resistance to ALTACOR® develops in your area, ALTACOR® or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternate method of control for your area. For additional information on insect resistance monitoring, visit the Insecticide Resistance Action Committee (IRAC) on the web at http://www.irac-online.org.

#### **APPLICATION**

Apply at the specified rates when insect populations reach locally determined economic thresholds. Consult the cooperative extension service, professional consultants or other qualified authorities to determine appropriate threshold levels for treatment in your area.

Apply follow-up treatments of ALTACOR®, as specified, to keep pest populations within threshold limits. Refer to the Resistance Management section of this label for further guidance on follow-up treatments. See individual crop sections of this label for specific minimum spray interval.

Use sufficient water to obtain thorough, uniform coverage. Because ALTACOR® is most effective through ingestion of treated plant material, thorough spray coverage is essential for optimum control of targeted pest insects. Using increased water volumes will typically result in better spray coverage, especially under adverse conditions such as dry, hot weather or dense plant foliage. Apply ALTACOR® using ground or aerial application equipment. For ground application use the following directions unless otherwise specified in separate crop sections of this label: use a minimum of 30 gallons per acre (gpa) of water. For aerial application use the following directions unless otherwise specified in this label: use a minimum of 10 gallons per acre (gpa) of water. For potato and cotton: for aerial application use a minimum of 5 gallons per acre (gpa) of water; for ground application use a minimum of 10 gallons per acre of water.

In some situations where coverage is difficult to achieve such as closed canopy, dense foliage, plants with waxy leaf surfaces, or less than optimum application equipment, an adjuvant may improve performance. Use only adjuvant

products that are labeled for agricultural use and follow the directions on the manufacturer's label. Always conduct a premix test for compatibility. Use a proven adjuvant that does not affect foliage and/or fruit finish. Refer to specific crop sections of this label for additional adjuvant guidance.

Use of adjuvants is restricted on cotton and prickly pear cactus - see those specific crop instructions in the following crop tables.

#### CROP ROTATION

Crops on this label and the following crops or crop groups may be planted immediately following harvest: Artichoke; Asparagus; Brassica (Cole) Leafy Vegetables (Crop Group 5); Corn (field, pop, seed, and sweet); Cucurbit Vegetables (Crop Group 9); Forage, Fodder, and Straw of Cereal Grains (Crop Group 16); Fruiting Vegetables (Crop Group 8); Grass Forage, Fodder and Hay (Crop Group 17); Herbs subgroup (Crop Group subgroup 19A); Hops; Leafy Vegetables (nonbrassica, Crop Group 4); Legume Vegetables except soybean (Crop Group 6); Foliage of Legume Vegetables except soybean (Crop Group 7); Spearmint, Peppermint, Nongrass Animal Feeds (Forage, Fodder, Straw, and Hay Crop Group 18); Okra; Peanuts; Protected Seed Oilseeds (hare's-ear mustard, jojoba, lesquerella, unaria, mustard seed, oil radish, poppy seed, rapeseed/canola, rose hip, sesame, tallowwood, tea oil plant); Rice; Root and Tuber Vegetables (Crop Group 1): Spice subgroup (Crop Group subgroup 19B); Strawberries: Sugarcane; Tobacco: and Tops of Root and Tuber Vegetables (Crop Group 2).

The following crops or crop groups may be planted 30 days following the last application of ALTACOR®: garlic, greatheaded garlic, dry bulb onion, leek, green onion, Welsh onion, shallot, Cereal Grains (Crop Group 15), soybean.

All other crops cannot be planted until 12 months after the last application of ALTACOR®.

#### SPRAY PREPARATION

Spray equipment must be clean and free of previous pesticide deposits before applying ALTACOR®. Fill spray tank 1/4 to 1/2 full of water. Add ALTACOR® directly to spray tank. Mix thoroughly to fully disperse the insecticide; once dispersed continued agitation is required. Use mechanical or hydraulic means; do not use air agitation. Do not store spray mix solutions overnight in spray tank. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

Compatibility - Since formulations may be changed and new ones introduced, premix a small quantity of a desired tank mix and observe for possible adverse changes (settling out, flocculation, etc.). Avoid mixtures of several materials and very concentrated spray mixtures.

This product can be mixed with pesticide products labeled for use on crops on this label in accordance with the most restrictive of label limitations and precautions. Do not exceed labeled dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing.

**Tank Mixing Sequence** -Add different formulation types in the sequence indicated below\*. Allow time for complete mixing and dispersion after addition of each product.

- 1. Water soluble bag.
- DuPont<sup>TM</sup> ALTACOR® and other water dispersible granules.
- 3. Wettable powders.
- 4. Water based suspension concentrates
- 5. Water-soluble concentrates.
- 6. Oil based suspension concentrates.
- 7. Emulsifiable concentrates.
- 8. Adjuvants, surfactants, and oils
- 9. Soluble fertilizers.
- 10. Drift retardants.
- \* Unless otherwise specified by manufacturer directions for use or by local experience.

	Insects	DuPont™ ALTACOR® Rate Per Acre		Last Application	REI	
Crops		Lbs. A.I.	Ounces Product	Days to Harvest	(Hours)	
Banana/Plantain	Leafrollers	0.066 - 0.099	3.0 - 4.5	1	4	
	Make no more than 3 applications per season. Do not apply more than 9 oz ALTACOR® or 0.2 lbs a.i. of chlorantraniliprole containing products per acre per crop per season.  The minimum interval between treatments is 10 days.  Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage.  Do not apply dilute applications of more than 200 gal water per acre. Do not apply less than 30 gal water per acre. For best results apply 100 - 150 gal water per acre.					
Caneberry subgroup [Berry and small	Omnivorous leafroller Raspberry crown borer	0.066 - 0.099	3.0 - 4.5	3		
fruit crop group]: Blackberry; loganberry: red and black raspberry cultivars and/or hybrids of these	Make no more than 3 application chlorantraniliprole containing pure the minimum interval between Spray Volume: Thorough cover for the size of trees or plants and Do not apply dilute application acre. For best results apply 100	products per acre per creatments is 14 days. crage is essential to ach d density of foliage. s of more than 200 gal	op per season.  ieve best results. Select  water per acre. Do not a			
Small fruit vine climbing subgroup	Omnivorous leafroller Raspberry crown borer	0.066 - 0.099	3.0 - 4.5	1		
(except fuzzy kiwifruit): Amur river grape: gooseberry; kiwifruit, hardy; maypop; schisandra berry; cultivars, varieties, and/or hybrids of these	Make no more than 3 application chlorantraniliprole containing properties. The minimum interval between Spray Volume: Thorough cover Select a spray volume appropriation acre. For best results apply 100	products per acre per cr treatments is 7 days. trage is essential to ach ate for the size of trees s of more than 200 gal	op per season. heve best results. or plants and density of water per acre. Do not a			
Cacao	Cacao pod borer	0.066 - 0.099	3.0 - 4.5	1		
	Make no more than 3 applications per season. Do not apply more than 9 oz ALTACOR® or 0.2 lbs a.i. of chlorantraniliprole containing products per acre per crop per season.  The minimum interval between treatments is 7 days.  Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage.  Do not apply ditute applications of more than 200 gal water per acre. Do not apply less than 30 gal water per acre. For best results apply 100 - 150 gal water per acre.					
Citrus: Calamondin; citrus citron;	Citrus leafminer Citrus peelminer Omnivorous leafroller	0.066 - 0.099	3.0 - 4.5	l		
citrus hybrids (includes chironja, tangelo, tangor); grapefruit; kumquat; lemon; lime; mandarin (tangerine); orange, sour; orange, sweet; pummelo; Satsuma mandarin	Make no more than 3 applications per season. Do not apply more than 9 oz ALTACOR® or 0.2 lbs a.i. of chlorantraniliprole containing products per acre per crop per season.  The minimum interval between treatments is 7 days.  Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage.  Do not apply less than 30 gal water per acre.  For best results apply 100 -150 gal water per acre.  Where higher spray volumes are used, apply a higher ALTACOR® rate in the specified rate range.					
Coffee	Coffee leafminer	0.066 - 0.099	3.0 - 4.5	7		
	Make no more than 3 applications per season. Do not apply more than 9 oz ALTACOR® or 0.2 lbs a.i. of chlorantraniliprole containing products per acre per crop per season.  The minimum interval between treatments is 14 days.  Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage.  Do not apply dilute applications of more than 200 gal water per acre. Do not apply less than 30 gal water per acre. For best results apply 100 - 150 gal water per acre.					
Figs	Navel orangeworm	0.066 - 0.099	3.0 - 4.5	1		
	Make no more than 3 applications per season. Do not apply more than 9 oz ALTACOR® or 0.2 lbs a.i. of chlorantraniliprole containing products per acre per crop per season. The minimum interval between treatments is 7 days.  Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage.  Do not apply dilute applications of more than 200 gal water per acre. Do not apply less than 30 gal water per acre. For best results apply 100 - 150 gal water per acre.				·	

		1	ALTACOR® Per Acre	Last Application	REI
Crops	Insects	Lbs. A.I.	Ounces Product	Days to Harvest	(Hours)
Grape	Grape berry moth Grape leaffolder	0.044 – 0.099	2.0 - 4.5	14	4
	Climbing cutworm European grapevine moth Omnivorous leafroller Western grapeleaf skeletonizer	0.066 – 0.099	3.0 – 4.5		
	Do not apply more than 9 oz A per crop per season.  Make no more than 4 application the minimum interval between Spray Volume: Thorough cover for the size of trees or plants an Do not apply less than 30 gal where higher spray volumes and the size of the size of trees or plants and poly logothers.	ons per season. treatments is 7 days. rage is essential to ach d density of foliage. rater per acre. gal water per acre.	nieve best results. Select	a spray volume appropriate	
Olives	American plum borer European grapevine moth	0.066 - 0.099	3.0 - 4.5	1	
	Make no more than 3 application chlorantraniliprole containing processing the minimum interval between Spray Volume: Theorough cover for the size of trees or plants and Do not apply dilute application acre. For best results apply 100	products per acre per c treatments is 7 days. trage is essential to ac d density of foliage. s of more than 200 ga	rop per season. hieve best results. Selec I water per acre. Do not a	t a spray volume appropriate	
Persimmons	Leafrollers	0.066 - 0.099	3.0 - 4.5	l l	
	Make no more than 3 application chlorantraniliprole containing pure The minimum interval between Spray Volume: Thorough cover for the size of trees or plants and Do not apply dilute application acre. For best results apply 100	products per acre per c treatments is 7 days. trage is essential to ac d density of foliage. s of more than 200 ga	rop per season. hieve best results. Select I water per acre. Do not a	t a spray volume appropriate	
Pome Fruits Including Apple;	East of the Rocky Mountains Green fruitworm Spotted tentiform leafminer	0.055 - 0.088	2.5 - 4.0	5 (except Mayhaw	
Crabapple; Loquat; Mayhaw; Pear; Pear, oriental; Quince	Apple maggot* Codling moth** Eastern apple sawfly European corn borer Obliquebanded leafroller*** Oriental fruit moth Plum curculio* Redbanded leafroller Tufted apple bud moth Variegated leafroller White apple leafhopper*	0.055 - 0.099	2.5 - 4.5	which is 14)	
	West of the Rocky Mountains Green fruitworm Spotted tentiform leafminer	0.055 - 0.088	2.5 - 4.0		
	Apple maggot* Codling moth** Eastern apple sawfly European corn borer Obliquebanded leafroller*** Oriental fruit moth Plum curculio* Redbanded leafroller Tufted apple bud moth Variegated leafroller White apple leafhopper*	0.066 - 0.099	3.0 - 4.5		
	is 10 days.  Spray Volume: Thorough cove for the size of trees and density Do not apply dilute applications water per acre.	roducts per acre per c crage is essential to ac of foliage. s of more than 200 gal	rop per season. The mini hieve best results. Select water per acre. For bes	inium interval between treatmen a spray volume appropriate	S
	Do not apply less than 30 gal water per acre by ground.  * Suppression only.  ** Codling Moth Larvae  Application Timing: For each generation, make first application prior to egg hatch. Each application provides 10 to 17 days of protection depending on intensity of codling moth pressure and rate of fruit growth. Use pheromone trap catches, and local degree day based spray timing advisories to determine the development of each generation.  Apples - West of the Rocky Mountains: Use the 3.0 oz/acre rate for low pressure infestations and make repeat applications on a 14 day schedule. For high pressure infestations or for orchards with a history of significant codling moth damage, apply ALTACOR® at 4.0 to 4.5 ounces per acre. Make repeat applications on a 10 to 17 day schedule. For best results in high pressure orchards, use a				
cont'd next page	comprehensive managemen applications at high labeled			ed by properly timed larvacide	

		i .	ALTACOR® er Acre	Last Application	REI			
Crops	Insects	Lbs. A.I.	Ounces Product	Days to Harvest	(Hours)			
Pome fruits cont'd	retreatment schedule is cons Pears - West of the rocky infestations use the 3.0 oz ra For high pressure infestation ALTACOR® at 4.0 to 4.5 o ***Obliquebanded Leafroller For overwintering larvae, ap For summer generation appl	sistent with the period Mountains: Apply AL ate. as or for orchards with z/acre. by just prior to or at the however, during period however, during period.	of effectiveness for each TACOR® on a 14 to 17 a history of significant of the top to be to be the top	day schedule. For low pressure codling moth damage, apply	4			
Pomegranates	Navel orangeworm Omnivorous leafroller	0.066 - 0.099	3.0 - 4.5	1				
	Make no more than 3 applications per season. Do not apply more than 9 oz ALTACOR® or 0.2 lbs a.i. of chlorantraniliprole containing products per acre per crop per season.  The minimum interval between treatments is 7 days.  Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage.  Do not apply dilute applications of more than 200 gal water per acre. Do not apply less than 30 gal water per acre. For best results apply 100 - 150 gal water per acre.							
Prickly Pear Cactus	Prickly pear moth  Do not use an adjuvant with ap	0.066 - 0.099	3.0 - 4.5 )R@	1				
	Make no more than 3 application chlorantraniliprole containing p	ons per season. Do not	apply more than 9 oz Al	LTACOR® or 0.2 lbs a.i. of				
Stone Fruits Including Apricot; Cherry, sweet; Cherry, tart; Nectarine; Pecach; Plum; Chickasaw;	Cherry fruit fly* Codling moth Katydid (nymphs) Obliquebanded leafroller Omnivorous leaf roller Oriental fruit moth Peach twig borer** Tufted apple bud moth Make no more than 3 application	0.066 - 0.099	3.0 - 4.5	10				
Plumeot; Prune (fresh)	(7-10 days) spray program.  Do not apply dilute applications of more than 200 gal water per acre. For best results apply 100-150 gal water per acre.  Do not apply less than 30 gal water per acre by ground.  * Suppression only.  ** Peach twig borer - ALTACOR® may be used throughout the growing season, however for dormant through delayed dormant applications: Use higher rates for dormant application and lower rates for delayed dormant. Applications may be made with an EPA registered dormant oil; for specific directions on use of oil consult manufacturer's label. For best performance, apply using ground equipment.  For "May spray" applications to the summer generation: Make applications at peak moth flight (timed at or before peak egg lay). Higher rates in the labeled rate range may be needed for high infestations levels and large, dense foliage trees.							
Free Nuts	Hickory shuckworm Pecan nut casebearer	0.044 - 0.099	2.0 – 4.5	10				
Almond; Beech nut; Brazil nut; Butternut; Cashew;	Codling moth Navel orange worm Oblique banded leafroller Oriental fruit moth Peach twig borer	0.066 – 0.099	3.0 – 4.5					
Chestnut; Chinquapin; Filbert (hazelnut); Hickory nut; Macadamia (bush) nut; Pecan; Pistachio; Walnut, black and English (Persian)	Make no more than 4 application Do not apply more than 9 oz Alper crop per season. Spray Volume: Thorough cover for the size of trees or plants an Do not apply less than 30 gal whose the size of trees or plants an Do not apply less than 30 gal whose the size of trees or plants an Do not apply less than 30 gal whose the size of trees or plants an Do not apply less than 30 gal whose the minimum interval between Codling moth – (Walnut) Mak Depending on level of infestation application equipment to achiev Navel orange worm (Hullsplit second application approximate higher rates in the labeled rate in Peach twig borer – ALTACO applications: ALTACOR® may recommendations on use of oil, regarding the use of oils in tree thorough uniform coverage of early to mid-dormant timing. Peach twig borer - For spring (just prior to bud break) to early applications at peak moth flight	LTACOR® or 0.2 lbs rage is essential to ach d density of foliage. ader per acre. gal water per acre. e used, apply a higher treatments is 7 days. e initial application at on reapply 14-21 days we thorough coverage application timing) – bly 10 – 14 days later. range and multiple app R® may be used throu be tank mixed with a consult manufacturer nut crops. For best peull scaffolds and limbs application to overwing bloom. For "May sp	ALTACOR® rate in the or before peak egg lay f later as needed. Use hig Make an application at 1 Depending on level of polications may be needed ighout the growing season EPA registered dorma is EPA registered dorma is performance apply with good the contraction of the second ray" applications to the second research of the second ray" applications to the second ray a	a spray volume appropriate e specified rate range. or targeted generation. her rates and ground  -5% hull-split timing; make a est infestation, use of . n, however for dormant nt oil; for specific recautions and restrictions round equipment to achieve nended for applications made at e application at late dormant summer generation: Make				

		DuPont™ ALTACOR® Rate Per Acre		Last Application	REI	
Crops	Insects	Lbs. A.I.	Ounces Product	Days to Harvest	(Hours)	
Fropical fruits:	Leafrollers Leafminers	0.066 - 0.099	3.0 - 4.5	1*	4	
atemoya; avocado; biriba; black sapote; canistel; cherimoya; custard apple ilama; reijoa; guava; aboticaba; ongan; ychee; namey sapote; nango; papaya;	Make no more than 3 applications per season. Do not apply more than 9 oz ALTACOR® or 0.2 lbs a.i. of chlorantraniliprole containing products per acre per crop per season.  Spray Volume: Thorough coverage is essential to achieve best results. Select a spray volume appropriate for the size of trees or plants and density of foliage.  The minimum interval between treatments is 10 days. Do not apply dilute applications of more than 200 gal water per acre. Do not apply less than 30 gal water per acre. For best results apply 100 - 150 gal water; per acre.  *Except acerola, jaboticaba, lychee, papaya and passionfruit; Last application days to harvest for acerola, jaboticaba, lychee, papaya and passionfruit is 10 days.					
passionfruit; pineapple; poulasan; rambutan; sapodilla; soursop; Spanish lime; star apple; starfruit; sugar apple; wax jambu; add White sapote (Casimiroa), and other cultivars and/or hybrids of these.						
Cotton	Beet armyworm Cotton bollworm** Fall armyworm Saltmarsh caterpillar Southern armyworm Tobacco budworm**	0.044 - 0.088	2.0 – 4.0	21		
	Cabbage looper Soybean looper*	0.066 - 0.099	3.0 – 4.5			
	Do not use an adjuvant with applications of ALTACOR®.  Make no more than 4 applications per acre per crop.  Do not apply more than 9 oz ALTACOR® or 0.2 lbs a.i. of chlorantraniliprole containing products per acre per crop.  The minimum interval between treatments is 5 days.  * Suppression only.  ** For Heliothine control (cotton bollworm and/or tobacco budworm) make the first application at rates of 0.066 - 0.088 lb. ai per acre (3.0 - 4.0 oz product). Subsequent applications can be at rates of 0.044 - 0.088 lb ai per acre (2.0 - 4.0 oz product) depending on pest pressure.					
Potato	Beet and Yellowstriped Armyworms Cabbage looper Colorado potato beetle European corn borer Potato tuberworm	0.044 - 0.066	2.0 – 3.0	14		
cont'd next page	Do not apply more than 9 oz ALTACOR® or 0.2 lbs a.i. of chlorantraniliprole containing products per acre per crop.  The minimum interval between treatments is 5 days.  Make no more than 4 applications per acre per crop.  Colorado potato beetle resistance management: Do not apply ALTACOR® more than twice to a generation of Colorado potato beetle or within any 30 day period. Application(s) to the next generation of Colorado potato beetle must be with an effective product with a different mode of action. Do not apply ALTACOR® more than once to Colorado potato beetle via overhead chemigation.  Potato tuberworm: ALTACOR® may be applied at rates of 2.0 - 3.0 oz per acre to control potato tuberworm. Begin application when field scouting indicates the presence of tuberworm adults and/or larvae. Potato tuberworm often have overlapping generations so repeat applications of ALTACOR® may be needed based on field scouting. Avoid treating successive generations with the same mode of action. It is important to protect the crop just prior to harvest when foliage starts to senesce. Use the high rate of ALTACOR® where potato tuberworm pressure is high. Failure to adequately control potato tuberworm larvae prior to crop senescence or vine kill increases the risk of tuber damage. Foliar sprays alone, by air or ground, may not provide adequate control of larvae in the mid to lower crop canopy. For best results, apply via overhead chemigation or integrate chemigation applications into the foliar sprays alone, by air or ground, may not provide adequate control of larvae in the mid to lower crop canopy. For best results with foliar sprays, add Methylated Seed Oil (MSO) adjuvant at 1 gallon per 100 gallons of spray volume (1% v/v). For chemigation applications, apply in 0.1 to 0.2 acre inches of water and add MSO at 12 to 16 fl oz/acre.  ALTACOR® may be applied to potatoes via overhead sprinkler chemigation Systems.  Instructions for the Use of ALTACOR® in Overhead Sprinkler Chemigation Systems.  Types of Chemigation Systems: ALTACOR®					

		1	TM ALTACOR® e Per Acre	Last Application	REI
Crops	Insects	Lbs. A.I.	Ounces Product	Days to Harvest	(Hours)
Potato Cont'd	Directions for Chemigation:  Preparation  A pesticide tank is recommend. Thoroughly clean the injection clean-out procedure. Dispose of tank 1/4 to 1/2 full with water and add it to the tank. Then advolume for your application. Note in a dry tank or other mixing section of the container label for application process. Use mech Injection Into Chemigation Surjection Into Chemigation Surjection pump. Injection show mixing with the irrigation water ALTACOR® into the irrigation Apply in no more than 0.2 included the solution containing AL of water per acre.  Uniform Water Distribution The irrigation system used for ALTACOR® treated water. Nor illegal pesticide residues in uniformly distribute the chemilocal University Extension age distribution of the application. Equipment Calibration  Calibrate the irrigation system while the system is running us you should contact your state of Monitoring of Chemigation Af A person knowledgeable of the supervision of a responsible pet the need arise. Wear the person applicators and other handlers ALTACOR® is in the irrigation spesticide label-prescribed safet provision to the public of piper connections or regularly serves. ALTACOR® is in the irrigation spesticide label-prescribed safet provision to the public of piper connections or regularly serves. The system must contain a fappropriately located on the intended the connections of the provision to the public of piper connections or regularly serves. The system must contain a fappropriately located on the intended that nozal the injection pump when the water pump motor when the water pump motor when the water pump motor when the water pump and sprin starting the injection systems connected (air gap) between the out of at least twice the inside dian Operation  Start the water pump and sprin starting the injector. Start the insolve. This procedure is necessapplication is finished, allow the before stopping the system.  • End guns must be turned off provide uniform application and tit is recommended that nozzland system safety devi	led for the application system and tank of any residues in act and the agitator rund additional water to lote: Always add the equipment without or tank mixing sequanical or hydraulic as systems.  TACOR® into the lid occur at a point in the residues in the residue of water per acr. TACOR® to the interior of the injection public water of the injection of the injection of the injection public water of the injection public water of the injection public water of the injection of the injection interior of the interior of the interior of the injection water interior of the interior of the injection of the i	on of ALTACOR® in cheme any fertilizer or chemical many fertilizer or chemical fertilizer or	deral laws. With the mix amount of ALTACOR® mixture up to the desired ver put ALTACOR® nk Mixing Sequence" e mixture throughout the ation.  a positive displacement flow to ensure thorough solution containing out the irrigation cycle. stems that are stationary, y no more than 0.2 inches inform distribution of y, lack of effectiveness on system is calibrated to pment manufacturer, the achieving uniform  librate the injection pump estions about calibration, acturer or other experts.  eration, or under the essary adjustments should section of the label for emigation system when the water system unless the ans a system for the mas at least 15 service of days out of the year. Iow pressure drain nination from backflow.—closing check valve to cosed, solenoid-operated stem interlock to prevent seither automatically or shut off the pesticide in which will stop the cide distribution is on pump (e.g. diaphragm with pesticides and actional, reduced-pressure obly line upstream from the ablic water system should be a complete physical rim of the reservoir tank sure and speed before ding to the directions form manner. When the proughly flushed clean it areas or if they do not so, chemical supply tanks itment.  ot provide uniform	(Hours)  4

## SPRAY DRIFT MANAGEMENT

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

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

#### IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage.

APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS!

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

#### Controlling Droplet Size - General Techniques

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

**Pressure** -Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHERCAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.

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

#### Controlling Droplet Size - Aircraft

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

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

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

# Do not apply as a ULV application.

#### **BOOM LENGTH AND HEIGHT**

**Boom Length (aircraft)** -The boom length must not exceed 3/4 of the wing length; using shorter booms decreases drift potential. For helicopters use a boom length and position that prevents droplets from entering the rotor vortices.

**Boom Height (aircraft)** -Application more than 10 ft above the canopy increases the potential for spray drift.

**Boom Height (ground)** - Setting the boom at the lowest height, which provides uniform coverage, reduces the exposure of droplets to evaporation and wind. The boom should remain level with the crop and have minimal bounce.

#### WIND

Drift potential increases at wind speeds of less than 3 mph (due to variable direction and inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. DO NOT APPLY DURING GUSTY OR WINDLESS CONDITIONS.

**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 hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

#### SURFACE TEMPERATURE INVERSIONS

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

# SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

#### TREE AND VINE SPRAYERS

Air assisted tree and vine sprayers carry droplets into the canopy of trees and vines via a radially or laterally directed air stream.

In addition to the general drift management principles already described, the following specific practices will further reduce the potential for drift:

- Adjust deflectors and aiming devices so that spray is only directed into the canopy.
- Block off upward pointed nozzles when there is no overhanging canopy.
- Use only enough air volume to penetrate the canopy and provide good coverage.
- Movement of spray that goes beyond the edge of the cultivated area may be minimized by practices such as spraying the outside row only from outside the planting.

## **SPRAY TANK CLEANOUT**

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.

Drain spray equipment. Thoroughly rinse sprayer and flush hoses, boom and nozzles with clean water.

Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation. Dispose of waste rinse water in accordance with local regulations.

# STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Do not subject to temperatures below 32 degrees F. Store product in original container only in a location inaccessible to children and pets. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

**PESTICIDE DISPOSAL:** Do not contaminate water, food or feed by storage or disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility

CONTAINER HANDLING: Refer to the Net Contents section of this product's labeling for the applicable "Refillable Container" or "Nonrefillable Container" designation.

For Small (Capacity Equal to or Less Than 50 Pounds) Nonrefillable Plastic Containers:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows:
Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke

For Large (Capacity Greater Than 50 Pounds) Nonrefillable Plastic Containers: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

For All Refillable Containers: Refillable container. Refill this container with chlorantraniliprole 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. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. Check for leaks after refilling and before transporting. Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact DuPont at 1-800-441-3637, day or night.

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