

## **APPENDIX 1-5: Commitment Letters from Chlorpyrifos Registrants**

The Agency has received 25 commitment letters from chlorpyrifos registrants<sup>1</sup>. In most cases these commitment letters confirm what is presented in the master use table (see **APPENDIX 1-3**; which was also used as the master use table for the Agency's 2014 chlorpyrifos human health risk assessment). In a few cases the commitment letter indicates a clarification to a use(s) on the master use table. These clarifications have been incorporated into the master use table provided in **APPENDIX 1-3**.

Attached to this appendix are commitment letters from the following registrants (they are attached in the order presented here):

- ADAMA
- AMVAC Chemical Corp.
- The Andersons Inc. (Andersons Lawn Fertilizer Division, Inc.)
- ARCANA, LLC
- BASF, Corp.
- Bayer CropScience (2 letters)
- Central Garden & Pet Co.
- Cheminova, Inc.
- Clarke Mosquito Control Products, Inc.
- Control Solutions, Inc.
- Dow AgroSciences
- Direct AG Source, LLC
- Drexel Chemical Company
- Gharda Chemicals Limited
- Gil Manufacturing Inc.
- Insecta Marketing, Inc.
- Kaizen Technologies, LLC
- Liberty Crop Protection LLC
- Loveland Products, Inc.
- Nufarm Americas Inc.
- Rainbow Technology Corp.
- Southern Agricultural Insecticides, Inc.
- Tide International USA, Inc.
- Winfield Solutions, LLC
- Y-TeX Corp.

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<sup>1</sup> As of Nov. 16, 2015, EPA has not received commitment letters from the following chlorpyrifos registrants: FMC Corporation, Universal Crop Protection Alliance, Chemisco, and Lesco, Inc.



February 25, 2015

Registration Review Committee  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 S. Crystal Drive  
Arlington, VA 22202

Subject: Chlorpyrifos: Commitment to Revise Labels

Dear Mr. Wolf,

As part of the registration review process for chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all chlorpyrifos product labels. To address the concerns raised by the agency, ADAMA is proposing to revise the labels to clarify the use patterns.

This letter is to confirm ADAMA's commitment to implementing the proposed revisions to the labels. ADAMA will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

Please see attached for chlorpyrifos proposed label changes. These changes will be used to amend the following registrations: 66222-233, 66222-18, 66222-19, 66222-3, 11678-59.

Please email me at [laura.phelps@us.adama.com](mailto:laura.phelps@us.adama.com) or phone me at (919) 265-9329 if you have any questions.

Sincerely,

*Laura Phelps*



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**Table 1. Chlorpyrifos Use Summary**

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
<b>AGRICULTURAL FARM PREMISES</b>  Livestock housing and holding areas (such as hog barns, empty chicken houses, dairy areas, milkrooms, calf hutches, calving pens and parlors).		✓		Indoor general surface spray	backpack sprayer; high and low sprayer (pressure or volume)	0.075 lb a.i./1000 ft sq  1.2 EC, ME	[14.4] NS	NA	12	NA	NA	NS	NS		Only permitted for use in poultry houses
<b>ALFALFA</b>		✓		At plant	groundboom	1.0 G	1.0	1.0	[1] NS	1	21	24	[10] NS	Missouri only	Lower PHI permitted for EC rates 0.33 lb a.i./A (7 d) and 0.67 lb a.i./A (14 d) e.g. Reg. No. 62719-591  Stand is in production 3-5 years. Planted ¼” to ½” deep.
		✓		Foliar	aerial or ground/broadcast, chemigation	1.0 EC	[4.0] NS	4.0	[4] NS	4	21	24	10		Lower PHI permitted for EC rates 0.33 lb a.i./A (7 d) and

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															0.67 lb a.i./A (14 d) <i>e.g.</i> , Reg. No. 62719-591  Multiple harvests (or cuttings) per year when used for feed/fodder and 1 harvest per year when grown for seed. Cuttings occur about every 30 days. Only 1 crop cycle per year but up to 9 cuttings, varies by geography.
				<b>Total</b>		<b>1.0</b>	<b>5.0</b>	<b>5.0</b>	<b>[5] NS</b>	<b>5</b>	<b>21</b>	<b>24</b>	<b>[10] NS</b>		Represents Missouri scenario otherwise 4.0 lb a.i./A per is max.
<b>ALMOND</b>		✓		<b>dormant/ delayed dormant;</b> broadcast	aircraft, airblast	2.0 WDG, WP	2.0	NA	1	NA	NA	24	10	Restricted use in California.	
		✓		<b>foliar;</b>	aircraft, airblast	2.0	6.0	NA	3	NA	14		10		

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
				broadcast		WDG,WP									
		✓		pre-plant, foliar; <b>trunk spray/drench or pre- plant dip</b>	handheld, backpack, drench/dip, handgun, and low pressure hand wand	2.5 (3.0/100 gal) WDG	2.5	NA	1	NA	14		NS		
		✓		Dormant/ delayed dormant; foliar; <b>orchard floors broadcast</b>	ground boom, handgun, chemigation	4.0 EC*	4.0	NA	2	NA	14		10	Restricted use in California. Only one dormant application can be made.	
				<b>Total</b>	--	<b>4.0</b>	<b>14.5</b>	<b>NA</b>	<b>7</b>	<b>NA</b>	<b>14</b>		<b>NS</b>		Excludes nursery applications (See general “Fruits” listing)
APPLE		✓		<b>dormant/ delayed dormant; broadcast</b>	aircraft, airblast	2.0 EC 2.0 WDG 1.5 WP	2	2.0	1	1	NA	24/ 4 d	10d		Reflects spray drift mitigation measures.
		✓		pre-plant, foliar; <b>trunk spray/drench or pre- plant dip;</b>	handheld, backpack, drench/dip, handgun, and low pressure hand wand	1.5 (1.5 lb ai/100 gal) WDG	1.5	NA	1	1	28	4d	NS	Use permitted in states east of the Rockies except Mississippi.	

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
				ground											
				<b>Total</b>		<b>2.0</b>	<b>3.5</b>		<b>2</b>						
<b>ASPARAGUS</b>		✓		Foliar, pre-harvest; broadcast	aircraft, ground boom	1.0 EC, WDG	1.0	1.0	1	1	1	24	10		
		✓		Postharvest, broadcast	aircraft, ground boom	1.0 EC, WDG	2.0	2.0	2	1	1	24	10		
					granular soil band treatment ground boom	1.5 G	3.0	3.0	2	2	180	24	[10] NS	Permitted in California, the Midwest, and the Pacific Northwest 19713-505, 19713-521, 5481-525, 62719-34, 83222-34	Do not apply more than 3.0 lb a.i./A between harvests.
				<b>Total</b>		<b>1.5 G</b>	<b>3.0 G 2.0</b>	<b>3.0 G 2.0</b>	3	3	1	24	10		
<b>BEANS</b>		✓		Preplant; Seed treatment	Seed Treatment	<i>0.016-0.348</i> 0.000798 lb ai/lb seed ME <i>0.013-0.272</i> 0.000625 lb ai/lb seed	NS	[0.348] NS	NS	[1] NS	NS	NS	NS	ME is SLN only for ID	Italics highlight the range of application rates depending on the number of seeds per lb and the number

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
						WP 0.012-0.253 0.00058 lb ai/lb seed EC									of seeds planted per acre. Seeding rate information provide by BEAD. <sup>4</sup>
<b>BEEF/RANGE/ FEEDER CATTLE (MEAT)/ DAIRY CATTLE (NON- LACTATING)</b>				Summer, late fall, spring; impregnated collar/tag	Animal treatment (ear tag)	0.0066 lb/animal	[0.0099 ] NS	NA	3	NA	NS	NS	NS		Reg. No. 39039-6 Cattle ear tags are assumed to last 4-6 months Two tags per animal at 0.0033 lb a.i./tag in the summer and one tag per animal at 0.0033 lb a.i./A.
<b>BEETS (UNSPECIFIED; TABLE OR SUGAR)</b>  “grown for seed”		✓		At plant, soil band treatment	Ground boom	1.0 EC	NS	1	NS	1		24		Allowed in Oregon Court ordered buffer of 60 ft for ground chlorpyrifos application is required for “affected waterways”.	Minimum Incorporation: 2 inches

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
		✓		Preplant, soil incorporated treatment	Broadcast/ ground boom	1.9 EC	NS (2.8 ID)	NS	1	NS				Allowed in Oregon and Idaho	OR-09007; 62719-591 ID-090002; 62719-591
				<b>Total</b>		<b>1.9</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>		<b>24</b>			One or the other type of application.
<b>SUGAR BEETS</b>		✓		Preplant, soil incorporated treatment	Broadcast/ ground boom	1.0 EC 2.0 G	3.0	2.0	1	1	NA	24	10		Minimum Incorporation: 1 inch
		✓		At plant, soil band treatment	Broadcast/ ground boom	1.0 EC, WDG 2.0 G	3.0	2.0	1	1	30	24	10		
		✓		Postplant, soil band	Broadcast/ ground boom	2.0 G	3.0	2.0	1	1	30	24	10		
		✓		Post- emergence band treatment; broadcast	Broadcast/ ground boom	1.0 EC, WDG	3.0	1.0	3	1	30	24	10		
		✓		broadcast	Aircraft, ground boom, chemigation	1.0 EC, WDG	3.0	1.0	3	1	30	24	10		EC is not for use in MS
				<b>Total</b>		<b>1.0 EC 2.0 G</b>	<b>4.0</b>	<b>[4.0] NS</b>	<b>3</b>	<b>[3] NS</b>	<b>30</b>	<b>24</b>	<b>10</b>		One granular application at 2.0 a.i./A and two liquid applications at 1.0 a.i./A per



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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															year. Also assumed per crop cycle.
<b>CARROT Grown for Seed (INCLUDING TOPS)</b>		✓		Foliar pre- bloom broadcast	aircraft, ground boom	0.94 EC	0.94	1	1	1	7	24	NA	Oregon and Washington Court ordered buffer of 60 ft for ground and 300 ft for aerial application is required for “affected waterways”.	OR090011 SLN Expires: 12/31/2018 WA090011 SNL Expires: 12/31/2016  Carrots take two years to produce seed. All commercial production of the carrot (vegetable) takes place in the first year when the plant is nowhere near blooming.
<b>CHERRIES</b>		✓		<b>dormant/ delayed dormant; broadcast</b>	aircraft, airblast	2.0 WDG, EC 1.5 WP	2.0	NA	1	NA	NS	24	10		
		✓		<b>foliar; broadcast</b>	airblast	4.0 EC	10.0	NA	5	NA	14	24	10		Tart cherry only
					aircraft	2.0									Reflects spray drift mitigation

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
		✓		Foliar, post harvest; <b>trunk spray/drench</b> <b>h</b>	handheld, backpack, drench/dip, handgun, and low pressure hand wand	2.5 (3.0/100 gal) WDG, EC	2.5	NA	1	NA	2	24	[10] NS		Only some labels specify a 10 d MRI.
				<b>Total</b>	--	<b>4.0</b>	<b>4.5 (sweet)</b> <b>14.5 (tart only)</b>		<b>6</b>						Excludes nursery applications (See general “Fruits” listing)  The foliar applications only apply to tart cherries, thus, sweet cherry scenarios (e.g., Pacific NW) annual application rate would be 4.5 lb total a.i./year.
<b>CHRISTMAS TREE PLANTATIONS</b>		✓		<b>foliar;</b> broadcast	helicopter, orchard blast	1.0 EC, WDG, WP	3.0	NA	3	NA	[0] NS	24	7	Aerial applications via helicopter are only permitted in Washington and Oregon.	

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
		✓		post harvest; <b>Stump Treatment</b>	handheld, backpack, drench/dip, handgun, and low pressure hand wand	2.5 (3.0/100 gal) EC, WDG	2.5	NA	1	NA	NA		7		
				<b>Total</b>		<b>2.5</b>	<b>5.5</b>		<b>4</b>						
<b>CITRUS</b>		✓		<b>foliar; broadcast</b>	airblast, ground boom	6.0 WP, WSP, EC	7.5	NA	2	NA	35 (21 for low rate s)	5d	30 (10 for low rates )	6.0 lb a.i. /A is only permitted in California and Arizona. The max single rate in other states is restricted to 4 lb a.i./A.	
		✓			aircraft	2.3 WP, WSP, EC					21	5	10	Florida, California, and potentially Texas	Aerial application used to control psyllid, the vector for citrus greening. Reflects spray drift mitigation
		✓		<b>foliar; orchard floors broadcast</b>	ground boom, chemigation, handheld, backpack, drench/dip, handgun, and	1.0 G*, WSP, EC	3.0	NA	3	NA	28	24/ 5 d	10		

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
					low pressure hand wand										
				<b>Total</b>	--	<b>6.0</b>	<b>10.5</b>		<b>5</b>						Registered labels permit both foliar and soil applications in the same orchard. Total excludes nursery applications (See general “Fruits” listing)
<b>CLOVER (GROWN FOR SEED)</b>		✓		Preplant	Ground boom	1.9 EC	1.9	1.9	1	1	NS	24	NA	Use only permitted in Oregon.	OR-0900100; master label: 62719-591  Either a preplant or post plant application is allowed.
		✓		Post-Plant Foliar	aircraft and ground boom										
<b>COLE CROPS (EXCLUDES CAULIFLOWE R AND BRUSSELS SPROUTS)</b>		✓		Preplant, soil incorporated treatment	Ground boom	2.0 EC, WDG, G	4.0	2.0	2	1	30	24	10		Min. incorporation: 2 inches
		✓		At plant, soil band treatment	Ground boom					1					One granular application permitted per year.
		✓		Post plant	Ground boom					1					

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
		✓		Foliar Established Plantings, soil sidedress treatment	Ground boom					1					
		✓		Foliar, broadcast	Aircraft, ground boom, chemigation	1.0 EC, WDG, WP	4.0	3.0	4	3	21		10		Multiple crops per year are possible in some locations.
				<b>Total</b>			<b>8.0</b>	<b>5</b>	<b>6</b>	<b>4</b>					Some labels restrict the yearly application rate to 3 lb a.i./A. The maximum number of crops per year is 2.
<b>BRUSSELS SPROUTS</b>		✓		At plant, soil band treatment	Ground boom	2.0 EC; G	2.0	[2.0] NS	2	1	21	24	10		
		✓		Preplant, soil incorporated treatment	Ground boom										Minimum incorporation is 2 inches
		✓		Postplant, soil application	Ground boom	2.25 EC, G	2.25	[2.25] NS							
		✓		Foliar broadcast	Aircraft, Ground boom	1.0 EC	[5.3] NS	3.0	NS	3			10		83222-20, 84930-7, 86363-3 specify a 7 day MRI. All other labels

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															specify a 10 day MRI. The PHI stated 84930-7 is conflicting [p. 4 (21 days and p. 19 (30 days))]
				Total		2.3	5.3		NS		21	24	7		Assume one application of either at plant, preplant, or postplant followed with additional foliar applications.
CAULI- FLOWER		✓		At plant, soil band treatment	Ground boom	2.0 EC 2.3 G	2.0 EC 2.25 G	NS	[1] NS	1	21	3d	10		Only one granular application.
		✓		Preplant, soil incorporated treatment	Ground boom	2.3 G 2.0 EC	2.3	NS	[1] NS	1	30, EC, 21 G				Minimum incorporation is 2 inches
		✓		Postplant, soil application	Ground boom										
		✓		Foliar broadcast	aircraft, ground boom	1.0 EC	[5.3] NS	3.0	NS	3	21	10			
				Total		2.3	5.3	[5.3] NS	NS	[4] NS	21	24	10		Assume one application at either plant, preplant, or

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															postplant followed with additional foliar applications.
<b>COMMERCIAL /INSTITUTION- AL/ INDUSTRIAL PREMISES/ EQUIP. (INDOOR)</b> Non-food areas of manufacturing, industrial, and food processing plants; warehouses; ship holds; railroad boxcars.				Broadcast	Product Container	0.4373 lb a.i./100 sq ft  190.5 G	NS	NA	NS	NA	NA	NS	NS		For treatment of fire ants
				Crack and Crevice/Void	Sprayer/ Injection	0.0625 lb a.i./1000 sq ft  2.7 ME	NS	NA	NS	NA	NA	NS	NS		499-419
				Crack and Crevice/Spot	Sprayer/ Injection	0.0424 lb/gal ME	NS	NA	NS	NA	NA	NS	7		
<b>COMMERCIAL /INSTITUTION AL /INDUSTRIAL PREMISES/EQ UIP. (OUTDOOR)</b> Outdoor commercial use around non-food areas of manufact- uring, industrial,				Soil broadcast	Low and High Pressure, Backpack, Handgun Sprayers	0.0247 lb a.i./1000 sq ft 1.1 ME	NS	NA	NS	NA	NA	NS	NS		
				Directed spray		0.1132 lb a.i./1000 sq ft 4.9 ME	NS	NA	NS	NA	NA	NS	NS		Specific to: Inside and outside dumpsters and other trash holding containers, trash corrals and

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
and food processing plants; warehouses; ship holds; railroad boxcars															other trash storage areas.
				Crack and Crevice/void/ general outdoor		0.0424 lb/gal ME	NS	NA	NS	NA	NA	NS	7		
<b>CONIFERS AND DECIDUOUS TREES; PLANTATION, NURSERY</b>		✓	?	<b>foliar;</b> broadcast	Ground boom	1.0 EC	3	NA	6	NA	7	24	7		
		✓	?	<b>foliar; stump treatment</b>	backpack, drencher, low pressure hand wand	0.3 EC	0.3	NA	1	NA	7	24	7		
				<b>Total</b>		<b>1.0</b>	<b>3</b>	<b>NA</b>	<b>6</b>	<b>NA</b>	<b>7</b>	<b>24</b>	<b>7</b>		The total number of applications assumed is either 3 foliar applications or 2 foliar applications with one stump treatment.
<b>CORN (ALL)</b>		✓		Preplant	ground/ <b>soil incorporated</b> conservation tillage, in furrow, broadcast,	3.0 EC 2.0 G	3.0	3.0	NS	3	NA	24/ 5 EC	10		19713-520, 19713-599, 33658-26, 34704-857, 72693-11, 83222-20



Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
					chemigation, soil band										The minimum incorporation depth is 2 inches.
					<b>soil incorporated</b> aerial conservation tillage	2.0 EC, G									
		✓			ground/ conservation tillage, in furrow, broadcast, chemigation, soil band	1.0 EC 2.0 G	3.0	3.0	NS	3	21		10		19713-520
		✓		Storage or preplant seed treatment	Seed treatment	<i>0.001-0.021</i> 0.000625 lb a.i./ lb seed WP  <i>0.1-1.9</i> 0.058 lb a.i./ lb seed FC	[?] NS	[1.9] NS	[?] NS	1	NS	NS	NS		Italics highlight the range of application rates depending on the number of seeds per lb and the number of seeds planted per acre. Seeding rate information provide by BEAD. <sup>4</sup>
		✓		At plant	soil incorporated,	2.0	[?] NS	3.0	[?] NS	3	21	24	10		

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
					conservation tillage	G									
		✓		Post emergence	Aerial or ground, broadcast, chemigation	1.5 EC 1.0 WDG	NS	3.0	NS	3	21	24/ 5d (EC	10		A brush on max single rate is permitted at 1.0 lb ai/a (72693- 11)
		✓		Foliar	Aerial or ground/ broadcast, granule, seed and chemigation	1.5 EC	3.0	3.0	NS	3	21		10		
				<b>Total</b>		<b>3.0</b>	<b>8.1</b>	<b>8.1</b>	<b>NS</b>	<b>4</b>	<b>21</b>		<b>10</b>		Two granular applications are allowed with a maximum single rate of 1.0 lb a.i./A or one granular application at 2 lb a.i./A. Total with seed treatment PHI: 21 d except Delaware and Florida (7 d)
<b>COTTON</b>		✓		Storage or preplant seed treatment	Seed treatment	<i>0.8-2.2</i> 0.00116 lb/lb seed	[2.2] NS	[2.2] NS	[1] NS	1	NS	NS	NS		264-932 Rates in italics highlight the

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
						EC									potential range of application rates depending on the number of seeds per lb and the number of seeds planted per acre. Seeding rate information provide by BEAD. <sup>2</sup>
		✓		Foliar	aerial, chemigation, ground boom	1.0 EC, WDG	3	3.0	3	3	14	24	10		Except MS
				<b>Total</b>		<b>1.0</b>	<b>3.2</b>	<b>3.2</b>	<b>3</b>	<b>3</b>	<b>14</b>	<b>24</b>	<b>10</b>		1.6 lb a.i./A is max single rate (seed treatment) <b>Total with seed treatment</b> 1 crop cycle per year assumed
<b>CRANBERRY</b>		✓		Foliar	aircraft, ground boom/ broadcast and chemigation	1.5 EC, WDG	3.0	NA	2	NA	60	24	10	Not for use in Mississippi.	Do not apply to bogs when flooded.
<b>CUCUMBER</b>		✓		Storage or preplant seed treatment	Commercial seed treatment	0.4 0.00058 lb/lb seed EC	NS	0.1	2	1	NS	NS	NS		Seeding rate information provide by BEAD. <sup>2</sup>

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															264-932, 62719-221, CA040004 Per registrant 2 CCs per year
<b>FIGS</b>		✓		<b>dormant/ delayed dormant;</b> soil application	ground boom	2.0 WDG, EC	2.0	NA	1	NA	217	4 d	NS	Use is restricted to California only.	Incorporation to 3 inches is suggested but not required following application.
<b>FILBERTS/ HAZELNUT</b>		✓		<b>dormant/ delayed dormant;</b> broadcast	aircraft, airblast	2.0 WP	2.0	NA	1	NA	14	24	10		
		✓		<b>foliar;</b> broadcast	aircraft, airblast	2.0 WDG, WP, EC	6.0	NA	3	NA	14		10		Some labels specify a retreatment interval of 10 days.
				<b>Total</b>		<b>2.0</b>	<b>6.0</b>	<b>NS</b>	<b>3.0</b>	<b>NA</b>	<b>14</b>	<b>24</b>	<b>10</b>		Excludes nursery applications (See general “Fruits” listing)
<b>FOOD PROCESSING PLANT PREMISES (NONFOOD CONTACT)</b>				When needed, crack and crevice treatment, spot treatment		0.0424 lb/ gal ME	NS	NA	NS	NA	NA	NS	7		53883-264, 84575-3 Spot Treatment: Do not exceed two square feet

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															per individual spot.
<b>FOREST PLANTINGS (REFORESTATION PROGRAMS) (TREE FARMS, TREE PLANTATION, ETC.)</b>			✓	Foliar, broadcast	ground boom	1.0 EC	6.0	NA	6	NA		24	7		
			✓	Foliar, stump treatment	direct spray, drencher	0.34 EC	6.0	NA	[18] NS	NA			7		
<b>FOREST TREES (SOFTWOODS, CONIFERS)</b>			✓	Foliar, broadcast	ground boom, drencher	0.61 EC	3.6	NA	NS	NA	24		7		
			✓	Foliar, stump treatment	direct spray	[3.6] 2.4 lb a.i./100 gal EC	3.6	NA	NS	NA			7		Application rate is provided as a dilution factor.
<b>FRUITS &amp; NUTS</b> Non-bearing (not to bear fruit within 1 year) fruit trees in nurseries (includes: almonds, citrus, filbert, apple, cherry, nectarine,		✓		Foliar-Non- bearing nursery broadcast	High/low volume spray/ hand held sprayer/power sprayer	4.0 EC	4.0	NA	NS	NA	14	NS	7		For nectarines and peaches, the use is restricted to one application of no more than 3 lb a.i./A per cc. For apples, the max rate is 2 lb a.i./A per crop cycle and the use is restricted

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
peach, pear, plum, prune).															to 1 application (either canopy or trunk drench) per year. Example label, 62719-254
		✓		Foliar-Non- bearing nursery trunk drench	drencher, high and low pressure sprayer	2.0 WDG	2.0	NA	NS	1	14		7		
				<b>Total</b>		<b>4.0</b>	<b>6.0</b>								Maximum Single Rates: 3.0 (nectarines and peaches) 2.0 (apples) Maximum Yearly Rates: 3.0 (nectarines and peaches) 2.0 (apples)
<b>GINSENG (MEDCINAL)</b>		✓		Preplant, post- emergence	Ground, soil broadcast	2.0 G	2.0	NA	1	NA	365	24	NA	Permitted in Michigan and Wisconsin	MI110006,WI1 10003) Minimum incorporation: 4 inches Application should be followed by rainfall or overhead watering.

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															Valid until June 29, 2016.
<b>GOLF COURSE TURF</b>				When needed, soil broadcast/ spot treatment	Ground, low pressure	1.0 EC	2.0	NA	2	NA		24	NS	Chemigation not allowed for the EC formulation.	
				Foliar, broadcast,	Ground boom, handgun, low pressure and backpack	1.0 EC, G, B	2.0	NA	2	NA			NS		
					Tractor drawn spreader, push type spreader, belly grinder	1.0 G					[24 ] NS		7		
				Mound treatment	Granule applicator	1.0 G	2.0	NS	2	NS		NS	7		
				<b>Total</b>		<b>2.0</b>	<b>2.0</b>	<b>NA</b>	<b>2</b>	<b>NA</b>	<b>NS</b>		<b>NS</b>		
<b>GRAPES</b>		✓		Dormant/ Delayed Dormant (pre-bloom)	Ground boom, broadcast, drench high/low spray volume	1.0 WDG, EC	1.0	1	1	NA	35	24	NS	East of the continental divide only.	Do not use in conjunction with soil surface applications for grape borer control.
		✓				2.0 EC	2.0	1	1	NA	35			Permitted in Colorado, Idaho, and Washington	CO080008, ID090004, WA090002

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															Master label: 62719-591
		✓		Foliar	Ground/ broadcast, basal spray and drench (soil treatment)	2.25 EC	2.25	1	1	NA	35		NS	Permitted east of the continental divide.	
		✓				1.0 EC	3.0	3	3	NA	35		NS	California	CA080010
		✓		Postharvest, dormant/ delayed dormant	Ground boom, broadcast	2.0 EC	2.0	1	1	NA	NS		NS	California	CA080009
				<b>Total</b>		<b>2.25</b>	<b>2.25</b>	<b>1</b>			<b>35</b>	<b>24</b>	<b>NS</b>	Permitted east of the continental divide.	
						<b>2.0</b>	<b>5.0</b>	<b>4</b>			<b>NS</b>		<b>NS</b>	California	
<b>GRASS FORAGE/ FODDER/HAY</b>		✓		Foliar, broadcast	Aircraft, ground boom, chemigation	1.0 EC	3.0	NA	3	NA	NS	24		Permitted in Nevada, Oregon, Washington, and Idaho	NV080004, NV940002, OR090009, WA090010, ID090003
<b>GREENHOUSE</b>		✓		early evening, aerosol, fog or fumigation	Total release fogger	0.029 0.0066 lb a.i./1000 sq. ft PL	NS	NA	NS	NA	NS	NS	2		
<b>HOUSEHOLD/ DOMESTIC DWELLINGS</b>	✓			When needed	Bait station	0.0003 lb/bait station	NS	NA	NS	NA	NA	NS	NS		9688-67



Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
<b>INDOOR PREMISES</b>															
<b>HYBRID COTTONWOOD/ POPLAR PLANTATIONS</b>		✓		Foliar, dormant, delayed dormant; broadcast	High volume (dilute) Low volume (concentrate)	1.9 EC	[2.0] NS	6.0	[1] NS	3		24	7	Washington	WA090004  Energy wood plantations may be harvested as often as every 2-3 years; pulpwood 5-10 years; and saw timber 15-20 years. (Arkansas production guide). In Washington the crop takes 2-8 years
<b>LEGUME VEGETABLES</b>		✓		Preplant, soil treatment	Ground boom	1.0 EC, WDG	1.0	NA	1	NA	NS	24	NA		No MRI because application only once a year
		✓		At planting, soil treatment	Ground boom	1.0 EC, WDG	1.0	NA	1	NA	NS		NA		
				<b>Total</b>		<b>1.0</b>	<b>1.0</b>	<b>NA</b>	<b>1</b>	<b>NA</b>	<b>NS</b>	<b>24</b>	<b>NS</b>		Assumed either a preplant or an at plant treatment.
<b>MINT/ PEPPERMINT/ SPEARMINT</b>		✓		Preplant soil incorporated	Aerial or ground/ broadcast	2.0 EC, WDG	[2.0] NS	2.0	[1] NS	1	90	24	NA	No use in Mississippi.	19713-599, 33658-26, 34704-857, 67760-28,

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															84229-25, 84930-7, OR940027  MRI NA due to once per crop cycle application
		✓		Post- emergence, Postharvest, Foliar	Chemigation, ground/ airblast	2.0 EC	2.0	2.0	[1] NS	2	90		NS	No use in Mississippi.	Postharvest application retreatment not specified on some labels.
				<b>Total</b>		<b>2.0</b>	<b>4.0</b>	<b>4.0</b>	<b>2.0</b>	<b>3</b>	<b>90</b>	<b>24</b>	<b>NS</b>		Labels allow one growing season application including pre- plant and one post-harvest application per season.
<b>MOSQUITO CONTROL; HOUSEHOLD/ DOMESTIC DWELLINGS OUTDOOR PREMISES; RECREATION AL AREAS</b>	✓			When needed; broadcast	Ultra low volume air and ground	0.01 EC	0.26	NA	26	NS	NA	NS	24 h	In Florida: Do not apply by aircraft unless approved by the Florida Dept of Ag.	Aerial applications may be made at altitudes ranging from 75-300 ft (see labels for specifics).

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															For use by federal, state, tribal or local government officials or by persons certified in the appropriate category or authorized by the state or tribal lead regulatory agency.
NECTARINE		✓		dormant/ delayed dormant broadcast	airblast, handgun	3.0 WDG, EC	3.0	NA	1	NA	NS		10		83222-20 others at 2 lb a.i./a
					Aircraft	2.0 WDG, EC									Updated to reflect spray drift mitigation.
		✓		pre-plant, foliar; trunk spray/drench or pre-plant dip	Handgun, low pressure backpack, dip	2.5 (3.0/100 gal) WDG, EC	2.5	NA	1	NA	14	24/ 4d	5		There is no application retreatment interval specified on some of the label. The application rate is provided as a dilution factor.
				Total		3.0	5.5	NA	2	NA					Some labels limit the

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															amount a.i./A per year. Multiple types of applications can occur such as preplant, trunk drench and dormant, delayed dormant applications. Excludes nursery applications (See general "Fruits" listing)
<b>NONAGRICULTURAL OUTDOOR BUILDINGS/STRUCTURES</b> to and around outside surfaces of nonresidential buildings and structures. Permitted areas of use include fences, pre-construction foundations,				Outdoor general surface/ Band (may be better if called perimeter)	Ground sprayer/ band sprayer	1.0 EC	NS	NA	NS	NA	NA	NS	NS		

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
refuse dumps, outside of walls, and other areas where pests congregate or have been seen															
<b>NURSERY-STOCK: :</b> Ornamental nursery stock annuals, perennials and woody plants being grown in the field, in ball and burlap or in containers outdoor and in greenhouses				Dormant/ Delayed Dormant	high spray	3.0 EC	3.0	NA	1	NA		24	NS		
				Preplant	Ground boom, soil incorporated	4.0 EC, WP	NS	NA	NS	NA					
				foliar, soil directed	Tractor drawn spreader, push type spreader, belly grinder, gravity fed backpack, spoon	1.1 G									
				<b>Total</b>		<b>4.0</b>	<b>CBD</b>		<b>3</b>						

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
ONIONS		✓		Post plant (seeding) Broadcast	Ground boom	1.0 EC	1.0	NS	2	NS	60	24	NS		
		✓		At plant, soil drench or basal spray	Ground boom	1.0 EC, WDG, G	1.0		1						2 inch incorporation
				Total		2.0	2.0		2		60	24	NS		
ORNAMENTAL AND/OR SHADE TREES, HERBACEOUS PLANTS		✓		Foliar broadcast	Ground boom, air blast, handgun, low and high pressure hand wands	2.0 EC, WP 1.0 G, B	2.0	NA	[2] NS	NA	NS	24	NS		Some labels include a MRI of 7 days.
		✓		Dormant /Delayed Dormant	Handgun, low pressure and backpack	3.0 EC	3.0	NA	1	NA			7		Low volume spray permitted for concentrated solutions and lower rates.
ORNAMENTAL LAWNS AND TURF, SOD FARMS (TURF)		✓		When needed, broadcast, soil or spot treatment	ground boom (WP only), high pressure hand wand	3.76 EC, WP	7.52	NA	2	NA	NS	24	NS		
		✓		NS	Tractor drawn spreader, push type spreader, belly grinder	1.0 B	2.0	NA	2	NA	NS	24	NS		Bait is used for fire ant control.
ORNAMENTAL NON- FLOWERING PLANTS		✓		Foliar, broadcast, soil drench	Chemigation, ground boom, low and high pressure	0.007/gal ME	NS	NA	12	NA	NA	24	NS		Application rate provided as a dilution factor.

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
					handwand, handgun, backpack sprayer, sprinkling can										Restricted use— occupational only
<b>ORNAMENTAL WOODY SHRUBS AND VINES</b>				Foliar broadcast	Ground boom, air blast, handgun, low and high pressure sprayer, backpack	2.0 EC, WDG  0.01 lb/gal EC	2.0  0.01 lb/gal	NA	[1] NS	NA	NS	24	NS		Several labels do not restrict the application rate in lb a.i./A. Examples include 16.5 lb/100 gal (228- 625) and 1.0 lb/100 gal (829- 280).
				Dormant/ delayed dormant		1.0 EC 0.005 lb/gal EC	1.0	NA	[1] NS	NA					
				Preharvest	Tractor drawn spreader, push type spreader, belly grinder	6.0 G	6.0	NA	[1] NS	NA					
				Preplant, potted, bailed-and burlapped, containerized	groundboom, handgun, low and high pressure sprayer, backpack, drench	1.0 EC	NS	1	NS	1					
				Pretransplant	groundboom	4.0	[48.0]	4	12	4					

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
						WP	NS								
				Total		6.0 G 4.0 WP	CBD		CBD						
PEACH		✓		dormant/ delayed dormant broadcast	airblast	3.0 EC 2.0 WDG	3.0	NA	1	NA	10	24/ 4d	NS		83222-20 (all other labels restrict to 2 lb ai/a)
					aircraft,	2.0 EC 2.0 WDG							NS		Updated to reflect spray drift mitigation.
		✓		Post-harvest broadcast	airblast	2.5 (3.0/100 gal) EC	2.5	NA	1	NA	NS		Permitted in Georgia and South Carolina	GA0400001, SC040001 SLN Expires:	
					aircraft	2.0 (3.0/100 gal) EC								GA0400001, SC040001 SLN Expires: Updated to reflect spray drift mitigation	
		✓		pre-plant, foliar; trunk spray/drench or pre- plant dip; ground	handheld, backpack, drench/dip, handgun, and low pressure hand wand	2.5 (3.0/100 gal) WDG	2.5	NA	1	NA	14	5	NS		Some labels do not specify minimum retreatment interval.
				Total		3.0	5.5	NA	3	NA	NA	24	NS		



Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
						3.0	8.0	NA	3	NA	NA	24	NS	Permitted in Georgia and South Carolina	It is possible that multiple types of applications can occur such as soil, foliar and/or post- harvest and dormant/ delayed dormant applications. Excludes nursery applications (See general “Fruits” listing)
PEANUT		✓		Preplant	Aerial or ground/ broadcast	2.0 EC, WDG	[4.0] NS	4.0	[2] NS	2	NA	24	10	Do not apply aerial in Mississippi	Assumes one crop cycle per year.
		✓		At plant, postplant		4.0 G	[4.0] NS	4.0	2	2	21	24	10		
		✓		At pegging		2.0 G EC, WDG	[4.0] NS	4.0	2	[2] NS	21	24	10		
				<b>Total</b>		<b>4.0 G 2.0 EC, WDG</b>	<b>4.0</b>	<b>4.0</b>	<b>2</b>	<b>2</b>	<b>10</b>	<b>24</b>	<b>10</b>		

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
PEAR		✓		dormant/ delayed dormant broadcast	aircraft, airblast	2.0 WDG, EC	2.0	NA	1	NA	NA	24	NA	Restricted use in California.	83222-20 allows 3.0 lb a.i./ A; however, this does not match the 2001 RED.
		✓		Post-harvest broadcast	aircraft, airblast	2.0 WDG, EC	2.0	NA	1	NA	NA	24	NS	Permitted in California, Oregon and Washington.	
				Total		2.0 WDG, EC	4.0	NA	2	NA	NA	24	NS		Multiple types of applications may occur in within a year in California, Oregon and Washington such as a post- harvest application and a dormant, delayed dormant. Excludes nursery applications (See general “Fruits” listing)
PEAS		✓		Preplant Seed treatment	Seed Treatment	0.30 0.000625 lb/lb seed	NS	NS	NS	NS	NS	NS	NS		There is a range of potential application

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
						WP  0.28 0.00058 lb/lb seed EC									rates depending on the number of seeds per lb and the number of seeds planted per acre. Seeding information provide by BEAD. <sup>2</sup>
PECANS		✓		dormant/ delayed dormant broadcast	aircraft, airblast	2.0 EC, WDG	2.0	NA	1	NA	14	24	10		66222-19 and 66222-233
		✓		foliar; broadcast	airblast	4.3 EC, WDG	6.3	NA	3	NA	14		10		Some labels require a 28 d PHI
					aircraft	2.0 EC, WDG									Updated to reflect spray drift mitigation.
		✓		foliar; orchard floors broadcast	Ground boom, chemigation	4.3 EC, WDG	4.3	NA	2	NA	14		10		
					Total		4.3	12.6	NA	6	NA	14	24	10	

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															excluding nursery For nursery applications (See general “Fruits” listing)
<b>PEPPER</b>		✓		Foliar	Ground broadcast	1.0 WDG	[8] NS	8.0	[8] NS	8	7	24	10	Permitted in Florida	FL040005; 1 crop cycle per year.
<b>PINEAPPLE</b>		✓		Postplant	Ground boom, broadcast	2.0 EC	6.0	6.0	3	NA	365	24	30	Permitted in Hawaii	HI090001 SNL Expires: March 29, 2014. Do not make applications beyond three months after planting.
<b>PLUM/ PRUNE</b>		✓		<b>dormant/ delayed dormant;</b> broadcast	Aircraft, airblast	2.0 EC, WDG	2.0	NA	1	NA	NA	24/ 4d	10		
		✓		foliar; <b>trunk spray/drench</b>	handheld, backpack, drench/dip, handgun, and low pressure hand wand	2.5 3.0/100 gal WDG	2.5	NA	1	NA	NA		10		
				<b>Total</b>		<b>2.5</b>	<b>4.5</b>	NA	2	NA					Excludes nursery applications

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															(See general “Fruits” listing)
<b>POULTRY LITTER</b>		✓		When needed, animal bedding/litter treatment.	Sprayer	0.07126 a.i./1000 sq ft 3.1 ME	NS	NA	NS	NA	NA		NS		53883-264, 84575-3
<b>PUMPKIN</b>		✓		Preplant Seed treatment	Seed treatment	0.3 0.00058 lb /lb seed WP	[0.3] NS	[1] NS	[1] NS	1	NS	NS	NS	California maximum single rate 0.000625 lb a.i./lb.	There is a range of potential application rates depending on the number of seeds per lb and the number of seeds planted per acre. Seeding information provide by BEAD. <sup>4</sup>
<b>RADISH</b>		✓		Foliar	Broadcast ground	1.0 EC	NS	1	NS	1	NS	24	NS	permitted in Oregon	OR090012 on radish grown for seed. Label valid until December 31, 2012. (per registrant SLN still valid)
		✓		Preplant	Soil incorporation ground	3.0 EC	12.0	3	4	1	NS	NS	10		

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
		✓		At plant/post-plant	In furrow drench/ treatment	3.0 EC 2.8 G	[15.0] NS	3	[5] NS	1	30, EC, 7, G	24	10		Only one granular application permitted.
				<b>Total</b>		<b>3.0</b>	<b>[22.0] NS</b>	<b>2</b>	<b>[9] NS</b>						Only one preplant or at plant application is assumed.
<b>RIGHTS OF WAY, ROAD MEDIANS</b>				When needed, soil broadcast	Granular or low pressure wand	1.0 EC, G, Bait	[2.0] NS	NA	2	NA	NA	NS	7		Apply when needed
<b>RUTABAGA</b>		✓		Preplant	Chemigation, Groundboom	2.4 EC, WDG	[4.8] NS	2.4	[2] NS	1	30	24	10		Updated to reflect spray drift mitigation.
					Aerial	2.0 EC, WDG		2.0							
		✓		At plant/post-plant	In furrow drench/ treatment	2.4 EC, G WDG	4.8	2.4	[2] NS	1	7	24	10	Disallowed in California and Arizona.	Two crop cycles per year
				<b>Total</b>		<b>2.4</b>	<b>[9.6] NS</b>	<b>4.8</b>	<b>[4] NS</b>	<b>2</b>		<b>24</b>	<b>10</b>		
<b>SEWER MANHOLE COVERS AND WALLS</b>				When needed	Low pressure	0.31 lb/manhole RTU	NS	NA	NS	NA	NA	NA	NS		3 pints product/ manhole
<b>SEED ORCHARD TREES</b>		✓		<b>foliar;</b> broadcast	Ground boom	1.0 EC	3.0	3.0	NS	NA	30	24	7		62719-575, 62719-615

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
		✓			High volume sprayer	2.5 0.01 a.i./tree 0.02 EC	2.5	NS	[1] NS	NA	30	24	7		Cone worm treatment (62719-575 and 62719-615) Treatment of 1000 trees per acre would results in an single application rate of 10 lb a.i./a. DAS: 1000 is a bit high, typically for orchards 312 trees per acre
		✓		foliar; <b>stump treatment</b>	backpack, drencher, low pressure hand wand,	0.3 EC	0.3	1.0	NS	NA	30	24	7		62719-575, 62719-615
				<b>Total</b>		<b>1.0</b>	<b>5.8</b>	<b>3</b>	<b>NS</b>	<b>NA</b>	<b>30</b>	<b>24</b>	<b>7</b>		The total number of applications assumed is either three foliar applications or two foliar applications with one stump treatment.

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
SORGHUM GRAIN		✓		Seed Treatment	Seed treatment	[0.0009] 0.01- 0.0024 lb ai/ 100 lbs seed EC	0.01	0.01	[1] NS	1	NA	NS	NS		264-932
		✓		Preplant Soil Directed	Ground Spreader/T Band	1.5 G	1.5	1.5	[1] NS	1	60	24	10		
		✓		Foliar/Post emergent	Ground, Aerial, Chemigation	1.0 EC, WDG	1.5	[1.5] NS	[1] NS	3	30	24	10		PHI varies across labels
				<b>Total</b>		<b>3.3 G 1.0 EC, WDG</b>	<b>3.01</b>	<b>3.01</b>	<b>[3] CBD</b>	<b>3</b>	30	24	10		One crop cycle per year.
SOYBEAN		✓		foliar , post- emergence soil broadcast	broadcast ground, aerial, chemigation	1.0 EC, WDG	3.0	3.0	3	3	28	24	14		One crop cycle per year.
		✓		At plant/post plant treatment; soil band	ground boom	2.2 G 1.0 EC	3.0	3.0	1 (G), 3 (EC)	1 (G), 3 (EC)	28	24	10		
				<b>Total</b>		<b>1.0 EC, WDG 2.2 G</b>	<b>3.0</b>	<b>3.0</b>	<b>3</b>	<b>3</b>					One crop cycle per year.
STRAW- BERRIES		✓		Pre-plant	Aerial or ground/ broadcast	2.0 EC	2.0	NS	1	NS	NA	24	10	No use in Mississippi	33658-26



Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
		✓		Foliar	Aerial or ground/ broadcast, foliar spray	1.0 EC, WDG	2.0	NS	2	NS	21	24	10		Two applications (2 lb ai) for all products per cc.
		✓		Post harvest	Ground directed spray	1.0 EC, WDG	2.0	NS	2	NS	21		14		
				<b>Total</b>		<b>2.0</b>	<b>4.0</b>		<b>3</b>						One preplant application and two foliar and/or postharvest application permitted per year.
<b>SUNFLOWER</b>		✓		At plant	Aerial/ground	2.0 G	3.0	3.0	[1] NS	1	42	24	10		Per registrant 1 cc per year
		✓		Preplant		2.0 EC, WDG	3.0	3.0	[1] NS	1	42		10		2 inches min incorporation
		✓		Post emergent or foliar		1.5 EC, WDG	3.0	3.0	[2] NS	2	42		10		
				<b>Total</b>		<b>2.0</b>	<b>5.0</b>	<b>5.0</b>	<b>3</b>	<b>3</b>					Assumed either an at plant or preplant application followed with two foliar applications.

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															One crop cycle per year
SWEET POTATO		✓		Preplant, soil broadcast	Aircraft, ground boom	2.1 G, EC, WDG	2.1	NS	1	1	125	24		LA090002, MS080007, NC090001 permits 60 PHI	
					Aircraft	2.0 G, EC, WDG									Updated to reflect spray drift mitigation.
TOBACCO		✓		Preplant	Aircraft, ground boom	2.0 EC, G, WDG	2.0	NS	1	1	7	24	NA		
TRITICALE		✓		Storage Commercial Slurry Seed Treatment	Seed treatment	0.003 0.0024 lb ai/ 100 lbs seed EC	[0.003] NS	[1] NS	[1] NS	[1] NS	NA	[10] NS	[10] NS		264-932 Seeding information provide by BEAD. <sup>4</sup> One crop cycle per year.
TURNIP		✓		Preplant	soil incorporation/ ground boom, handgun	2.3 G, WDG	[4.6] NS	2.3	[2] NS	1	30	24	10		Minimum incorporation: 2 inches.
		✓		Postplant	Soil incorporation/ ground boom, handgun	2.3 G, WDP	[4.6] NS	2.3	[2] NS	1	30	24	10		Minimum incorporation: 2 inches.
				<b>Total</b>		<b>2.3</b>	<b>4.6</b>	<b>2.3</b>	<b>2</b>	<b>1</b>	<b>30</b>	<b>24</b>	<b>10</b>		Assumed either a preplant or postplant application. Two crop cycles per year

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
<b>UTILITIES</b> For use in and around telecommunications, power, utilities and railroad systems equipment: Buried cables, cable television pedestals, cables, pad-mounted electric power transformers, telephone cables, underground vaults, telecommunications equipment, power and utilities equipment				When needed, broadcast	Product container	190.5 G 0.44 lb a.i./100 sq ft (see comments)	NS	NS	NS	NS	NS	NS	NS		Applications permitted as needed. Reg. Nos. 13283-14, 13283-17 Broadcast product onto the ground covering the area of the pad location, plus a two foot perimeter around the outside of the pad location.
<b>WALNUTS</b>		✓		<b>dormant/delayed dormant;</b> broadcast	Aircraft, airblast	2.0 EC, WDG	2.0	NA	1	NA	14	24	10		62719-301 (12 lb a.i./A)
		✓		<b>foliar;</b> broadcast	aircraft, airblast, chemigation	2.0 EC, WDG	4.0	NA	2	NA	14		10		Some labels do not specify retreatment interval.
		✓		<b>foliar; orchard</b>	Ground boom, chemigation	4.0 EC, WDG	4.0	NA	1	NA	14		10		

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
				floors broadcast											
				Total		4.0	10.0		4						Excluding nursery applications; includes dormant, foliar broadcast, and orchard floor. For nursery applications (See general “Fruits” listing)
<b>WIDE AREA/ GENERAL OUTDOOR TREATMENT</b> For ants and other misc. pests.	✓	✓		when needed, Broadcast	Ground sprayer	0.5084 lb ai/100 gal EC	[1.02] NS	NA	2	NA	NA	NS	NS		66222-19
				when needed, Drench	Drench	1	NS	NA	NS	NA	NA		NS		228-624
						[1] 8.2 lb a.i./100 gal EC	NS	NA	NS	NA	NA		NS		228-625
				Total		[1]	NS	NA	NS	NA	NA				
<b>WHEAT</b>		✓		Slurry Seed Treatment	Seed treatment	0.003 0.0024 lb ai/ 100 lbs seed EC	[0.006] NS	1	[2] NS	1	NA	NA	NA	Only for use in AZ, CA, CO, ID, KS, MN, MO, NE, NM, NV, ND, OK, OR, SD, TX, UT, WA and WY	Seeding information provide by BEAD. <sup>4</sup>
		✓		Foliar, soil treatment	Ground, broadcast	0.5 EC	[8.0] NS	4.0	[2] NS	1	14/ 28	24	14		PHI: 14 forage or hay, 28 grain or straw
		✓		Post- emergence foliar	Ground, Aerial, Chemigation	1.0 EC	[4.0] NS	2.0	[4] NS	2	14/ 28		NS		Label states 1.0 lb ai/A for cereal leaf

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															beetles and then state max rate 0.5 lb ai/A in restriction). Some labels restrict no more than 2 applications per crop/season PHI 14 forage or hay, 28 grain or straw
				Total		[1] 4.0 EC	[12.006 ]	[6.003] 5.0	[8] NS	[4] 2					MO otherwise 2.0 plus seed treatment
WOOD PROTECTION TREATMENT TO BUILDINGS/ PRODUCTS OUTDOOR				When needed, Wood surface treatment	Low pressure handwand, backback sprayer, paintbrush	16.65 lb/10,000 sq ft 0.17 lb a.i./gal EC	NS	NA	NS	NA	NS	NS	NS		
						0.08 lb ai/gal EC, RTU EC, ME	NS	NA	NS	NA	NS	NS	NS		Apply 1 gal per 100 sq ft of wood
<div>1. EC - emulsifiable concentrate; WDG – water dispersible granular in water soluble packet; WP – wettable power in water soluble packet; B – bait (granular), G – granular; ME – microencapsulated; RTU – ready to use.</div> <div>2. Reported as per crop cycle or per season</div> <div>3. PHI – Preharvest interval; REI – reentry interval; MRI – Minimum retreatment interval</div> <div>4. Becker, J.; Ratnayake, S. Acres Planted per Day and Seeding Rates of Crops Grown in the United States, U.S. EPA OPP/BEAD, 2011; example calculations provided below:</div>															

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
Beans: 0.00058 lb a.i./lb seed / 960 seeds/lb seed x 418,176 seeds/A [pgs. 19, 81 (beans, succulent)] Corn: 0.000625 lb a.i./lb seed / 1,800 seeds/lb seed x 59,739 seeds/A [pgs. 24, 81 (corn, sweet)] Cotton: 0.00116 lb a.i./lb seed / 4,500 seeds/lb seed x 85,00 seeds/A [pgs. 13, 81] Cucumber: 0.00058 lb a.i./lb seed / 12,000 seeds/lb seed x 80,418 seeds/A [pgs. 25, 81] Peas: 0.000625 lb a.i./lb seed / 1,361 seeds/lb seed x 653,400 seeds/A [pgs. 34, 82] Pumpkin: 0.00058 lb a.i./lb seed / 1,600 seeds/lb seed x 7,260 seeds/A [pgs. 37, 82] Sorghum: 0.001 lb a.i./lb seed / 11,000 seeds/lb seed x 100,000 seeds/A [pgs. 16, 39] Triticale: 0.003 lb a.i./100 lb seed / 109 lb seed/A [pg.16] Wheat: 0.003 lb a.i./100 lb seed /116 lb seed/A [pg. 16] [ ] indicate assumptions that are made when the information is not specified but can be inferred															



May 13, 2015

U.S. Environmental Protection Agency  
Document Processing Desk  
Office of Pesticide Programs  
Room S4900, One Potomac Yard  
2777 Crystal Drive  
Arlington, VA 22202

ATTN: Joel Wolf

**Subject:        Chlorpyrifos: Commitment to Revise Labels**

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the agency, AMVAC Chemical Corp is proposing to revise the labels to clarify the use patterns.

This letter is to confirm AMVAC's commitment to implementing the proposed revisions to the labels. AMVAC will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

If there are any questions or issues, please do not hesitate to contact me. I can be reached at 949-221-6146 or via email me at [KrystalJ@amvac-chemical.com](mailto:KrystalJ@amvac-chemical.com).

Kind regards,

A handwritten signature in black ink that reads "K. Jenkins". The signature is written in a cursive, flowing style.

Krystal Jenkins, Regulatory Product Manager  
AMVAC Chemical Corporation

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**The Andersons Inc.**

P.O. Box 119 • Maumee, Ohio 43537 • 419/893/5050

April 23, 2015

Pesticide Re-Evaluation Division (MC-7508P)  
Office of Pesticide Programs  
US EPA  
1200 Pennsylvania Avenue, N. W.  
Washington, DC 20460

Attention Mr. Joel Wolf

Subject: Chlorpyrifos - Commitment to Revise Labels

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the agency, The Andersons Lawn Fertilizer Division, Inc., is proposing to revise the labels to clarify the use patterns.

This letter is to confirm The Andersons Lawn Fertilizer Division, Inc.'s, commitment to implementing the proposed revisions to the labels. The Andersons Lawn Fertilizer Division, Inc., will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

Please see attached for Chlorpyrifos proposed label changes. These changes will be used to amend the following registrations: EPA Reg. No. 9198-167.

Thank you for your consideration. Please, let me know if you have any questions or need additional information.

Sincerely,

The Andersons Lawn Fertilizer Division, Inc.

Debbie Ziehr  
Regulatory Administrator  
Phone #419-891-6671  
Fax #419-891-2745  
Email: [debbie\\_ziehr@andersonsinc.com](mailto:debbie_ziehr@andersonsinc.com)

Enclosure





The Andersons Inc.

P.O. Box 119 • Maumee, Ohio 43537 • 419/893/5050

Chlorpyrifos proposed label changes

Crop/Site	Residential	Agricultural	Forestry	Timing, Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRL (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															Valid until June 29, 2016.
GOLF COURSE TURF				When needed, soil broadcast spot treatment	Ground, low pressure	1.0 EC	2.0	NA	2	NA			NS		
				Foliar, broadcast,	Ground boom, handgun, low pressure and backpack	1.0 EC, G, B	2.0	NA	2	NA		24	NS		Chemigation not allowed for the EC formulation.
					Tractor drawn spreader, push type spreader, belly grinder	1.0 G						[24] NS	7		
				Mound treatment	Granule applicator	1.0 G	2.0	NS	2	NS		NS	7		
				Total		2.0	2.0	NA	2	NA	NS		NS		



July 16, 2015

Pesticide Re-Evaluation Division (MC-7508P)  
Office of Pesticide Programs  
U.S. Environmental Protection Agency  
One Potomac Yard Room S-4900  
2777 S. Crystal Drive  
Arlington, VA 22202

Subject: CHLORPYRIFOS: Commitment to Revise Labels - ARCANA, LLC (89430)

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the agency, ARCANA, LLC is proposing to revise the labels to clarify the use patterns.

This letter is to confirm ARCANA, LLC commitment to implementing the proposed revisions to the labels. ARCANA, LLC will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

These changes will be used to amend the following registrations:

ARC CHLOR 4# AG

84930-7

If you have any questions or need additional information I can be contacted at 970-313-6654 or [sbaker@Lhpsonline.com](mailto:sbaker@Lhpsonline.com).

Sincerely,

Scott Baker  
Regulatory Agent, ARCANA, LLC



We create chemistry

May 4, 2015

Pesticide Re-Evaluation Division  
Office of Pesticide Programs  
U. S. Environmental Protection Agency  
One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501

**Attention: Mr. Joel Wolf, Pesticide Re-Evaluation Division**

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the Agency indicated that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the Agency, BASF Corporation (BASF) is proposing to revise the labels to clarify the use patterns (see below). This letter is to confirm BASF's commitment to implementing the proposed revisions to the labels once the Agency finalizes the risk assessments.

The following is a list of BASF's active Chlorpyrifos registrations:

EPA Reg. No.	Primary Brand Name	Alternate Brand Name
499-367	Whitmire PT 275 Dur-O-Cap Microencapsulated Chlorpyrifos	DuraGuard® ME <b>Descriptor:</b> Microencapsulated Insecticide
499-405	Whitmire PT 1920 Total Release Insecticide	Duraplex® TR <b>Descriptor:</b> Total Release Insecticide
499-419	Duration PT 275 Microencapsulated Dursban Liquid Concentrate	Durashield® CS: Controlled Release Insecticide

As requested in your email to comment on any Chlorpyrifos labels that may have uses above the proposed deposition of active ingredient, we would like to note that on the DuraGuard® ME (EPA Reg. No. 499-367) and the Durashield® CS: Controlled Release Insecticide (EPA Reg. No. 499-419) labels, under the Commercial section, the listed rate allows for fly treatments to be made at 5-8 ounces of concentrate to 1 gallon of water. The higher rates on these labels would be above the one-time use deposit of active ingredient per 1,000 square feet. Also on these two labels, the dilution rate for Commercial locations on certain insects would exceed the amount of active ingredient per 1,000 square feet proposed by EPA. BASF will comply by changing the labels once the risk assessments are finalized. If the proposed guidelines are established, the dilutions rates for these two products would be approximately 5 ounces of concentrate per 1,000 square feet for flies in certain sites, and 3 ounces of concentrate per 1,000 square feet for other insects in certain sites.

Thank you for your consideration. Please let me know if you have any questions or need additional information.

Best Regards,

Jennifer M. Herzog  
Product Registration Specialist  
Email: [jennifer.herzog@basf.com](mailto:jennifer.herzog@basf.com) ; Phone: 919-547-2797



July 15, 2015

Joel Wolf, Chemical Review Manager  
Risk Management and Implementation Branch 2  
Pesticide Re-evaluation Division (7508P)  
Office of Pesticide Programs  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, Virginia 22202-4501

Re: **Chlorpyrifos – Registration Review Process**  
Submission of Chlorpyrifos: Commitment to Revise Labels

Bayer CropScience  
RTP  
P. O. Box 12014  
RTP, NC 27709  
Tel. 919 549-2000

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the agency, Bayer CropScience LP is proposing to revise the labels to clarify the use patterns.

This letter is to confirm Bayer CropScience LP commitment to implementing the proposed revisions to the labels. Bayer CropScience LP will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

These changes will be used to amend the following registration: LORSBAN 30 Flowable - EPA Reg. N. 264-932.

If you have any questions or need any additional information please contact me at 919-549-2756 or by email [miriam.frugis@bayer.com](mailto:miriam.frugis@bayer.com).

Thank you in advance.

Sincerely,

A handwritten signature in black ink, reading "Miriam C. Frugis".

Miriam Frugis  
Registration Manager



July 15, 2015

Joel Wolf, Chemical Review Manager  
Risk Management and Implementation Branch 2  
Pesticide Re-evaluation Division (7508P)  
Office of Pesticide Programs  
U.S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, Virginia 22202-4501

Re: **Chlorpyrifos – Registration Review Process**  
Submission of Chlorpyrifos: Commitment to Revise Labels

Bayer CropScience  
RTP  
P. O. Box 12014  
RTP, NC 27709  
Tel. 919 549-2000

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the agency, Bayer CropScience LP is proposing to revise the labels to clarify the use patterns.

This letter is to confirm Bayer CropScience LP commitment to implementing the proposed revisions to the labels. Bayer CropScience LP will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

These changes will be used to amend the following registration: Storicide II Grain, Bin and Warehouse Insecticide - EPA Reg. N. 264-992.

If you have any questions or need any additional information please contact me at 919-549-2756 or by email [miriam.frugis@bayer.com](mailto:miriam.frugis@bayer.com).

Thank you in advance.

Sincerely,

A handwritten signature in black ink, which appears to read "Miriam C. Frugis".

Miriam Frugis  
Registration Manager



May 19, 2015

**Commitment Letter for Label Clarifications**

Subject: Chlorpyrifos: Commitment to Revise Labels

Dear Mr. Wolf,

As part of the registration review process for chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all chlorpyrifos product labels. To address the concerns raised by the agency, Central Garden & Pet Company is proposing to revise the labels to clarify the use patterns.

This letter is to confirm Central Garden & Pet Company commitment to implementing the proposed revisions to the labels. Central Garden & Pet Company will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

Thank you for your consideration. Please, let me know if you have any questions or need additional information.

Registrations:

Equil Pyrifos	89459-69
Equil Chlorpyrifos ULV 1	89459-72
Equil Chlorpyrifos ULV 2	89459-73

Yours sincerely,  
CENTRAL GARDEN & PET COMPANY

A handwritten signature in black ink, appearing to read "Kristin R. Hood".

Kristin R. Hood  
Regulatory Affairs Specialist



Cheminova, Inc.  
Washington Office  
1600 Wilson Boulevard  
Suite 700  
Arlington, VA 22209

Phone: (703) 373-8883  
Fax: (703) 373-8887

March 6, 2015

Mr. Joel Wolf  
Document Processing Desk  
Office of Pesticide Programs (7505P)  
U.S. Environmental Protection Agency  
One Potomac Yard  
2777 S. Crystal Drive  
Arlington, VA 22202

RE: Chlorpyrifos Registration Review (Chemical Code 059101)  
Commitment to Revise Labels

Dear Mr. Wolf:

This letter is submitted on behalf of Cheminova A/S (EPA Company #4787) and Cheminova, Inc. (EPA Company #67760) and concerns the uses that the companies will support for the chlorpyrifos registration review. Cheminova A/S and Cheminova, Inc. will support the use patterns articulated by Dow AgroSciences (DAS) in its March 4, 2015 letter to you on this same subject (copy attached).

Furthermore, this letter confirms the companies' commitment to implementing the proposed revisions to the labels outlined in DAS's letter. We will apply to amend the labels once the Agency completes the risk assessments and concludes that the proposed changes are acceptable.

Our commitment applies to the following registrations:

Chlorpyrifos Technical	4787-40
Nufos Technical	4787-41
Chlorpyrifos Technical II	4787-62
Nufos 4E	67760-28
Bolton Insecticide	67760-112

Please do not hesitate to contact me if you have any questions about this letter or the subject registrations.

Sincerely,

A handwritten signature in cursive script that reads "Paula Bodey" followed by a stylized flourish or set of initials.

Paula Bodey  
Director, Regulatory Affairs, North America  
Cheminova, Inc.  
EPA Agent for Cheminova A/S

Enclosure

cc: Paula Bodey, Cheminova Inc.  
Kristian Lystbæk, Cheminova A/S





Dow AgroSciences

Dow AgroSciences LLC  
9330 Zionsville Road Indianapolis, IN 46268 USA

www.dowagro.com

March 4, 2015

Document Processing Desk  
Office of Pesticide Programs (7504P)  
U. S. Environmental Protection Agency  
One Potomac Yard  
2777 S. Crystal Drive  
Arlington, VA 22202

Attn: Joel Wolf (7505P)

Cc: Tom Myers

AI: CHLORPYRIFOS  
CHEMICAL CODE: 059101  
COMMITMENT TO REVISE LABELS.

As part of the registration review process for chlorpyrifos – ethyl, the Agency has indicated that parameters describing the use patterns are not clearly defined for all of the chlorpyrifos product labels. To address the concerns raised by the Agency, Dow AgroSciences is proposing to revise the labels held by Dow AgroSciences to clarify the use patterns.

This letter is to confirm Dow AgroSciences' commitment to implementing the proposed revisions to the labels. Dow AgroSciences will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable.

For the proposed label changes, please see the attached **Table A.1. Summary of current chlorpyrifos uses**, (which represents EPA's Chlorpyrifos Updated Occupational and Residential Exposure Assessment for Registration Review dated December 29, 2014 (pp. 43-87)), with Dow AgroSciences' comments noting corrections between what is listed in the table compared to what Dow AgroSciences has previously submitted related to our Master Label (April 30, 2014; May 22, 2014; July 1, 2014). These corrections deal with the following:

Cole Crops (excluding Cauliflower and Brussels Sprouts): maximum application rate per season should be 10 lbs ai/A (5 lbs ai/A per crop cycle with 2 crop cycles per year) and maximum number of applications of 8 (4 applications per crop cycle with 2 crop cycles per year)

Corn: DAS has previously indicated we do not support the aerial preplant use

Ornamental lawns and turf, sod farms (turf): for the sod farm use: maximum single application rate should be 4 lbs ai/A

Pineapple: the SLN HI090001 has now been renewed by the State

Radish: SLN OR090012 has now been renewed by the State

We appreciate the Agency's consideration of the corrections noted above and if there are any questions, we would welcome the opportunity to discuss further.

Joel Wolf (7505P)  
AI: CHLORPYRIFOS  
CHEMICAL CODE: 059101  
COMMITMENT TO REVISE LABELS  
March 4, 2015  
Page 2

These changes, with the exceptions noted above, will be used to amend the following registrations:

Cobalt	62719-575
Cobalt Advanced	62719-615
Dursban 4E-N	62719-254
Dursban 50W	62719-72
Lorsban 4E/Hatchet	62719-220
Lock-On	62719-79
Lorsban 15G	62719-34
Lorsban 50W	62719-221
Lorsban 75WG	62719-301
Lorsban Advanced	62719-591

We appreciate the Agency's efforts and cooperation in addressing the label clarification. If the Agency feels the labels need to be amended at any time earlier than the completion of the assessments as noted above or has any questions, we would welcome the opportunity to discuss.

Thank you.



George Oliver, Ph.D.  
U. S. Regulatory Leader- Regulatory Affairs  
Office: 317-337-4923  
Fax: 317-337-4649  
[groiver@dow.com](mailto:groiver@dow.com)

Enclosures



675 Sidwell Court  
Saint Charles, IL 60174  
630.894.2000 P  
630.443.3070 F  
www.clarke.com

May 4, 2015

Joel Wolf  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs  
U.S. Environmental Protection Agency  
1200 Pennsylvania Ave, N.W. (MC-7508P)  
Washington, D.C. 20460

Subject: Chlorpyrifos: Commitment to Revise Labels

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the agency indicated in an email dated 20 April, 2015 that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the agency, Clarke Mosquito Control Products, Inc. (EPA Company No. 08329) is proposing to revise the labels to clarify the use patterns.

This letter is to confirm the commitment of Clarke Mosquito Control Products, Inc. to implement the proposed revisions to the labels to maintain conformity of its registrations to the *Chlorpyrifos Use Summary* table accompanying the email of 20 April 2015.

The products listed here currently conform to the use pattern described in the Agency Chlorpyrifos Use Table, and Clarke does commit to maintaining that conformance through the completion of the Agency risk assessment procedures.

EPA Reg. No. 8329-18	Mosquitomist Two ULV
EPA Reg. No. 8329-20	Mosquitomist 1.5 ULV
EPA Reg. No. 8329-24	Mosquitomist One ULV
EPA Reg. No. 8329-36	ULV Mosquito Master 412

Clarke will apply to amend the following labels as described below once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner:

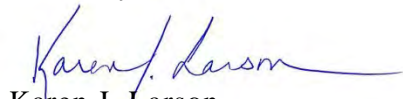
EPA Reg. No. 8329-73	ULV Mosquito Master 2+6
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The proposed label changes described below are consistent with the Chlorpyrifos Use Table and with current labeling for wide-area adult mosquito control product labels:

Mosquito Control; Household/Domestic Dwellings Outdoor Premises; Recreational Areas	
Use:	Residential
Timing/Application Type	When needed; Broadcast
Method/Equipment	Ultra low volume air and ground
Maximum single application rate (lb. a.i./A)	0.01
Maximum application rate Per Year (lb a.i./A)	0.26
Maximum application number Per Year	26, stated as a dose-based annual threshold equivalent to 26 applications at maximum application rate
PHI	N/A
REI	N/A
MRI	24 hours, with the qualifying language of PR Notice 2005-1 permitting more frequent treatments to control or prevent a threat to public and/or animal health
Geographic Restrictions	Language as may be required by the Florida Department of Agriculture and Consumer Services (aerial application) and the California Department of Health Services (user group)
Comments	<p>Aerial application may be made at altitudes ranging from 75-300 feet, depending on aircraft type.</p> <p>The user group is defined in PR Notice 2005-1 to be inclusive of federal, state, tribal or local government officials or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead regulatory agency.</p>

Thank you for your consideration. Please, let me know if you have any questions or need additional information. You can reach me directly at (630) 671-3123 or by email at [klarson@clarke.com](mailto:klarson@clarke.com).

Sincerely,



Karen J. Larson  
Vice President, Regulatory Affairs  
Clarke Mosquito Control Products, Inc.



April 24, 2015

**Re: Chlorpyrifos – Commitment to Revise Labels**

Dear Joel Wolf:

As part of the registration review process for Chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the agency, Control Solutions, Inc. is proposing to revise the labels to clarify the use patterns.

This letter is to confirm Control Solutions, Inc. commitment to implementing the proposed revisions to the labels. Control Solutions, Inc. will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

These changes will be used to amend the following registrations: 53883-251, 53883-264 & 53883-331.

Thank you for your consideration. Please, let me know if you have any questions or need additional information.

Sincerely,

A handwritten signature in black ink that reads 'Lisa Adamson'.

Lisa Adamson  
Regulatory Specialist  
Control Solutions, Inc.



Dow AgroSciences LLC  
9330 Zionsville Road Indianapolis, IN 46268 USA

www.dowagro.com

March 4, 2015

Document Processing Desk  
Office of Pesticide Programs (7504P)  
U. S. Environmental Protection Agency  
One Potomac Yard  
2777 S. Crystal Drive  
Arlington, VA 22202

Attn: Joel Wolf (7505P)

Cc: Tom Myers

AI: CHLORPYRIFOS  
CHEMICAL CODE: 059101  
COMMITMENT TO REVISE LABELS.

As part of the registration review process for chlorpyrifos – ethyl, the Agency has indicated that parameters describing the use patterns are not clearly defined for all of the chlorpyrifos product labels. To address the concerns raised by the Agency, Dow AgroSciences is proposing to revise the labels held by Dow AgroSciences to clarify the use patterns.

This letter is to confirm Dow AgroSciences' commitment to implementing the proposed revisions to the labels. Dow AgroSciences will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable.

For the proposed label changes, please see the attached **Table A.1. Summary of current chlorpyrifos uses**, (which represents EPA's Chlorpyrifos Updated Occupational and Residential Exposure Assessment for Registration Review dated December 29, 2014 (pp. 43-87)), with Dow AgroSciences' comments noting corrections between what is listed in the table compared to what Dow AgroSciences has previously submitted related to our Master Label (April 30, 2014; May 22, 2014; July 1, 2014). These corrections deal with the following:

Cole Crops (excluding Cauliflower and Brussels Sprouts): maximum application rate per season should be 10 lbs ai/A (5 lbs ai/A per crop cycle with 2 crop cycles per year) and maximum number of applications of 8 (4 applications per crop cycle with 2 crop cycles per year)

Corn: DAS has previously indicated we do not support the aerial preplant use

Ornamental lawns and turf, sod farms (turf): for the sod farm use: maximum single application rate should be 4 lbs ai/A

Pineapple: the SLN HI090001 has now been renewed by the State

Radish: SLN OR090012 has now been renewed by the State

We appreciate the Agency's consideration of the corrections noted above and if there are any questions, we would welcome the opportunity to discuss further.

These changes, with the exceptions noted above, will be used to amend the following registrations:

Cobalt	62719-575
Cobalt Advanced	62719-615
Dursban 4E-N	62719-254
Dursban 50W	62719-72
Lorsban 4E/Hatchet	62719-220
Lock-On	62719-79
Lorsban 15G	62719-34
Lorsban 50W	62719-221
Lorsban 75WG	62719-301
Lorsban Advanced	62719-591

We appreciate the Agency's efforts and cooperation in addressing the label clarification. If the Agency feels the labels need to be amended at any time earlier than the completion of the assessments as noted above or has any questions, we would welcome the opportunity to discuss.

Thank you.



George Oliver, Ph.D.  
U. S. Regulatory Leader- Regulatory Affairs  
Office: 317-337-4923  
Fax: 317-337-4649  
[groliiver@dow.com](mailto:groliiver@dow.com)

Enclosures

May 15, 2015

Mr. Joel Wolf  
Pesticide Re-Evaluation Division (MC-7508P)  
Office of Pesticide Programs  
US EPA  
(p) 703.347.0228  
(f) 703.308.8005  
[wolf.joel@epa.gov](mailto:wolf.joel@epa.gov)

Subject: Chlorpyrifos: Commitment to Revise Labels

Dear Mr. Wolf,

As part of the registration review process for chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all chlorpyrifos product labels. To address the concerns raised by the agency, Direct Ag Source, LLC is proposing to revise the labels to clarify the use patterns.

This letter is to confirm Direct AG Source, LLC's commitment to implementing the proposed revisions to the labels. Direct AG Source, LLC will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

As per your email, no label changes are required at this time for the following Direct AG Source, LLC labels: **EPA Reg. No. 83222-20 "CPF 4E" and EPA Reg. No. 83222-34 "CPF 15G."**

Thank you for your consideration. Please, let me know if you have any questions or need additional information.

Regards,



Jane M. Miller  
Agent for Direct AG Source, LLC





## Drexel Chemical Company

March 4, 2015

Mr. Joel Wolf  
Chemical Review Manager  
Pesticide Re-Evaluation Division  
OPP (7508P), U.S. EPA  
One Potomac Yard (South Bldg.)  
2777 South Crystal Drive, Arlington, VA 22202

### **Subject: Chlorpyrifos - Commitment to Revise Labels**

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the Agency indicated that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the Agency, Drexel Chemical Company is proposing to revise the labels to clarify the use patterns.

This letter is to confirm Drexel's commitment to implementing the proposed revisions to the labels. Drexel will apply to amend the labels once the Agency completes the risk assessments and concludes that the proposed changes are acceptable or if the Agency indicates they would like labels amended sooner.

Please see attached for Chlorpyrifos proposed label changes. These changes will be used to amend the following registrations:

- 1) Drexel Chlorpyrifos 4E-AG (19713-520)
- 2) Drexel Chlorpyrifos 15G (19713-505)
- 3) Drexel Chlorpyrifos 4EC (19713-517)
- 4) Drexel Chlorpyrifos Concentrate (19713-518)
- 5) Drexel Chlorpyrifos 15GR (19713-521)
- 6) Drexel Chlorpyrifos 4E-AG2 (19713-599)
- 7) Drexel Chlorpyrifos 4 Wood (19713-300)

Thank you for your consideration. Please, let me know if you have any questions or need additional information. Thank you.

For Drexel Chemical Company

Scott Pace  
Director of Registrations

March 10, 2015

Document Processing Desk  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
One Potomac Yard  
2777 S. Crystal Drive Arlington, VA 22202  
Attn: Joel Wolf (7505P)

AI: CHLORPYRIFOS  
CHEMICAL CODE: 059101  
COMMITMENT TO REVISE LABELS – GHARDA CHEMICALS LIMITED

As part of the registration review process for chlorpyrifos -ethyl, the Agency has indicated that parameters describing the use patterns are not clearly defined for all of the chlorpyrifos product labels. To address the concerns raised by the Agency, Gharda Chemicals Limited is proposing to revise the labels held by Gharda Chemical Limited to clarify the use patterns.

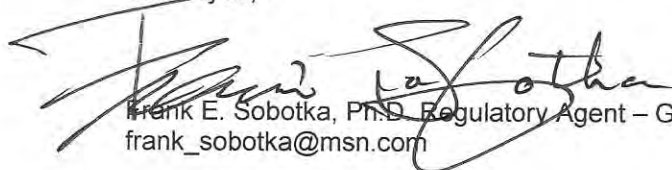
This letter is to confirm Gharda Chemicals Limited's commitment to implementing the proposed revisions to the labels. Gharda Chemicals Limited will apply to amend the labels once the Agency completes the risk assessments and concludes that the proposed changes are acceptable.

Please see attached for Gharda Chemicals Limited proposed label changes. These changes will be used to amend the following registrations:

Pilot 4E 33658-26  
Pilot 15G 33658-27

We appreciate the Agency's efforts and cooperation in addressing the label clarification. If the Agency feels the labels need to be amended at any time earlier than the completion of the assessments as noted above or has any questions, we would welcome the opportunity to discuss.

Thank you,



Frank E. Sobotka, Ph.D. Regulatory Agent – Gharda Chemicals Limited  
frank\_sobotka@msn.com

CC: Tom Meyers (7504P) - USEPA

S.Ramanathan - Gharda Chemicals Limited

George Oliver, Ph.D. - Chlorpyrifos Consortium – Dow Agrosciences

Enclosure (1)

# IPM *Resources LLC*

4032 Crockers Lake Blvd., Suite 818, Sarasota, FL 34238 Phone:(215) 497-9501 Fax: (215) 497-9502

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July 21, 2015

Document Processing Desk  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
One Potomac Yard  
2777 S. Crystal Drive Arlington, VA 22202  
Attn: Joel Wolf (7505P)

AI: CHLORPYRIFOS  
CHEMICAL CODE: 059101  
COMMITMENT TO REVISE LABELS – Gil Manufacturing, Inc.

As part of the registration review process for chlorpyrifos-ethyl, the Agency has indicated that parameters describing the use patterns are not clearly defined for all of the chlorpyrifos product labels. To address the concerns raised by the Agency, Gil Manufacturing, Inc. is proposing to revise the labels held by Gil Manufacturing, Inc. to clarify the use patterns.

This letter is to confirm Gil Manufacturing, Inc.'s commitment to implementing the proposed revisions to the labels. Gil Manufacturing, Inc. will apply to amend the labels once the Agency completes the risk assessments and concludes that the proposed changes are acceptable.

Please see attached for Gil Manufacturing, Inc. proposed label changes. These changes will be used to amend the following registrations:

Pyrifos Mist ULV 2E.C. EPA Reg. No.: 11930-7

We appreciate the Agency's efforts and cooperation in addressing the label clarification. If the Agency feels the labels need to be amended at any time earlier than the completion of the assessments as noted above or has any questions, we would welcome the opportunity to discuss.

Thank you,



Frank E. Sobotka, Ph.D. Regulatory Agent – Gil Manufacturing, Inc.  
frank\_sobotka@msn.com

CC: Tom Meyers (7504P) - USEPA  
Janice Parker – Gil Manufacturing, Inc.

Enclosure (1)

# INSECTA MARKETING, INC.

16410 Shore Oaks Court, Noblesville, IN 46060

Tel.: (450) 800-1351, Email: [pquinlan@videotron.ca](mailto:pquinlan@videotron.ca)

April 23, 2015

Mr. Joel Wolf  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs  
US EPA  
1200 Pennsylvania Ave., N.W. (MC-7508P)  
Washington, D.C. 20460

Subject: Chlorpyrifos: Comment to Revise Labels

Dear Mr. Wolf,

As part of the registration review process for chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all chlorpyrifos product labels. To address the concerns raised by the agency, Insecta Marketing, Inc. is proposing to review the labels to clarify the use patterns.

This letter is to confirm Insecta Marketing, Inc.'s commitment to implementing the proposed revisions to the labels. Insecta Marketing, Inc. will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

Please see attached for chlorpyrifos proposed label changes. These changes will be used to amend the following registration: Insecta: EPA Reg. No. 45600-1.

Sincerely,



Pat Quinlan  
Director, Registrations





#### DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift.

Do not use this product in manholes in storm drain systems.

#### Application Restrictions

Do not enter or allow others to enter manholes until spray has dried.

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 areas, woodlands, pastures, rangelands, or animals.

The applicator also must use all other measures to control drift.

Insure that all surfaces are clean and dry prior to applying this product. Each gallon covers approximately 500 square feet. Apply by using a coarse, low pressure spray by using conventional airless spray equipment. For best results, use without dilution. If necessary, dilute with up to 5% water.

#### TREATMENT OF SEWER MANHOLES: (For control of cockroaches)

Apply product only on manhole walls. Product is to be applied via coarse spray using conventional airless spray equipment delivered through a 6 foot (or longer) spray wand with minimum of 2 spray tips (for even application). The application of Insecta to sewer manhole walls must be applied only from above ground and the applicator is not to enter the manhole. Apply no more than 48 ounces (3 pints) of product to each manhole. Do not discharge spray or unused material directly into sewer system. Do not apply product within 36 hours of predicted heavy rainfall.

**ATTENTION:** Dries quickly and rinses easily with water. Allow to dry for several days before washing. As contact between the insect and the treated surface is necessary, any time that the latter becomes coated with dust or dirt, the treated surface should be washed with water in order to re-establish maximum possible contact. INSECTA applied on exposed glass, glazed tile, metal or other non-porous surfaces may dry leaving a light film.

KILL S. BY CONTACT: American Cockroaches, German

Cockroaches and H. 10/98/195

# INSECTA®

Ready-To-Use Exterior Product

Kills German Cockroaches for up to one year when exposed to treated painted surfaces.  
Kills Houseflies alighting on treated painted surfaces for up to 18 months.

## KILLS LISTED CRAWLING AND FLYING INSECTS

Outdoor Non-Residential:

For use on the inside of sewer manhole walls to control American and German cockroaches.

#### Active Ingredient:

Chlorpyrifos (O,O-Diethyl O-(3,5,6-trichloro-2 pyridinyl) phosphorothioate).....0.86%

#### Inert Ingredients:

Total 100.00%

Net Contents: 55 gallons (Minimum 15 gallons)  
**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

See side panels for additional precautionary statements.

#### Precautionary Statements

Hazards to Humans and Domestic Animals

#### CAUTION

Harmful if absorbed through skin. Harmful if inhaled. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist.

#### Personal Protective Equipment (PPE)

When working with product with open containers including drum lid changes in the field:

- All mixers, loaders, applicators and handlers must wear:
- chemical-resistant gloves such as neoprene,
- chemical-resistant apron when mixing or loading or exposed to the concentrate;
- chemical-resistant footwear plus socks;
- chemical-resistant headgear for overhead exposures;
- a NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator any N, R, P, or HE filter.

#### Personal Protective Equipment (PPE) Application of product with closed container systems.

For above ground application of Insecta on sewer manhole walls using product that is pumped from a closed container, applicators and handlers must wear:

- long sleeved shirt and long pants;
- Chemical-resistant gloves such as neoprene;
- Chemical-resistant footwear plus socks.

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. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

#### User Safety Recommendations

Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should 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.

#### FIRST AID

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

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

**Note to Physician:** Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. Atropine, only by injection is the preferable antidote.

**HOTLINE INFORMATION:** Emergency Telephone Number: 1-800-255-3924

#### Environmental Hazards

This product is toxic to fish, aquatic invertebrates, small mammals and birds. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Do not contaminate water when disposing of equipment wash water or rinsate.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treated areas.

#### Storage and Disposal

Do not contaminate water, food, or feed by storage and disposal. Pesticide Storage: Store in a cool, dry area under lock and key. Post as a pesticide storage area. Always store pesticides in the original container. Store away from food, pet food, feed, seed, fertilizers, and veterinary supplies. Place liquid formulations on lower shelves and dry formulations above. Do not allow to freeze.

**Pesticide Disposal:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

**Container Handling:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty 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. Do not burn unless allowed by state and local ordinances.

#### NOTICE

Seller warrants that this product conforms to its chemical description and is reasonably fit for purposes stated on the label when used in accordance with directions under normal conditions of use. To the extent allowed by applicable laws, neither this warranty nor any other warranty expressed or implied, extends to the use of the product contrary to label instructions or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and to the extent allowed by applicable laws buyer assumes the risk of any such use.

#### Product of USA

Manufactured For: Insecta Marketing, Inc.

16410 Shore Oaks Court, Noblesville, IN 46060

\*Insecta is a Registered Trade Mark

Patent No. 5023247

Batch Code:

Product Code: W

EPA Reg. No. 45600-1 EPA Est. No. 88995-TN-001

See side panels for additional precautionary statements.





July 16, 2015

Pesticide Re-Evaluation Division (MC-7508P)  
Office of Pesticide Programs  
U.S. Environmental Protection Agency  
One Potomac Yard Room S-4900  
2777 S. Crystal Drive  
Arlington, VA 22202

Subject: CHLORPYRIFOS: Commitment to Revise Labels - KAIZEN TECHNOLOGIES, LLC (86363)

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the agency, KAIZEN TECHNOLOGIES, LLC is proposing to revise the labels to clarify the use patterns.

This letter is to confirm KAIZEN TECHNOLOGIES, LLC commitment to implementing the proposed revisions to the labels. KAIZEN TECHNOLOGIES, LLC will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

These changes will be used to amend the following registrations:

KT CHLORPYRIFOS 4E

86363-3

If you have any questions or need additional information I can be contacted at 970-313-6654 or [sbaker@Lhpsonline.com](mailto:sbaker@Lhpsonline.com).

Sincerely,

Scott Baker  
Regulatory Agent, KAIZEN TECHNOLOGIES, LLC

# LIBERTY CROP PROTECTION LLC

May 15, 2015

Pesticide Re-Evaluation Division (MC-7508P)  
Office of Pesticide Programs  
U.S. Environmental Protection Agency  
One Potomac Yard Room S-4900  
2777 S. Crystal Drive  
Arlington, VA 22202

Subject: CHLORPYRIFOS: Commitment to Revise Labels - Liberty Crop Protection, LLC (89168)

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the agency, Liberty Crop Protection, LLC is proposing to revise the labels to clarify the use patterns.

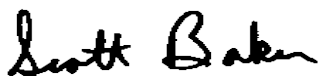
This letter is to confirm Liberty Crop Protection, LLC commitment to implementing the proposed revisions to the labels. Liberty Crop Protection, LLC will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

These changes will be used to amend the following registrations:

LIBERTY CHLORPYRIFOS BIFENTHRIN	89168-20
LIBERTY CHLORPYRIFOS 4E	89168-24

If you have any questions or need additional information I can be contacted at 970-800-4342 or [scott.baker@innvictis.com](mailto:scott.baker@innvictis.com).

Sincerely,



Scott Baker  
Director of Regulatory, Liberty Crop Protection, LLC



May 15, 2015

Joel Wolf  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs (7504C)  
U.S. Environmental Protection Agency  
Room S4900, One Potomac Yard  
2777 S Crystal Drive  
Arlington, VA 22202

**Subject: Products Containing Chlorpyrifos Registered by Loveland Products, Inc. -  
Commitment Letter for Label Clarifications**

Dear Mr. Wolf:

As part of the registration review process for chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all chlorpyrifos product labels. To address the concerns raised by the agency, Loveland Products, Inc. is proposing to revise the labels to clarify the use patterns.

This letter is to confirm Loveland Products' commitment to implementing the proposed revisions to the labels. Loveland Products will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable, or if the agency indicates they would like labels amended sooner.

Please see below for chlorpyrifos proposed label changes. These changes will be used to amend the following registrations: Warhawk (EPA Reg. No. 34704-857) and Warhawk ClearForm (EPA Reg. No. 34704-1077).

Crop	Timing/Application Type	Method	Max single app rate	Max application rate/year	Max application number/year
Brussels sprouts	Preplant, soil incorporated treatment	Ground boom	2.0 pounds a.i./acre	2.0 pounds a.i./acre	2
Ornamental lawns and turf, Sod farms (turf)	When needed, broadcast soil or spot treatment	High pressure hand wand	3.76 pounds a.i./acre	7.52 pounds a.i./acre	2

If you have any additional questions or concerns, please contact me by telephone 970-685-3579 or [solito.sumulong@cpsagu.com](mailto:solito.sumulong@cpsagu.com) by email.

Sincerely,

Solito Sumulong  
Manager Registrations





**NUFARM AMERICAS INC.**

11901 S. Austin Avenue  
Alsip, IL 60803

4020 Aerial Center Parkway  
Morrisville, NC 27560  
Phone: 919-379-2515

April 24, 2015

Document Processing Desk (DCI/PRD)

Attn: Joel Wolf

US EPA (7508P)

One Potomac Yard (South Building)

2777 South Crystal Drive

Arlington, VA 22202

**Subject: Chlorpyrifos: Nufarm Americas Inc (000228)  
Commitment to Revise Labels**

Dear Mr. Wolf,

As part of the registration review process for chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all chlorpyrifos product labels. To address the concerns raised by the agency, Nufarm Americas Inc (000228) is proposing to revise the labels to clarify the use patterns.

This letter is to confirm Nufarm Americas Inc commitment to implementing the proposed revisions to the labels. Nufarm Americas Inc will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

Nufarm Americas Inc holds 4 US EPA registrations for pesticide products containing chlorpyrifos

228-620	Nufarm Chlorpyrifos SPC 2.32% G Insecticide
228-621	Nufarm Chlorpyrifos SCP 1.0% MCB Insecticide
228-623	Nufarm Chlorpyrifos SPC 4 Insecticide
228-624	Nufarm Chlorpyrifos SPC 2 Insecticide

Should you have any questions or concerns, please contact me directly at (919) 379-2515 or by email at [nathan.ehresman@us.nufarm.com](mailto:nathan.ehresman@us.nufarm.com)

Sincerely,

A handwritten signature in black ink, appearing to read 'N. Ehresman', with a long horizontal line extending to the right.

Nathan P. Ehresman  
Director, Regulatory Affairs  
Agent for Nufarm Americas Inc.

## Chlorpyrifos Registration Review Commitment Letter



May 1, 2015

Mr. Joel Wolf  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs  
**U.S. Environmental Protection Agency**  
2777 South Crystal Drive, Room S-4900  
Arlington, VA 22202

Dear Mr. Wolf:

**Subject:** Rainbow Technology Corporation  
Chlorpyrifos Registration Review Commitment to Amend Labels  
Agency Email Dated April 23, 2015

On behalf of **Rainbow Technology Corporation** ("Rainbow"), RegWest Company, LLC ("RegWest") is responding to the subject email relating to the Chlorpyrifos Registration Review. RegWest will act as sole agent in this endeavor.

As part of the registration review process for Chlorpyrifos, and without benefit of actual usage information, the Agency concluded that the maximum use rate (lb ai/A/year) for this use pattern was 191 lbs. A maximum use rate is not currently stipulated on Rainbow's Chlorpyrifos-containing product labels. We wish to clarify that the maximum use rate is not 191 lb ai/A/year as indicated in the "Master Use Document"; it is significantly less and should actually be a maximum of 1 lb ai/A/year.

To address this issue raised by the Agency, this letter is to confirm Rainbow's proposal/commitment to revise the product labels identified below with this maximum 1 lb ai/A/year application rate once the Agency completes the risk assessments and concludes that the proposed changes are acceptable, or sooner if the Agency so requests.

We propose the aforementioned label amendment the following registrations:

Rainbow Fire Ant Killer, EPA Reg. No. 13283-14  
Rainbow KO Fire Ant Killer, EPA Reg. No. 13283-17  
Fire Ant Killer Granules, EPA Reg. No. 13283-37

Please advise if you have any questions or require additional information at this time.

Regards,  
**RegWest Company, LLC**

A handwritten signature in blue ink, appearing to read 'Kim Davis', is written over a blue circular stamp.

Kim Davis,  
Consultant/Agent

cc: RTC – Steeley, L.J.  
EPA – Myers, T.



## Southern Agricultural Insecticides, Inc.

P.O. Box 218  
Palmetto, FL 34220  
Office: (941) 722-3285  
Fax: (941) 723-2974

P.O. Box 429  
Hendersonville, NC 28793  
Office: (828) 692-2233  
Fax: (828) 693-7554

P.O. Box 85  
Boone, NC 28607  
Office: (828) 264-8843  
Fax: (828) 264-5236

April 23, 2015

Mr, Joel Wolf  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs  
US EPA

Subject: Chlorpyrifos commitment to revise labels

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all chlorpyrifos product labels. To address the concerns raised by the agency, Southern Agricultural Insecticides, Inc. is proposing to revise the labels to clarify the use patterns.

This letter is to confirm Southern Agricultural Insecticides, Inc. commitment to implementing the proposed revisions to the labels. Southern Agricultural Insecticides, Inc will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

These changes will be used to amend the following registrations:

Chlorpyrifos 1 Mole Cricket Bait	EPA Reg. No. 829-291
Chlorpyrifos 2.5 Granular Insecticide	EPA Reg. No. 829-292

Thank you for your consideration. Please, let me know if you have any questions or need additional information.

Sincerely,  
Cynthia Huffman

**PYXIS REGULATORY CONSULTING, INC.**

4110 136<sup>th</sup> St. NW  
Gig Harbor, WA 98332

Phone: 253-853-7369  
Fax: 253-853-5516  
[www.PyxisRC.com](http://www.PyxisRC.com)

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May 8, 2015

Document Processing Desk  
Joel Wolf, Chemical Review Manager  
Pesticide Re-evaluation Division (7508P)  
Office of Pesticide Programs (OPP), U. S. EPA  
One Potomac Yard (South Building)  
2777 South Crystal Drive  
Arlington, VA 22202

RE: Chlorpyrifos – Commitment to Revise Labels

Dear Mr. Wolf:

As part of the registration review process for chlorpyrifos, the Agency indicated that parameters describing the use patterns are not clearly defined for all chlorpyrifos product labels. To address the concerns raised by the agency, Tide International USA, Inc. (Tide) is proposing to revise the labels to clarify the use patterns.

This letter is to confirm Tide's commitment to implementing the proposed revisions to the labels. With the understanding that all other registrants will also revise their product labeling, Tide will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner. Please note, however, that this commitment is contingent on all chlorpyrifos registrants also committing to amend their product labels. If other registrants do not commit to do the same, an unfair sales advantage would be given to companies that do not amend their product labeling.

Please see the attached Chlorpyrifos Use Summary Table, which indicates proposed use patterns for Chlorpyrifos. Tide will amend their chlorpyrifos labels so that they reflect the use patterns indicated in that table. Any necessary changes will be applied to the following registrations:

- Chlorpyrifos 4 EC (EPA Reg. No. 84229-20)
- Chlorpyrifos 4 E Ag (EPA Reg. No. 84229-25)
- Chlorpyrifos 15G (EPA Reg. No. 84229-26)
- Chlorpyrifos 61.5% MUP (EPA Reg. No. 84229-27)

If you have any questions or concerns regarding this commitment letter, please contact me at your convenience at [Leanne@PyxisRC.com](mailto:Leanne@PyxisRC.com) or (919) 324-2145.

Best Regards,



P. Leanne Pruett  
Pyxis Regulatory Consulting  
Authorized Agent – Tide International USA, Inc.

cc: Tide International US, Inc.

**Table 1. Chlorpyrifos Use Summary**

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
<b>AGRICULT- URAL FARM PREMISES</b>  Livestock housing and holding areas (such as hog barns, empty chicken houses, dairy areas, milkrooms, calf hutches, calving pens and parlors).		✓		Indoor general surface spray	backpack sprayer; high and low sprayer (pressure or volume)	0.075 lb a.i./ 1000 ft sq  1.2 EC, ME	[14.4] NS	NA	12	NA	NA	NS	NS		Only permitted for use in poultry houses
<b>ALFALFA</b>		✓		At plant	groundboom	1.0 G	1.0	1.0	[1] NS	1	21	24	[10] NS	Missouri only	Lower PHI permitted for EC rates 0.33 lb a.i./A (7 d) and 0.67 lb a.i./A (14 d) e.g. Reg. No. 62719-591  Stand is in production 3-5 years. Planted ¼" to ½" deep.
		✓		Foliar	aerial or ground/ broadcast, chemigation	1.0 EC	[4.0] NS	4.0	[4] NS	4	21	24	10		Lower PHI permitted for EC rates 0.33 lb a.i./A (7 d) and

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															0.67 lb a.i./A (14 d) <i>e.g.</i> , Reg. No. 62719-591  Multiple harvests (or cuttings) per year when used for feed/fodder and 1 harvest per year when grown for seed. Cuttings occur about every 30 days. Only 1 crop cycle per year but up to 9 cuttings, varies by geography.
				<b>Total</b>		<b>1.0</b>	<b>5.0</b>	<b>5.0</b>	<b>[5] NS</b>	<b>5</b>	<b>21</b>	<b>24</b>	<b>[10] NS</b>		Represents Missouri scenario otherwise 4.0 lb a.i./A per is max.
<b>ALMOND</b>		✓		<b>dormant/ delayed dormant; broadcast</b>	aircraft, airblast	2.0 WDG, WP	2.0	NA	1	NA	NA	24	10	Restricted use in California.	
		✓		<b>foliar;</b>	aircraft, airblast	2.0	6.0	NA	3	NA	14		10		

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
				broadcast		WDG,WP					14				
		✓		pre-plant, foliar; <b>trunk spray/drench or pre- plant dip</b>	handheld, backpack, drench/dip, handgun, and low pressure hand wand	2.5 (3.0/100 gal) WDG	2.5	NA	1	NA			NS		
		✓		Dormant/ delayed dormant; foliar; <b>orchard floors broadcast</b>	ground boom, handgun, chemigation	4.0 EC*	4.0	NA	2	NA			10	Restricted use in California. Only one dormant application can be made.	
				<b>Total</b>	--	<b>4.0</b>	<b>14.5</b>	<b>NA</b>	<b>7</b>	<b>NA</b>			<b>NS</b>		Excludes nursery applications (See general “Fruits” listing)
APPLE		✓		<b>dormant/ delayed dormant; broadcast</b>	aircraft, airblast	2.0 EC 2.0 WDG 1.5 WP	2	2.0	1	1	NA	24/ 4 d	10d		Reflects spray drift mitigation measures.
		✓		pre-plant, foliar; <b>trunk spray/drench or pre- plant dip;</b>	handheld, backpack, drench/dip, handgun, and low pressure hand wand	1.5 (1.5 lb ai/100 gal) WDG	1.5	NA	1	1	28	4d	NS	Use permitted in states east of the Rockies except Mississippi.	

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
				ground											
				<b>Total</b>		<b>2.0</b>	<b>3.5</b>		<b>2</b>						
<b>ASPARAGUS</b>		✓		Foliar, pre-harvest; broadcast	aircraft, ground boom	1.0 EC, WDG	1.0	1.0	1	1	1	24	10		
		✓		Postharvest, broadcast	aircraft, ground boom	1.0 EC, WDG	2.0	2.0	2	1	1	24	10		
					granular soil band treatment ground boom	1.5 G	3.0	3.0	2	2	180	24	[10] NS	Permitted in California, the Midwest, and the Pacific Northwest 19713-505, 19713-521, 5481-525, 62719-34, 83222-34	Do not apply more than 3.0 lb a.i./A between harvests.
				<b>Total</b>		<b>1.5 G</b>	<b>3.0 G 2.0</b>	<b>3.0 G 2.0</b>	3	3	1	24	10		
<b>BEANS</b>		✓		Preplant; Seed treatment	Seed Treatment	<i>0.016-0.348</i> 0.000798 lb ai/lb seed ME <i>0.013-0.272</i> 0.000625 lb ai/lb seed	NS	[0.348] NS	NS	[1] NS	NS	NS	NS	ME is SLN only for ID	Italics highlight the range of application rates depending on the number of seeds per lb and the number



Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
						WP 0.012-0.253 0.00058 lb ai/lb seed EC									of seeds planted per acre. Seeding rate information provide by BEAD. <sup>4</sup>
<b>BEEF/RANGE/ FEEDER CATTLE (MEAT)/ DAIRY CATTLE (NON- LACTATING)</b>				Summer, late fall, spring; impregnated collar/tag	Animal treatment (ear tag)	0.0066 lb/animal	[0.0099 ] NS	NA	3	NA	NS	NS	NS		Reg. No. 39039-6 Cattle ear tags are assumed to last 4-6 months Two tags per animal at 0.0033 lb a.i./tag in the summer and one tag per animal at 0.0033 lb a.i./A.
<b>BEETS (UNSPECIFIED; TABLE OR SUGAR)</b>  “grown for seed”		✓		At plant, soil band treatment	Ground boom	1.0 EC	NS	1	NS	1		24		Allowed in Oregon Court ordered buffer of 60 ft for ground chlorpyrifos application is required for “affected waterways”.	Minimum Incorporation: 2 inches

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
		✓		Preplant, soil incorporated treatment	Broadcast/ ground boom	1.9 EC	NS (2.8 ID)	NS	1	NS				Allowed in Oregon and Idaho	OR-09007; 62719-591 ID-090002; 62719-591
				<b>Total</b>		<b>1.9</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>	<b>NS</b>		<b>24</b>			One or the other type of application.
<b>SUGAR BEETS</b>		✓		Preplant, soil incorporated treatment	Broadcast/ ground boom	1.0 EC 2.0 G	3.0	2.0	1	1	NA	24	10		Minimum Incorporation: 1 inch
		✓		At plant, soil band treatment	Broadcast/ ground boom	1.0 EC, WDG 2.0 G	3.0	2.0	1	1	30	24	10		
		✓		Postplant, soil band	Broadcast/ ground boom	2.0 G	3.0	2.0	1	1	30	24	10		
		✓		Post- emergence band treatment; broadcast	Broadcast/ ground boom	1.0 EC, WDG	3.0	1.0	3	1	30	24	10		
		✓		broadcast	Aircraft, ground boom, chemigation	1.0 EC, WDG	3.0	1.0	3	1	30	24	10		EC is not for use in MS
				<b>Total</b>		<b>1.0 EC 2.0 G</b>	<b>4.0</b>	<b>[4.0] NS</b>	<b>3</b>	<b>[3] NS</b>	<b>30</b>	<b>24</b>	<b>10</b>		One granular application at 2.0 a.i./A and two liquid applications at 1.0 a.i./A per

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															year. Also assumed per crop cycle.
<b>CARROT Grown for Seed (INCLUDING TOPS)</b>		✓		Foliar pre- bloom broadcast	aircraft, ground boom	0.94 EC	0.94	1	1	1	7	24	NA	Oregon and Washington Court ordered buffer of 60 ft for ground and 300 ft for aerial application is required for “affected waterways”.	OR090011 SLN Expires: 12/31/2018 WA090011 SNL Expires: 12/31/2016  Carrots take two years to produce seed. All commercial production of the carrot (vegetable) takes place in the first year when the plant is nowhere near blooming.
<b>CHERRIES</b>		✓		<b>dormant/ delayed dormant;</b> broadcast	aircraft, airblast	2.0 WDG, EC 1.5 WP	2.0	NA	1	NA	NS	24	10		
		✓		<b>foliar;</b> broadcast	airblast	4.0 EC	10.0	NA	5	NA	14	24	10		Tart cherry only
					aircraft	2.0									Reflects spray drift mitigation

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
		✓		Foliar, post harvest; <b>trunk spray/drench</b> <b>h</b>	handheld, backpack, drench/dip, handgun, and low pressure hand wand	2.5 (3.0/100 gal) WDG, EC	2.5	NA	1	NA	2	24	[10] NS		Only some labels specify a 10 d MRI.
				<b>Total</b>	--	<b>4.0</b>	<b>4.5 (sweet)</b> <b>14.5 (tart only)</b>		<b>6</b>						Excludes nursery applications (See general “Fruits” listing)  The foliar applications only apply to tart cherries, thus, sweet cherry scenarios (e.g., Pacific NW) annual application rate would be 4.5 lb total a.i./year.
<b>CHRISTMAS TREE PLANTATIONS</b>		✓		<b>foliar;</b> broadcast	helicopter, orchard blast	1.0 EC, WDG, WP	3.0	NA	3	NA	[0] NS	24	7	Aerial applications via helicopter are only permitted in Washington and Oregon.	

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
		✓		post harvest; <b>Stump Treatment</b>	handheld, backpack, drench/dip, handgun, and low pressure hand wand	2.5 (3.0/100 gal) EC, WDG	2.5	NA	1	NA	NA		7		
				<b>Total</b>		<b>2.5</b>	<b>5.5</b>		<b>4</b>						
CITRUS		✓		foliar; broadcast	airblast, ground boom	6.0 WP, WSP, EC	7.5	NA	2	NA	35 (21 for low rate s)	5d	30 (10 for low rates )	6.0 lb a.i. /A is only permitted in California and Arizona. The max single rate in other states is restricted to 4 lb a.i./A.	
		✓			aircraft	2.3 WP, WSP, EC					21	5	10	Florida, California, and potentially Texas	Aerial application used to control psyllid, the vector for citrus greening. Reflects spray drift mitigation
		✓		foliar; <b>orchard floors broadcast</b>	ground boom, chemigation, handheld, backpack, drench/dip, handgun, and	1.0 G*, WSP, EC	3.0	NA	3	NA	28	24/ 5 d	10		

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
					low pressure hand wand										
				<b>Total</b>	--	<b>6.0</b>	<b>10.5</b>		<b>5</b>						Registered labels permit both foliar and soil applications in the same orchard. Total excludes nursery applications (See general “Fruits” listing)
<b>CLOVER (GROWN FOR SEED)</b>		✓		Preplant	Ground boom	1.9 EC	1.9	1.9	1	1	NS	24	NA	Use only permitted in Oregon.	OR-0900100; master label: 62719-591  Either a preplant or post plant application is allowed.
		✓		Post-Plant Foliar	aircraft and ground boom										
<b>COLE CROPS (EXCLUDES CAULIFLOWE R AND BRUSSELS SPROUTS)</b>		✓		Preplant, soil incorporated treatment	Ground boom	2.0 EC, WDG, G	4.0	2.0	2	1	30	24	10		Min. incorporation: 2 inches
		✓		At plant, soil band treatment	Ground boom					1					One granular application permitted per year.
		✓		Post plant	Ground boom					1					

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
		✓		Foliar Established Plantings, soil sidedress treatment	Ground boom					1					
		✓		Foliar, broadcast	Aircraft, ground boom, chemigation	1.0 EC, WDG, WP	4.0	3.0	4	3	21		10		Multiple crops per year are possible in some locations.
				<b>Total</b>			<b>8.0</b>	<b>5</b>	<b>6</b>	<b>4</b>					Some labels restrict the yearly application rate to 3 lb a.i./A. The maximum number of crops per year is 2.
<b>BRUSSELS SPROUTS</b>		✓		At plant, soil band treatment	Ground boom	2.0 EC; G	2.0	[2.0] NS	2	1	21	24	10		
		✓		Preplant, soil incorporated treatment	Ground boom										Minimum incorporation is 2 inches
		✓		Postplant, soil application	Ground boom	2.25 EC, G	2.25	[2.25] NS							
		✓		Foliar broadcast	Aircraft, Ground boom	1.0 EC	[5.3] NS	3.0	NS	3			10		83222-20, 84930-7, 86363-3 specify a 7 day MRI. All other labels

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															specify a 10 day MRI. The PHI stated 84930-7 is conflicting [p. 4 (21 days and p. 19 (30 days))]
				Total		2.3	5.3		NS		21	24	7		Assume one application of either at plant, preplant, or postplant followed with additional foliar applications.
CAULI- FLOWER		✓		At plant, soil band treatment	Ground boom	2.0 EC 2.3 G	2.0 EC 2.25 G	NS	[1] NS	1	21	3d	10		Only one granular application.
		✓		Preplant, soil incorporated treatment	Ground boom	2.3 G 2.0 EC	2.3	NS	[1] NS	1	30, EC, 21 G				Minimum incorporation is 2 inches
		✓		Postplant, soil application	Ground boom										
		✓		Foliar broadcast	aircraft, ground boom	1.0 EC	[5.3] NS	3.0	NS	3	21	10			
					Total		2.3	5.3	[5.3] NS	NS	[4] NS	21	24	10	



Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															postplant followed with additional foliar applications.
<b>COMMERCIAL /INSTITUTION- AL/ INDUSTRIAL PREMISES/ EQUIP. (INDOOR)</b> Non-food areas of manufacturing, industrial, and food processing plants; warehouses; ship holds; railroad boxcars.				Broadcast	Product Container	0.4373 lb a.i./100 sq ft  190.5 G	NS	NA	NS	NA	NA	NS	NS		For treatment of fire ants
				Crack and Crevice/Void	Sprayer/ Injection	0.0625 lb a.i./1000 sq ft  2.7 ME	NS	NA	NS	NA	NA	NS	NS		499-419
				Crack and Crevice/Spot	Sprayer/ Injection	0.0424 lb/gal ME	NS	NA	NS	NA	NA	NS	7		
<b>COMMERCIAL /INSTITUTION AL /INDUSTRIAL PREMISES/EQ UIP. (OUTDOOR)</b> Outdoor commercial use around non-food areas of manufact- uring, industrial,				Soil broadcast	Low and High Pressure, Backpack, Handgun Sprayers	0.0247 lb a.i./1000 sq ft 1.1 ME	NS	NA	NS	NA	NA	NS	NS		
				Directed spray		0.1132 lb a.i./1000 sq ft 4.9 ME	NS	NA	NS	NA	NA	NS	NS		Specific to: Inside and outside dumpsters and other trash holding containers, trash corrals and

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
and food processing plants; warehouses; ship holds; railroad boxcars															other trash storage areas.
				Crack and Crevice/void/ general outdoor		0.0424 lb/gal ME	NS	NA	NS	NA	NA	NS	7		
<b>CONIFERS AND DECIDUOUS TREES; PLANTATION, NURSERY</b>		✓	?	<b>foliar;</b> broadcast	Ground boom	1.0 EC	3	NA	6	NA	7	24	7		
		✓	?	<b>foliar; stump treatment</b>	backpack, drencher, low pressure hand wand	0.3 EC	0.3	NA	1	NA	7	24	7		
				<b>Total</b>		<b>1.0</b>	<b>3</b>	<b>NA</b>	<b>6</b>	<b>NA</b>	<b>7</b>	<b>24</b>	<b>7</b>		The total number of applications assumed is either 3 foliar applications or 2 foliar applications with one stump treatment.
<b>CORN (ALL)</b>		✓		Preplant	ground/ <b>soil incorporated</b> conservation tillage, in furrow, broadcast, chemigation,	3.0 EC 2.0 G	3.0	3.0	NS	3	NA	24/ 5 EC	10		19713-520, 19713-599, 33658-26, 34704-857, 72693-11, 83222-20

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
					soil band										The minimum incorporation depth is 2 inches.
					<b>soil incorporated</b> aerial conservation tillage	2.0 EC, G									
		✓			ground/ conservation tillage, in furrow, broadcast, chemigation, soil band	1.0 EC 2.0 G	3.0	3.0	NS	3	21		10		19713-520
		✓		Storage or preplant seed treatment	Seed treatment	<i>0.001-0.021</i> 0.000625 lb a.i./ lb seed WP  <i>0.1-1.9</i> 0.058 lb a.i./ lb seed FC	[?] NS	[1.9] NS	[?] NS	1	NS	NS	NS		Italics highlight the range of application rates depending on the number of seeds per lb and the number of seeds planted per acre. Seeding rate information provide by BEAD. <sup>4</sup>
		✓		At plant	soil incorporated,	2.0	[?] NS	3.0	[?] NS	3	21	24	10		

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
					conservation tillage	G									
		✓		Post emergence	Aerial or ground, broadcast, chemigation	1.5 EC 1.0 WDG	NS	3.0	NS	3	21	24/ 5d (EC)	10		A brush on max single rate is permitted at 1.0 lb ai/a (72693- 11)
		✓		Foliar	Aerial or ground/ broadcast, granule, seed and chemigation	1.5 EC	3.0	3.0	NS	3	21		10		
				<b>Total</b>		<b>3.0</b>	<b>8.1</b>	<b>8.1</b>	<b>NS</b>	<b>4</b>	<b>21</b>		<b>10</b>		Two granular applications are allowed with a maximum single rate of 1.0 lb a.i./A or one granular application at 2 lb a.i./A. Total with seed treatment PHI: 21 d except Delaware and Florida (7 d)
<b>COTTON</b>		✓		Storage or preplant seed treatment	Seed treatment	<i>0.8-2.2</i> 0.00116 lb/lb seed	[2.2] NS	[2.2] NS	[1] NS	1	NS	NS	NS		264-932 Rates in italics highlight the

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
						EC									potential range of application rates depending on the number of seeds per lb and the number of seeds planted per acre. Seeding rate information provide by BEAD. <sup>2</sup>
		✓		Foliar	aerial, chemigation, ground boom	1.0 EC, WDG	3	3.0	3	3	14	24	10		Except MS
				<b>Total</b>		<b>1.0</b>	<b>3.2</b>	<b>3.2</b>	<b>3</b>	<b>3</b>	<b>14</b>	<b>24</b>	<b>10</b>		1.6 lb a.i./A is max single rate (seed treatment) <b>Total with seed treatment</b> 1 crop cycle per year assumed
<b>CRANBERRY</b>		✓		Foliar	aircraft, ground boom/ broadcast and chemigation	1.5 EC, WDG	3.0	NA	2	NA	60	24	10	Not for use in Mississippi.	Do not apply to bogs when flooded.
<b>CUCUMBER</b>		✓		Storage or preplant seed treatment	Commercial seed treatment	0.4 0.00058 lb/lb seed EC	NS	0.1	2	1	NS	NS	NS		Seeding rate information provide by BEAD. <sup>2</sup> 264-932,

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															62719-221, CA040004 Per registrant 2 CCs per year
<b>FIGS</b>		✓		<b>dormant/ delayed dormant;</b> soil application	ground boom	2.0 WDG, EC	2.0	NA	1	NA	217	4 d	NS	Use is restricted to California only.	Incorporation to 3 inches is suggested but not required following application.
<b>FILBERTS/ HAZELNUT</b>		✓		<b>dormant/ delayed dormant;</b> broadcast	aircraft, airblast	2.0 WP	2.0	NA	1	NA	14	24	10		
		✓		<b>foliar;</b> broadcast	aircraft, airblast	2.0 WDG, WP, EC	6.0	NA	3	NA	14		10		Some labels specify a retreatment interval of 10 days.
				<b>Total</b>		<b>2.0</b>	<b>6.0</b>	<b>NS</b>	<b>3.0</b>	<b>NA</b>	<b>14</b>	<b>24</b>	<b>10</b>		Excludes nursery applications (See general “Fruits” listing)
<b>FOOD PROCESSING PLANT PREMISES (NONFOOD CONTACT)</b>				When needed, crack and crevice treatment, spot treatment		0.0424 lb/ gal ME	NS	NA	NS	NA	NA	NS	7		53883-264, 84575-3 Spot Treatment: Do not exceed two square feet per individual spot.

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
<b>FOREST PLANTINGS (REFORESTATION PROGRAMS) (TREE FARMS, TREE PLANTATION, ETC.)</b>			✓	Foliar, broadcast	ground boom	1.0 EC	6.0	NA	6	NA		24	7		
			✓	Foliar, stump treatment	direct spray, drencher	0.34 EC	6.0	NA	[18] NS	NA			7		
<b>FOREST TREES (SOFTWOODS, CONIFERS)</b>			✓	Foliar, broadcast	ground boom, drencher	0.61 EC	3.6	NA	NS	NA	24		7		
			✓	Foliar, stump treatment	direct spray	[3.6] 2.4 lb a.i./100 gal EC	3.6	NA	NS	NA			7		Application rate is provided as a dilution factor.
<b>FRUITS &amp; NUTS</b> Non-bearing (not to bear fruit within 1 year) fruit trees in nurseries (includes: almonds, citrus, filbert, apple, cherry, nectarine, peach, pear, plum, prune).		✓		Foliar-Non- bearing nursery broadcast	High/low volume spray/ hand held sprayer/power sprayer	4.0 EC	4.0	NA	NS	NA	14	NS	7		For nectarines and peaches, the use is restricted to one application of no more than 3 lb a.i./A per cc. For apples, the max rate is 2 lb a.i./A per crop cycle and the use is restricted to 1 application (either canopy

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															or trunk drench) per year. Example label, 62719-254
		✓		Foliar-Non- bearing nursery trunk drench	drencher, high and low pressure sprayer	2.0 WDG	2.0	NA	NS	1	14		7		
				<b>Total</b>		<b>4.0</b>	<b>6.0</b>								Maximum Single Rates: 3.0 (nectarines and peaches) 2.0 (apples) Maximum Yearly Rates: 3.0 (nectarines and peaches) 2.0 (apples)
<b>GINSENG (MEDCINAL)</b>		✓		Preplant, post- emergence	Ground, soil broadcast	2.0 G	2.0	NA	1	NA	365	24	NA	Permitted in Michigan and Wisconsin	MI110006,WI1 10003) Minimum incorporation: 4 inches Application should be followed by rainfall or overhead watering. Valid until June 29, 2016.



Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					

GOLF COURSE TURF				When needed, soil broadcast/ spot treatment	Ground, low pressure	1.0 EC	2.0	NA	2	NA		24	NS		
				Foliar, broadcast,	Ground boom, handgun, low pressure and backpack	1.0 EC, G, B	2.0	NA	2	NA			NS	Chemigation not allowed for the EC formulation.	
					Tractor drawn spreader, push type spreader, belly grinder	1.0 G					[24 ] NS		7		
				Mound treatment	Granule applicator	1.0 G	2.0	NS	2	NS		NS	7		
				<b>Total</b>		<b>2.0</b>	<b>2.0</b>	<b>NA</b>	<b>2</b>	<b>NA</b>	<b>NS</b>		<b>NS</b>		
GRAPES		✓		Dormant/ Delayed Dormant (pre-bloom)	Ground boom, broadcast, drench high/low spray volume	1.0 WDG, EC	1.0	1	1	NA	35	24	NS	East of the continental divide only.	Do not use in conjunction with soil surface applications for grape borer control.
		✓				2.0 EC	2.0	1	1	NA	35			Permitted in Colorado, Idaho, and Washington	CO080008, ID090004, WA090002 Master label: 62719-591
		✓		Foliar	Ground/	2.25	2.25	1	1	NA	35		NS	Permitted	

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
					broadcast, basal spray and drench (soil treatment)	EC								east of the continental divide.	
		✓				1.0 EC	3.0	3	3	NA	35		NS	California	CA080010
		✓		Postharvest, dormant/ delayed dormant	Ground boom, broadcast	2.0 EC	2.0	1	1	NA	NS		NS	California	CA080009
				Total		2.25	2.25	1			35	24	NS	Permitted east of the continental divide.	
						2.0	5.0	4			NS		NS	California	
GRASS FORAGE/ FODDER/HAY		✓		Foliar, broadcast	Aircraft, ground boom, chemigation	1.0 EC	3.0	NA	3	NA	NS	24		Permitted in Nevada, Oregon, Washington, and Idaho	NV080004, NV940002, OR090009, WA090010, ID090003
GREENHOUSE		✓		early evening, aerosol, fog or fumigation	Total release fogger	0.029 0.0066 lb a.i./1000 sq. ft PL	NS	NA	NS	NA	NS	NS	2		
HOUSEHOLD/ DOMESTIC DWELLINGS INDOOR PREMISES	✓			When needed	Bait station	0.0003 lb/bait station	NS	NA	NS	NA	NA	NS	NS		9688-67
HYBRID COTTONWOO		✓		Foliar, dormant,	High volume (dilute)	1.9 EC	[2.0] NS	6.0	[1] NS	3		24	7	Washington	WA090004

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
D/ POPLAR PLANTATIONS				delayed dormant; broadcast	Low volume (concentrate)										Energy wood plantations may be harvested as often as every 2-3 years; pulpwood 5-10 years; and saw timber 15-20 years. (Arkansas production guide). In Washington the crop takes 2-8 years
LEGUME VEGETABLES		✓		Preplant, soil treatment	Ground boom	1.0 EC, WDG	1.0	NA	1	NA	NS	24	NA		No MRI because application only once a year
		✓		At planting, soil treatment	Ground boom	1.0 EC, WDG	1.0	NA	1	NA	NS		NA		
				<b>Total</b>		<b>1.0</b>	<b>1.0</b>	<b>NA</b>	<b>1</b>	<b>NA</b>	<b>NS</b>	<b>24</b>	<b>NS</b>		Assumed either a preplant or an at plant treatment.
MINT/ PEPPERMINT/ SPEARMINT		✓		Preplant soil incorporated	Aerial or ground/ broadcast	2.0 EC, WDG	[2.0] NS	2.0	[1] NS	1	90	24	NA	No use in Mississippi.	19713-599, 33658-26, 34704-857, 67760-28, 84229-25, 84930-7, OR940027

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															MRI NA due to once per crop cycle application
		✓		Post-emergence, Postharvest, Foliar	Chemigation, ground/ airblast	2.0 EC	2.0	2.0	[1] NS	2	90		NS	No use in Mississippi.	Postharvest application retreatment not specified on some labels.
				<b>Total</b>		<b>2.0</b>	<b>4.0</b>	<b>4.0</b>	<b>2.0</b>	<b>3</b>	<b>90</b>	<b>24</b>	<b>NS</b>		Labels allow one growing season application including pre-plant and one post-harvest application per season.
<b>MOSQUITO CONTROL; HOUSEHOLD/ DOMESTIC DWELLINGS OUTDOOR PREMISES; RECREATIONAL AREAS</b>	✓			When needed; broadcast	Ultra low volume air and ground	0.01 EC	0.26	NA	26	NS	NA	NS	24 h	In Florida: Do not apply by aircraft unless approved by the Florida Dept of Ag.	Aerial applications may be made at altitudes ranging from 75-300 ft (see labels for specifics). For use by federal, state, tribal or local government officials or by

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															persons certified in the appropriate category or authorized by the state or tribal lead regulatory agency.
NECTARINE		✓		dormant/ delayed dormant broadcast	airblast, handgun	3.0 WDG, EC	3.0	NA	1	NA	NS	24/ 4d	10		83222-20 others at 2 lb a.i./a
					Aircraft	2.0 WDG, EC									Updated to reflect spray drift mitigation.
		✓		pre-plant, foliar; trunk spray/drench or pre- plant dip	Handgun, low pressure backpack, dip	2.5 (3.0/100 gal) WDG, EC	2.5	NA	1	NA	14		5		There is no application retreatment interval specified on some of the label. The application rate is provided as a dilution factor.
				Total		3.0	5.5	NA	2	NA					Some labels limit the amount a.i./A per year. Multiple types of applications can occur such

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															as preplant, trunk drench and dormant, delayed dormant applications. Excludes nursery applications (See general "Fruits" listing)
<b>NONAGRICULTURAL OUTDOOR BUILDINGS/STRUCTURES</b> to and around outside surfaces of nonresidential buildings and structures. Permitted areas of use include fences, pre-construction foundations, refuse dumps, outside of walls, and other areas where pests congregate or				Outdoor general surface/ Band (may be better if called perimeter)	Ground sprayer/ band sprayer	1.0 EC	NS	NA	NS	NA	NA	NS	NS		

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
have been seen															
<b>NURSERY-STOCK: :</b> Ornamental nursery stock annuals, perennials and woody plants being grown in the field, in ball and burlap or in containers outdoor and in greenhouses				Dormant/ Delayed Dormant	high spray	3.0 EC	3.0	NA	1	NA		24	NS		
				Preplant	Ground boom, soil incorporated	4.0 EC, WP	NS	NA	NS	NA					
				foliar, soil directed	Tractor drawn spreader, push type spreader, belly grinder, gravity fed backpack, spoon	1.1 G									
				<b>Total</b>		<b>4.0</b>	<b>CBD</b>		<b>3</b>						
<b>ONIONS</b>		✓		Post plant (seeding) Broadcast	Ground boom	1.0 EC	1.0	NS	2	NS	60	24	NS		
		✓		At plant, soil drench or basal spray	Ground boom	1.0 EC, WDG, G	1.0		1						2 inch incorporation

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
				Total		2.0	2.0		2		60	24	NS		
ORNAMENTAL AND/OR SHADE TREES, HERBACEOUS PLANTS		✓		Foliar broadcast	Ground boom, air blast, handgun, low and high pressure hand wands	2.0 EC, WP 1.0 G, B	2.0	NA	[2] NS	NA	NS	24	NS		Some labels include a MRI of 7 days.
		✓		Dormant /Delayed Dormant	Handgun, low pressure and backpack	3.0 EC	3.0	NA	1	NA	NS		7		Low volume spray permitted for concentrated solutions and lower rates.
ORNAMENTAL LAWNS AND TURF, SOD FARMS (TURF)		✓		When needed, broadcast, soil or spot treatment	ground boom (WP only), high pressure hand wand	3.76 EC, WP	7.52	NA	2	NA	NS	24	NS		
		✓		NS	Tractor drawn spreader, push type spreader, belly grinder	1.0 B	2.0	NA	2	NA	NS	24	NS		Bait is used for fire ant control.
ORNAMENTAL NON- FLOWERING PLANTS		✓		Foliar, broadcast, soil drench	Chemigation, ground boom, low and high pressure handwand, handgun, backpack sprayer, sprinkling can	0.007/gal ME	NS	NA	12	NA	NA	24	NS		Application rate provided as a dilution factor.  Restricted use— occupational only
ORNAMENTAL				Foliar	Ground boom,	2.0	2.0	NA	[1]	NA	NS	24	NS		Several labels



Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
WOODY SHRUBS AND VINES				broadcast	air blast, handgun, low and high pressure sprayer, backpack	EC, WDG  0.01 lb/gal EC	0.01 lb/gal		NS						do not restrict the application rate in lb a.i./A. Examples include 16.5 lb/100 gal (228- 625) and 1.0 lb/100 gal (829- 280).
				Dormant/ delayed dormant		1.0 EC 0.005 lb/gal EC	1.0	NA	[1] NS	NA					
				Preharvest	Tractor drawn spreader, push type spreader, belly grinder	6.0 G	6.0	NA	[1] NS	NA					
				Preplant, potted, bailed-and burlapped, containerized	groundboom, handgun, low and high pressure sprayer, backpack, drench	1.0 EC	NS	1	NS	1					
				Pretransplant	groundboom	4.0 WP	[48.0] NS	4	12	4					
				<b>Total</b>		<b>6.0 G 4.0 WP</b>	<b>CBD</b>		<b>CBD</b>						
PEACH		✓		dormant/	airblast	3.0	3.0	NA	1	NA	10	24/	NS		83222-20 (all

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
				delayed dormant broadcast		EC 2.0 WDG						4d			other labels restrict to 2 lb ai/a)
					aircraft,	2.0 EC 2.0 WDG								NS	Updated to reflect spray drift mitigation.
		✓		Post-harvest broadcast	airblast	2.5 (3.0/100 gal) EC	2.5	NA	1	NA	NA		NS	Permitted in Georgia and South Carolina	GA0400001, SC040001 SLN Expires:
					aircraft	2.0 (3.0/100 gal) EC	2.0								GA0400001, SC040001 SLN Expires: Updated to reflect spray drift mitigation
		✓		pre-plant, foliar; <b>trunk spray/drench or pre- plant dip;</b> ground	handheld, backpack, drench/dip, handgun, and low pressure hand wand	2.5 (3.0/100 gal) WDG	2.5	NA	1	NA	14	5	NS		Some labels do not specify minimum retreatment interval.
				Total		3.0	5.5	NA	3	NA	NA	24	NS		It is possible that multiple types of applications can occur such as soil, foliar and/or post- harvest and
						3.0	8.0	NA	3	NA	NA	24	NS	Permitted in Georgia and South Carolina	

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															dormant/ delayed dormant applications. Excludes nursery applications (See general “Fruits” listing)
PEANUT		✓		Preplant	Aerial or ground/ broadcast	2.0 EC, WDG	[4.0] NS	4.0	[2] NS	2	NA	24	10	Do not apply aerial in Mississippi	Assumes one crop cycle per year.
		✓		At plant, postplant		4.0 G	[4.0] NS	4.0	2	2	21	24	10		
		✓		At pegging		2.0 G EC, WDG	[4.0] NS	4.0	2	[2] NS	21	24	10		
				<b>Total</b>		<b>4.0 G 2.0 EC, WDG</b>	<b>4.0</b>	<b>4.0</b>	<b>2</b>	<b>2</b>	<b>10</b>	<b>24</b>	<b>10</b>		
PEAR		✓		<b>dormant/ delayed dormant broadcast</b>	aircraft, airblast	2.0 WDG, EC	2.0	NA	1	NA	NA	24	NA	Restricted use in California.	83222-20 allows 3.0 lb a.i./ A; however, this does not match the 2001 RED.
		✓		<b>Post-harvest broadcast</b>	aircraft, airblast	2.0 WDG, EC	2.0	NA	1	NA	NA	24	NS	Permitted in California, Oregon and Washington.	

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
				Total		2.0 WDG, EC	4.0	NA	2	NA	NA	24	NS		Multiple types of applications may occur in within a year in California, Oregon and Washington such as a post-harvest application and a dormant, delayed dormant. Excludes nursery applications (See general “Fruits” listing)
PEAS		✓		Preplant Seed treatment	Seed Treatment	0.30 0.000625 lb/lb seed WP  0.28 0.00058 lb/lb seed EC	NS	NS	NS	NS	NS	NS	NS		There is a range of potential application rates depending on the number of seeds per lb and the number of seeds planted per acre. Seeding information provide by BEAD. <sup>2</sup>

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
PECANS		✓		dormant/ delayed dormant broadcast	aircraft, airblast	2.0 EC, WDG	2.0	NA	1	NA	14	24	10		66222-19 and 66222-233
		✓		foliar; broadcast	airblast	4.3 EC, WDG	6.3	NA	3	NA	14		10		Some labels require a 28 d PHI
					aircraft	2.0 EC, WDG								Updated to reflect spray drift mitigation.	
		✓		foliar; orchard floors broadcast	Ground boom, chemigation	4.3 EC, WDG	4.3	NA	2	NA	14		10		
					Total		4.3	12.6	NA	6	NA	14	24	10	
PEPPER		✓		Foliar	Ground broadcast	1.0 WDG	[8] NS	8.0	[8] NS	8	7	24	10	Permitted in Florida	FL040005; 1 crop cycle per year.
PINEAPPLE		✓		Postplant	Ground boom,	2.0	6.0	6.0	3	NA	365	24	30	Permitted in	HI090001

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							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
					broadcast	EC								Hawaii	SNL Expires: March 29, 2014. Do not make applications beyond three months after planting.
PLUM/ PRUNE		✓		dormant/ delayed dormant; broadcast	Aircraft, airblast	2.0 EC, WDG	2.0	NA	1	NA	NA	24/ 4d	10		
		✓		foliar; trunk spray/drench	handheld, backpack, drench/dip, handgun, and low pressure hand wand	2.5 3.0/100 gal WDG	2.5	NA	1	NA	NA		10		
				Total		2.5	4.5	NA	2	NA					Excludes nursery applications (See general “Fruits” listing)
POULTRY LITTER		✓		When needed, animal bedding/litter treatment.	Sprayer	0.07126 a.i./1000 sq ft 3.1 ME	NS	NA	NS	NA	NA		NS		53883-264, 84575-3
PUMPKIN		✓		Preplant Seed treatment	Seed treatment	0.3 0.00058 lb /lb seed	[0.3] NS	[1] NS	[1] NS	1	NS	NS	NS	California maximum single rate	There is a range of potential application

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
						WP								0.000625 lb a.i./lb.	rates depending on the number of seeds per lb and the number of seeds planted per acre. Seeding information provide by BEAD. <sup>4</sup>
<b>RADISH</b>		✓		Foliar	Broadcast ground	1.0 EC	NS	1	NS	1	NS	24	NS	permitted in Oregon	OR090012 on radish grown for seed. Label valid until December 31, 2012. (per registrant SLN still valid)
		✓		Preplant	Soil incorporation ground	3.0 EC	12.0	3	4	1	NS	NS	10		
		✓		At plant/post- plant	In furrow drench/ treatment	3.0 EC 2.8 G	[15.0] NS	3	[5] NS	1	30, EC, 7, G	24	10		Only one granular application permitted.
				<b>Total</b>		<b>3.0</b>	<b>[22.0] NS</b>	<b>2</b>	<b>[9] NS</b>						Only one preplant or at plant application is assumed.

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
<b>RIGHTS OF WAY, ROAD MEDIANS</b>				When needed, soil broadcast	Granular or low pressure wand	1.0 EC, G, Bait	[2.0] NS	NA	2	NA	NA	NS	7		Apply when needed
<b>RUTABAGA</b>		✓		Preplant	Chemigation, Groundboom	2.4 EC, WDG	[4.8] NS	2.4	[2] NS	1	30	24	10		Updated to reflect spray drift mitigation.
					Aerial	2.0 EC, WDG		2.0							
		✓		At plant/post- plant	In furrow drench/ treatment	2.4 EC, G WDG	4.8	2.4	[2] NS	1	7	24	10	Disallowed in California and Arizona.	Two crop cycles per year
				<b>Total</b>		<b>2.4</b>	<b>[9.6] NS</b>	<b>4.8</b>	<b>[4] NS</b>	<b>2</b>		<b>24</b>	<b>10</b>		
<b>SEWER MANHOLE COVERS AND WALLS</b>				When needed	Low pressure	0.31 lb/manhole RTU	NS	NA	NS	NA	NA	NA	NS		3 pints product/ manhole
<b>SEED ORCHARD TREES</b>		✓		<b>foliar;</b> broadcast	Ground boom	1.0 EC	3.0	3.0	NS	NA	30	24	7		62719-575, 62719-615
		✓			High volume sprayer	2.5 0.01 a.i./tree 0.02 EC	2.5	NS	[1] NS	NA	30	24	7		Cone worm treatment (62719-575 and 62719-615) Treatment of 1000 trees per acre would results in an single application rate of 10 lb a.i./a.



Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															DAS: 1000 is a bit high, typically for orchards 312 trees per acre
		✓		foliar; <b>stump treatment</b>	backpack, drencher, low pressure hand wand,	0.3 EC	0.3	1.0	NS	NA	30	24	7		62719-575, 62719-615
				<b>Total</b>		<b>1.0</b>	<b>5.8</b>	<b>3</b>	<b>NS</b>	<b>NA</b>	<b>30</b>	<b>24</b>	<b>7</b>		The total number of applications assumed is either three foliar applications or two foliar applications with one stump treatment.
<b>SORGHUM GRAIN</b>		✓		Seed Treatment	Seed treatment	[0.0009] 0.01- 0.0024 lb ai/ 100 lbs seed EC	0.01	0.01	[1] NS	1	NA	NS	NS		264-932
		✓		Preplant Soil Directed	Ground Spreader/T Band	1.5 G	1.5	1.5	[1] NS	1	60	24	10		
		✓		Foliar/Post emergent	Ground, Aerial, Chemigation	1.0 EC, WDG	1.5	[1.5] NS	[1] NS	3	30	24	10		PHI varies across labels
				<b>Total</b>		<b>3.3</b>	<b>3.01</b>	<b>3.01</b>	<b>[3]</b>	<b>3</b>	30	24	10		One crop cycle

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
						<b>G 1.0 EC, WDG</b>			<b>CBD</b>						per year.
<b>SOYBEAN</b>		✓		foliar , post-emergence soil broadcast	broadcast ground, aerial, chemigation	1.0 EC, WDG	3.0	3.0	3	3	28	24	14		One crop cycle per year.
		✓		At plant/post plant treatment; soil band	ground boom	2.2 G 1.0 EC	3.0	3.0	1 (G), 3 (EC)	1 (G), 3 (EC)	28	24	10		
				<b>Total</b>		<b>1.0 EC, WDG 2.2 G</b>	<b>3.0</b>	<b>3.0</b>	<b>3</b>	<b>3</b>					One crop cycle per year.
<b>STRAW- BERRIES</b>		✓		Pre-plant	Aerial or ground/ broadcast	2.0 EC	2.0	<b>NS</b>	1	NS	NA	24	10	No use in Mississippi	33658-26
		✓		Foliar	Aerial or ground/ broadcast, foliar spray	1.0 EC, WDG	2.0	<b>NS</b>	2	<b>NS</b>	21	24	10		Two applications (2 lb ai) for all products per cc.
		✓		Post harvest	Ground directed spray	1.0 EC, WDG	2.0	<b>NS</b>	2	<b>NS</b>	21		14		
				<b>Total</b>		<b>2.0</b>	<b>4.0</b>		<b>3</b>						One preplant application and two foliar and/or postharvest application

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															permitted per year.
SUNFLOWER		✓		At plant	Aerial/ground	2.0 G	3.0	3.0	[1] NS	1	42	24	10		Per registrant 1 cc per year
		✓		Preplant		2.0 EC, WDG	3.0	3.0	[1] NS	1	42		10		2 inches min incorporation
		✓		Post emergent or foliar		1.5 EC, WDG	3.0	3.0	[2] NS	2	42		10		
				<b>Total</b>		<b>2.0</b>	<b>5.0</b>	<b>5.0</b>	<b>3</b>	<b>3</b>					Assumed either an at plant or preplant application followed with two foliar applications.  One crop cycle per year
SWEET POTATO		✓		Preplant, soil broadcast	Aircraft, ground boom	2.1 G, EC, WDG	2.1	NS	1	1	125	24		LA090002, MS080007, NC090001 permits 60 PHI	
					Aircraft	2.0 G, EC, WDG									Updated to reflect spray drift mitigation.
TOBACCO		✓		Preplant	Aircraft, ground boom	2.0 EC, G, WDG	2.0	NS	1	1	7	24	NA		
TRITICALE		✓		Storage Commercial Slurry Seed Treatment	Seed treatment	0.003 0.0024 lb ai/ 100 lbs seed EC	[0.003] NS	[1] NS	[1] NS	[1] NS	NA	[10] NS	[10] NS		264-932 Seeding information provide by BEAD. <sup>4</sup>

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
															One crop cycle per year.
TURNIP		✓		Preplant	soil incorporation/ ground boom, handgun	2.3 G, WDG	[4.6] NS	2.3	[2] NS	1	30	24	10		Minimum incorporation: 2 inches.
		✓		Postplant	Soil incorporation/ ground boom, handgun	2.3 G, WDG	[4.6] NS	2.3	[2] NS	1	30	24	10		Minimum incorporation: 2 inches.
				<b>Total</b>		<b>2.3</b>	<b>4.6</b>	<b>2.3</b>	<b>2</b>	<b>1</b>	<b>30</b>	<b>24</b>	<b>10</b>		Assumed either a preplant or postplant application. Two crop cycles per year
<b>UTILITIES</b> For use in and around telecommunicatio ns, power, utilities and railroad systems equipment: Buried cables, cable television pedestals, cables, pad-mounted electric power transformers, telephone cables,				When needed, broadcast	Product container	190.5 G 0.44 lb a.i./100 sq ft (see comments)	NS	NS	NS	NS	NS	NS	NS		Applications permitted as needed. Reg. Nos. 13283-14, 13283-17 Broadcast product onto the ground covering the area of the pad location, plus a two foot perimeter around the outside of the

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
underground vaults, telecommunications equipment, power and utilities equipment															pad location.
WALNUTS		✓		dormant/ delayed dormant; broadcast	Aircraft, airblast	2.0 EC, WDG	2.0	NA	1	NA	14	24	10		62719-301 (12 lb a.i./A)
		✓		foliar; broadcast	aircraft, airblast, chemigation	2.0 EC, WDG	4.0	NA	2	NA	14		10		Some labels do not specify retreatment interval.
		✓		foliar; orchard floors broadcast	Ground boom, chemigation	4.0 EC, WDG	4.0	NA	1	NA	14		10		
				Total		4.0	10.0		4						Excluding nursery applications; includes dormant, foliar broadcast, and orchard floor. For nursery applications (See general "Fruits" listing)
WIDE AREA/ GENERAL	✓	✓		when needed, Broadcast	Ground sprayer	0.5084 lb ai/100 gal	[1.02] NS	NA	2	NA	NA	NS	NS		66222-19

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
<b>OUTDOOR TREATMENT</b> For ants and other misc. pests.				when needed, Drench	Drench	EC							NS		228-624
						1	NS	NA	NS	NA					
						[1] 8.2 lb a.i./100 gal EC	NS	NA	NS	NA				NS	228-625
				<b>Total</b>		[1]	NS	NA	NS	NA	NA				
<b>WHEAT</b>		✓		Slurry Seed Treatment	Seed treatment	0.003 0.0024 lb ai/ 100 lbs seed EC	[0.006] NS	1	[2] NS	1	NA	NA	NA	Only for use in AZ, CA, CO, ID, KS, MN, MO, NE, NM, NV, ND, OK, OR, SD, TX, UT, WA and WY	Seeding information provide by BEAD. <sup>4</sup>
		✓		Foliar, soil treatment	Ground, broadcast	0.5 EC	[8.0] NS	4.0	[2] NS	1	14/ 28		14		PHI: 14 forage or hay, 28 grain or straw
		✓		Post- emergence foliar	Ground, Aerial, Chemigation	1.0 EC	[4.0] NS	2.0	[4] NS	2	14/ 28	24	NS		Label states 1.0 lb ai/A for cereal leaf beetles and then state max rate 0.5 lb ai/A in restriction). Some labels restrict no more than 2 applications per crop/season PHI 14 forage or hay, 28 grain or straw
				<b>Total</b>		[1] 4.0	[12.006 ]	[6.003] 5.0	[8] NS	[4] 2					MO otherwise 2.0 plus seed

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
						EC									treatment
WOOD PROTECTION TREATMENT TO BUILDINGS/ PRODUCTS OUTDOOR				When needed, Wood surface treatment	Low pressure handwand, backback sprayer, paintbrush	16.65 lb/10,000 sq ft 0.17 lb a.i./gal EC	NS	NA	NS	NA	NS	NS	NS		
						0.08 lb ai/gal EC, RTU EC, ME	NS	NA	NS	NA	NS	NS	NS		Apply 1 gal per 100 sq ft of wood
<div>1. EC - emulsifiable concentrate; WDG – water dispersible granular in water soluble packet; WP – wettable power in water soluble packet; B – bait (granular), G – granular; ME – microencapsulated; RTU – ready to use.</div> <div>2. Reported as per crop cycle or per season</div> <div>3. PHI – Preharvest interval; REI – reentry interval; MRI – Minimum retreatment interval</div> <div>4. Becker, J.; Ratnayake, S. Acres Planted per Day and Seeding Rates of Crops Grown in the United States, U.S. EPA OPP/BEAD, 2011; example calculations provided below: Beans: 0.00058 lb a.i./lb seed / 960 seeds/lb seed x 418,176 seeds/A [pgs. 19, 81 (beans, succulent)] Corn: 0.000625 lb a.i./lb seed / 1,800 seeds/lb seed x 59,739 seeds/A [pgs. 24, 81 (corn, sweet)] Cotton: 0.00116 lb a.i./lb seed / 4,500 seeds/lb seed x 85,00 seeds/A [pgs. 13, 81] Cucumber: 0.00058 lb a.i./lb seed / 12,000 seeds/lb seed x 80,418 seeds/A [pgs. 25, 81] Peas: 0.000625 lb a.i./lb seed / 1,361 seeds/lb seed x 653,400 seeds/A [pgs. 34, 82] Pumpkin: 0.00058 lb a.i./lb seed / 1,600 seeds/lb seed x 7,260 seeds/A [pgs. 37, 82] Sorghum: 0.001 lb a.i./lb seed / 11,000 seeds/lb seed x 100,000 seeds/A [pgs. 16, 39] Triticale: 0.003 lb a.i./100 lb seed / 109 lb seed/A [pg.16] Wheat: 0.003 lb a.i./100 lb seed /116 lb seed/A [pg. 16] [ ] indicate assumptions that are made when the information is not specified but can be inferred</div>															

SUBMITTED VIA EMAIL

May 26, 2015

[wolf.joel@epa.gov](mailto:wolf.joel@epa.gov)

Subject: Chlorpyrifos: Commitment to Revise Labels

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the agency, Winfield Solutions, LLC is proposing to revise the labels to clarify the use patterns.

This letter is to confirm Winfield Solutions, LLC commitment to implementing the proposed revisions to the labels. Winfield Solutions, LLC will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are acceptable or if the agency indicates they would like labels amended sooner.

Please see attached for Chlorpyrifos proposed label changes. These changes will be used to amend the following registrations: Tundra Supreme

Thank you for your consideration. Please feel free to contact me with any questions or should any additional information be required.

Sincerely,



Leanna Bosarge  
Registration Manager



**TUNDRA SUPREME (EPA Registration No. 1381-243):**

CITRUS ORCHARD FLOORS:

Our current label has a Worker Restricted Entry Interval of 10 days. We will reduce this to be 5 days to conform to the Chlorpyrifos Use Summary table timing.

Our current label has a maximum rate of 53.3 fl. oz. which translates to 1.0035 lbs/Chlorpyrifos per acre. We will revise our maximum rate to be 53.1 fl.oz. which translates to 0.9998 lbs/Chlorpyrifos per acre to more closely match the 1.0 lb. maximum rate.

CORN:

Our current label has a Worker Restricted Entry Interval of 24 hours. We will increase this to be 5 days to conform to the Chlorpyrifos Use Summary table timing.

TOBACCO:

Our current label is missing the following use restriction which will be added:

Do not apply within 7 days of harvest.

# Y-TEX<sup>®</sup> CORPORATION

P.O. Box 1450, 1825 Big Horn Avenue, Cody, Wyoming 82414-1450 • Phone (307) 587-5515 • FAX (307) 527-6433

May 8, 2015

Joel Wolf  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs  
U.S. EPA

Subject: Chlorpyrifos: Commitment to Revise Labels

Dear Mr. Wolf,

As part of the registration review process for Chlorpyrifos, the agency indicated that parameters describing the use patterns are not clearly defined for all Chlorpyrifos product labels. To address the concerns raised by the agency, Y-TEX Corporation is proposing to revise the labels to clarify the use patterns, if required.

This letter is to confirm Y-TEX Corporation's commitment to implementing the proposed revisions to the labels. Y-TEX Corporation will apply to amend the labels once the agency completes the risk assessments and concludes that the proposed changes are required or if the agency indicates they would like labels amended sooner.

Please be advised that the Table 1. Chlorpyrifos Use Summary (see attached copy of page 5) for Beef/Range/Feeder Cattle . . . Maximum Application Rate per year is incorrect. The label use directions allow the consumer to replace tags as necessary during the season. If a maximum rate is required, applying up to 8 tags per year, or 0.0265 lb./animal/year would be a more accurate number. Using a conservative maximum stocking rate of 1 animal/acre, that would equate to a Maximum Application Rate of 0.0265 lbs/acre/year. These changes will be used to amend the following registration, if required:

39039-6 Warrior Insecticide Cattle Ear Tag

Thank you for your consideration. Please, let me know if you have any questions or need additional information.



Michael G. Fletcher, Ph.D.  
Vice President – Specialty Products  
Y-TEX Corporation

Attachment: Page 5 of Table 1. Chlorpyrifos Use Summary  
Cc: Kathy Skates, Regulatory Affairs Manager

Crop/Site	Residential	Agricultural	Forestry	Timing; Application Type	Method/ Equipment	Maximum Single Application Rate by Formulation <sup>1</sup> (lb a.i./A)	Maximum Application Rate		Maximum Application Number		PHI (days) <sup>3</sup>	REI (hours) <sup>3</sup>	MRI (days) <sup>3</sup>	Geographic Restrictions	Comments
							Per Year lb a.i./A	Per CC <sup>2</sup> lb a.i./A	Per Year	Per CC <sup>2</sup>					
						WP 0.012-0.253 0.00058 lb ai/lb seed EC									of seeds planted per acre. Seeding rate information provide by BEAD. <sup>4</sup>
BEEF/RANGE/ FEEDER CATTLE (MEAT)/ DAIRY CATTLE (NON- LACTATING)				Summer, late fall, spring; impregnated collar/tag	Animal treatment (ear tag)	0.0066 lb/animal	10.0099 <del>1</del> NS	NA	<del>3</del>	NA	<del>NS</del>	<del>NS</del>			Reg. No. 39039-6 Cattle ear tags are assumed to last 4-6 months Two tags per animal at 0.0033 lb a.i./tag in the summer and one tag per animal at 0.0033 lb a.i./A.
							0.0265		8		C	NA	0		Minimum Incorporation: 2 inches
BEETS (UNSPECIFIED; TABLE OR SUGAR) “grown for seed”		✓		At plant, soil band treatment	Ground boom	1.0 EC	NS	1	NS	1		24	Allowed in Oregon Court ordered buffer of 60 ft for ground chlorpyrifos application is required for “affected waterways”.		