

Appendix A

A-C. General Measures - Summary of Label Changes

Table 1. Malathion Label Commitments for Registration Review

Description	Label Language for Malathion Products	Placement on Label				
All End Use Products						
Mode of Action Group Number	<div><div>Note to registrant:<ul style="list-style-type: none">• Include the name of the ACTIVE INGREDIENT in the first column• Include the word “GROUP” in the second column• Include the MODE/MECHANISM/SITE OF ACTION CODE in the third column (for fungicides this is the FRAC Code, and for insecticides this is the Primary Site of Action; for Herbicides this is SITE OF ACTION)• Include the type of pesticide (i.e., INSECTICIDE) in the fourth column.</div><div><table><tr><td>Malathion</td><td>GROUP</td><td>1B</td><td>INSECTICIDE</td></tr></table></div></div>	Malathion	GROUP	1B	INSECTICIDE	Front Panel, upper right quadrant. All text should be black, bold face and all caps on a white background, except the mode of action code, which should be white, bold face and all caps on a black background; all text and columns should be surrounded by a black rectangle.
Malathion	GROUP	1B	INSECTICIDE			
Resistance-management labeling statements for insecticides/acaricides	Include resistance management label language for insecticides/acaricides from PRN 2017-1 (https://www.epa.gov/pesticide-registration/pesticide-registration-notice-year)	Directions for Use, prior to directions for specific crops				
Restriction for Swamps, Marshes, and Stagnant Waters	Remove the terms “swamps, marshes, and stagnant waters” from all agriculture/residential/consumer end use product labels. These terms may only be retained where labels clearly indicate that use on these sites is associated with mosquito adulticide applications.					
Use Deletion	Remove the following use sites from the label: cull piles (including the terms cull dumps, cull piles, fruit dumps, cull fruit and vegetable dumps) and mosquito larvicide.					
Use Prohibition For all products previously registered for these use patterns	“Use on cull piles (including cull dumps, cull piles, fruit dumps, cull fruit and vegetable dumps) is prohibited.”	Restrictions Section under Direction for Use				
Use Prohibition For all products previously registered for these use patterns	“Use as a mosquito larvicide is prohibited.”	Restrictions Section under Direction for Use				

Attachment A. Changes to the Description of the Action – December 20, 2021 (Revised February 2, 2022)

Description	Label Language for Malathion Products	Placement on Label
All End Use Products		
Remove Directions for Use for Ultra Low Volume (ULV) ground applications (excludes wide-area mosquito adulticide use, federal/state insect control program use, and pasture/rangeland use)	For Ultra Low Volume (ULV) products only, remove instructions for applications via ground equipment from the Directions for Use where it exists, excluding Directions for Use for wide-area adult mosquito control, federal/state insect control programs (see Table 4. “Restrictions for state/federal programs other than mosquito adulticide”), and pasture/rangeland.	Directions for Use, ULV products
Non-Target Organism Environmental Hazard Statement for fish and aquatic invertebrates	“This pesticide is toxic to fish and aquatic invertebrates. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.”	Environmental Hazards
Additional Required Labeling Action. Applies to all products delivered via liquid spray applications (excludes wide-area mosquito adulticide use, federal/state insect control program use, and agricultural aerial ULV use)	Remove information about volumetric mean diameter (VMD) from all labels delivered via liquid spray application, where such information currently appears, excluding Directions for Use for wide-area mosquito adulticide use, federal/state insect control program use (see Table 4. “Restrictions for state/federal programs other than mosquito adulticide”), and agricultural aerial ULV applications.	Directions for Use
Endangered Species Language For all products, excluding those labeled/registered solely for homeowner use	Endangered Species Protection Requirements: It is a Federal offense to use any pesticide in a manner that results in an unauthorized “take” (e.g., kill or otherwise harm) of an endangered species and certain threatened species under the Endangered Species Act section 9. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the area in which you are applying the product. You must obtain a Bulletin no earlier than six months before using this product. To obtain Bulletins, consult http://www.epa.gov/espp/ , call 1-844-447-3813, or email ESPP@epa.gov . You must use the Bulletin valid for the month in which you will apply the product.	Directions for Use, under the heading “Endangered Species”

Table 2. Malathion Label Commitments for Registration Review

Description	Label Language for Malathion Products	Placement on Label
End-use products with wide-area mosquito aduicide use		
Separate Wide-area Mosquito Control Use from Non-mosquito Control Use Directions	Products labeled for wide-area adult mosquito control should not bear container labeling for uses unrelated to adult mosquito control. The standard terrestrial use water hazard statement should not appear on product containers labeled solely for mosquito control. If a container label includes non-mosquito control use directions, those directions and associated precautions should be clearly distinguished from those applicable to mosquito control. The terrestrial use statements on a mixed-use label should be followed by the statement: <ul style="list-style-type: none">“See separate directions and precautions for mosquito control applications.”	Directions for Use
Pollinator Protection Language	<ul style="list-style-type: none">To minimize hazard to bees, do not apply this product more than two hours after sunrise or more than two hours before sunset. This timing restriction prohibits applications when bees are most active (mid-day). This restriction does not apply when applications are made as a spot treatment or to prevent or control a threat to public and/or animal health determined by a state, tribal or local public health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito borne disease in animal or human populations, or if specifically approved by the state or tribe during a natural disaster recovery effort.Calibrate and inspect nozzles at least once a year to ensure they are in good working condition.	Directions for use
Enforceable Spray Drift Management Language for products that allow aerial applications	<ul style="list-style-type: none">Apply when ground wind speeds are equal to or greater than 1 mph.All types of applications should be conducted when temperatures at ground level are at or above 50°F. For Ground Applications: <ul style="list-style-type: none">Create an optimum swath when possible. An optimum swath width can be achieved when [product name] is applied from a truck that is being driven perpendicular to the wind direction. Direct the spray head of equipment to ensure even distribution of the spray cloud throughout the area.FOR BEST RESULTS treat when mosquitoes or insects are most active and weather conditions are conducive to keeping the spray cloud in the air column close to the ground.An inversion of air temperatures and a light breeze is preferable. Application during the cooler hours of the night or early morning is recommended. For Aerial Applications: <ul style="list-style-type: none">Do not apply by fixed wing aircraft at a nozzle height less than 100 feet (30.5 m) above ground or canopy, or by helicopter at a height less than 75 feet (22.9 m) above the ground or canopy, unless specifically approved by the state or tribe based on public health needs.	Directions for Use, in a box titled “Mandatory Spray Drift Management” under the heading “Ultra Low Volume Applications”

Description	Label Language for Malathion Products	Placement on Label
End-use products with wide-area mosquito adulticide use		
Enforceable Spray Drift Management Language for products that allow aerial applications as Ultra Low Volume (ULV) sprays or fogs	<p>Adult mosquito control applications should be limited to trained personnel.</p> <ul style="list-style-type: none">• For use only by federal, state, tribal or local government officials responsible for public health or vector control or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory Agency to perform adult mosquito control applications, or by persons under their supervision, or as allowed by state regulations for persons treating private property.• This pesticide is toxic to aquatic organisms. Runoff from treated areas or deposition of spray droplets into a body of water may be hazardous to aquatic organisms.• Do not apply over bodies of water (lakes, rivers, permanent streams, natural ponds, commercial fish ponds, swamps, marshes or estuaries), except when necessary to target areas where adult mosquitoes are present, and weather conditions will facilitate movement of applied material beyond the body of water to minimize incidental deposition into the water body. Do not contaminate bodies of water when disposing of equipment rinsate or wash waters.• Before making the first application in a season, consult with the state or tribal Agency with primary responsibility for pesticide regulation to determine if other regulatory requirements exist.• Treatment of a site must be based on surveillance results. Do not treat any site with malathion more than 1 time per day. Do not apply more than 0.23 lbs ai/acre of [insert product name] per day by air or 0.06 lbs ai/acre per day by ground within any 24-hour period. Do not treat any site with more than 0.46 lb ai/acre within a 7 day period and the amount of undiluted [insert product name] applied to any site must not exceed 5.75 lbs ai/acre per year. More frequent treatments may be made to prevent or control a threat to public and/or animal health determined by a state, tribal or local health or vector control agency on the basis of documented evidence of disease causing agents in vector mosquitoes or the occurrence of mosquito-borne diseases in animal or human populations, or if specifically approved by the state or tribe during a natural disaster effort.	Directions for Use, in a box titled “Mandatory Spray Drift Management” under the heading “Ultra Low Volume Applications”

Table 3. Malathion Label Commitments for Registration Review

Description	Label Language for Malathion Products	Placement on Label
End-use products with outdoor, urban, non-agricultural uses		
For all residential uses	Add the following language: <ul style="list-style-type: none"> For outdoor use only. 	Front Label Panel and/or Directions for Use
Restrictions on residential fruit trees and vegetable gardens	<ul style="list-style-type: none"> Application equipment limited to hand-pump sprayers, hose-end sprayers, and sprinkler cans. Do not apply more than two applications per year. Minimum retreatment interval is 10 days. 	Directions for Use
Environmental hazard statements for consumer outdoor products (liquid concentrates, dusts, and ready-to-use, excluding foggers)	Do not apply this product when a storm event likely to produce runoff from the treated area is forecasted (by NOAA/National Weather Service, or other similar forecasting service) to occur within 24 hours following application.	Environmental Hazards
Restrictions on Ornamental Plants, Vines, Shrubs and Ornamental/Shade Trees	<ul style="list-style-type: none"> Spot treatment only Do not apply more than two applications per year. Minimum retreatment interval is 10 days. 	Directions for Use
Restrictions on Christmas Tree Plantations and Nurseries	<ul style="list-style-type: none"> Aerial application is prohibited. Do not apply more than two applications per year. Minimum retreatment interval is 7 days. 	Directions for Use
Restriction for Pine Seed Orchard Use	<ul style="list-style-type: none"> For use in slash pine seed orchards in Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Texas only. Malathion may be used to control thrips from mid-December to mid-March. Do not apply more than two applications per year. Minimum retreatment interval is 7 days. Do not apply by ground within 25 feet or by air within 50 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds). For airblast applications, user must turn off outward pointing nozzles at row ends and when spraying outer row. 	Directions for Use

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End-use products with outdoor, urban, non-agricultural uses		
	<ul style="list-style-type: none"> For aerial applications, do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety. Applicators must use ½ swath displacement upwind at the downwind edge of the field. Do not apply when the wind speed is greater than 10 mph. Applicators are required to select the nozzle and pressure that deliver medium or coarser droplets (per ASABE S572 for ground and ASABE S641 for aerial). Do not apply during temperature inversions. 	
Restrictions on Commercial Nursery Use	<ul style="list-style-type: none"> Apply by ground application only. Do not apply more than two applications per year. Minimum retreatment interval is 7 days. Do not apply when the wind speed is greater than 10 mph. Applicators are required to select the nozzle and pressure that deliver medium or coarser droplets (ASABE S572). Do not apply by ground equipment within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries and commercial fish farm ponds). 	Directions for Use
Household/domestic dwelling (perimeter outdoor only)	<ul style="list-style-type: none"> Apply a coarse spray in a two-foot wide or less band from the base of a man-made structure and up to two feet on wall surfaces. Do not apply more than 4 applications per year. Minimum retreatment interval is 7-days. 	Directions for Use
Buffer from Water Statement	Do not apply by ground within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries, and commercial fish farm ponds).	Directions for Use
Water Protection Statements	<ul style="list-style-type: none"> Do not spray the product into aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands or natural ponds, estuaries and commercial fish farm ponds). Do not apply directly to sewers or storm drains, or to any area like a drain or gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur. Do not allow the product to enter any drain during or after application. 	Directions for Use

Description	Label Language for Malathion Products	Placement on Label
End-use products with outdoor, urban, non-agricultural uses		
	<ul style="list-style-type: none">Do not apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment.Do not apply or irrigate to the point of runoff.	
Link to pollinator best management practices (For non-ag uses)	Following best management practices can help reduce risk to terrestrial pollinators. Examples of best management practices include applying pesticides in the evening and at night when pollinators are not foraging and avoiding applications to flowering plants. For additional resources on pollinator best management practices, visit https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators .	Directions for use

Table 4. Malathion Label Commitments for Registration Review

Description	Label Language for Malathion Products	Placement on Label
End-use products with agricultural uses		
For agricultural products with any outdoor use except wide area mosquito control and aquatic food uses (e.g., rice and watercress)	“Do not apply this product when soil is saturated, or when a storm event likely to produce runoff from the treated area is forecasted (by NOAA/National Weather Service, or other similar forecasting service) to occur within 48 hours following application.”	Environmental Hazards
Box Limiting Certain Uses to State and Federal Programs Only (does not apply to Boll Weevil or Curly Top Virus Programs)	Add State and Federal Programs only box to labels limiting use on the following sites to state and federal programs only: <ul style="list-style-type: none">• Agricultural, uncultivated areas and fence rows/hedge rows• Non-agricultural right of way/hedgerows	Directions for Use
Restrictions for citrus, stone fruit, pome fruit and blooming tree nuts	Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete.	Directions for Use for citrus, stone fruit, pome fruit and blooming tree nuts
Restriction for Watercress use	<ul style="list-style-type: none">• Do not apply when water is on the field.• Do not irrigate until 24 hours after application.	Directions for Use for watercress
Restriction for Rice use	A 24-hour holding time is required before floodwaters may be released after treatment to rice.	Directions for Use for rice
Restrictions for state/federal programs other than mosquito adulticide	“For use only by federal, state, tribal or local government officials responsible for insect control or by persons certified in the appropriate category or otherwise authorized by the state or tribal lead pesticide regulatory Agency to perform grasshopper/Mormon Cricket, Beet Leafhopper or Boll Weevil control applications, or by persons under their supervision, or as allowed by state regulations for persons treating private property.”	Directions for Use

Description	Label Language for Malathion Products	Placement on Label
End-use products with agricultural uses		
Spray Drift Management Application Restrictions for non-ULV products that are applied as liquid with aerial equipment	<p>MANDATORY SPRAY DRIFT MANAGEMENT</p> <p><u>Non-Ultra Low Volume (ULV) Aerial Applications:</u></p> <ul style="list-style-type: none"> Do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety. Applicators must select nozzle and pressure that deliver medium or coarser droplets in accordance with American Society of Agricultural & Biological Engineers Standard (ASABE S641). If the windspeed is 10 miles per hour or less, applicators must use ½ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use ¾ swath displacement upwind at the downwind edge of the field. Do not apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters. Do not apply during temperature inversions. 	<p>Directions for Use, in a box titled “Mandatory Spray Drift Management” under the heading “Non-ULV Aerial Applications”</p> <p>Placement for these statements should be in general directions for use, before and use-specific directions for use.</p>
Spray Drift Management Application Restrictions for ULV products that are applied as liquid with aerial equipment	<p>MANDATORY SPRAY DRIFT MANAGEMENT</p> <p><u>ULV Aerial Applications:</u></p> <ul style="list-style-type: none"> Do not release spray at a height greater than 10 ft above the ground or vegetative canopy, unless a greater application height is necessary for pilot safety. Applicators must select nozzle and pressure that deliver very fine or finer droplets in accordance with American Society of Agricultural & Biological Engineers Standard (ASABE S641). If the windspeed is 10 miles per hour or less, applicators must use ½ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use ¾ swath displacement upwind at the downwind edge of the field. Do not apply when wind speeds exceed 15 mph at the application site. If the windspeed is greater than 10 mph, the boom length must be 65% or less of the wingspan for fixed wing aircraft and 75% or less of the rotor diameter for helicopters. Otherwise, the boom length must be 75% or less of the wingspan for fixed-wing aircraft and 90% or less of the rotor diameter for helicopters. Do not apply during temperature inversions. 	<p>Directions for Use, in a box titled “Mandatory Spray Drift Management” under the heading “ULV Aerial Applications”</p> <p>Placement for these statements should be in general directions for use, before and use-specific directions for use.</p>

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Description	Label Language for Malathion Products	Placement on Label
End-use products with agricultural uses		
Spray Drift Management Application Restrictions for products that are applied as liquid with airblast equipment	MANDATORY SPRAY DRIFT MANAGEMENT <u>Airblast applications:</u> <ul style="list-style-type: none"> • Sprays must be directed into the canopy. • Do not apply when wind speeds exceed 10 miles per hour at the application site. • User must turn off outward pointing nozzles at row ends and when spraying outer row. • Do not apply during temperature inversions. 	Directions for Use, in a box titled “Mandatory Spray Drift Management” under the heading “Airblast Applications”
Spray Drift Management Application Restrictions for products that are applied as liquid with ground boom equipment	MANDATORY SPRAY DRIFT MANAGEMENT <u>Ground Boom Applications:</u> <ul style="list-style-type: none"> • Do not release spray at a height greater than 4 feet above the ground or crop canopy. • Applicators must select nozzle and pressure that deliver medium or coarser droplets in accordance with American Society of Agricultural & Biological Engineers Standard 572 (ASABE S572). • Do not apply when wind speeds exceed 10 mph at the application site. • Do not apply during temperature inversions.” 	Directions for Use, in a box titled “Mandatory Spray Drift Management” under the heading “Ground Boom Applications”
Buffer Zones to Water Bodies for non-ULV products that are applied as liquid with ground and/or aerial equipment	Non-ULV Ground Application <ul style="list-style-type: none"> • Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, wetlands, ponds, estuaries, and commercial fish ponds). Non-ULV Aerial Application <ul style="list-style-type: none"> • Do not apply within 50 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, wetlands, ponds, estuaries, and commercial fish ponds). 	Directions for Use, non-ULV products
Buffer Zones to Water Bodies for ULV products applied with ground equipment to pasture/rangeland	ULV Ground Application <ul style="list-style-type: none"> • Do not apply within 50 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, wetlands, ponds, estuaries, and commercial fish ponds). Applications made by mosquito control districts and other public health officials are exempt from this requirement. 	Directions for Use, ULV products, pasture/rangeland
Buffer Zones to Water Bodies for ULV products applied with aerial equipment	ULV Aerial Application <ul style="list-style-type: none"> • Do not apply within 100 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, streams, wetlands, ponds, estuaries, and commercial fish ponds). Applications made by mosquito control districts and other public health officials are exempt from this requirement. 	Directions for Use, ULV products

Description	Label Language for Malathion Products	Placement on Label
End-use products with agricultural uses		
Environmental Hazard statements: (For liquid products formulated for outdoor foliar applications to agricultural row crops.) Excludes products formulated for residential use and/or Ultra Low Volume (ULV) wide area mosquito control applications	This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. In citrus, stone fruit, pome fruit and tree nuts: Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete. Protect pollinating insects by following label directions intended to minimize drift and to reduce risk to these organisms.	Environmental Hazard
Link to pollinator best management practices (For liquid products formulated for outdoor foliar applications to agricultural row crops.) Excludes products formulated for residential use and/or Ultra Low Volume (ULV) wide area mosquito control applications	Following best management practices can help reduce risk to terrestrial pollinators. Examples of best management practices include applying pesticides in the evening and at night when pollinators are not foraging and checking to confirm hive locations before spraying. For additional resources on pollinator best management practices, visit https://www.epa.gov/pollinator-protection/find-best-management-practices-protect-pollinators .	Directions for Use, prior to crop specific directions
Information on state managed pollinator protection plans (For liquid products formulated for outdoor foliar applications to agricultural row crops.) Excludes products formulated for residential use and/or Ultra Low Volume (ULV) wide	Managed pollinator protection plans are developed by states/tribes to promote communication between growers, landowners, farmers, beekeepers, pesticide users, and other pest management professionals to reduce exposure of bees to pesticides. If available, visit state plans for additional information on how to protect pollinators.	Directions for Use, prior to crop specific directions

Description	Label Language for Malathion Products	Placement on Label
End-use products with agricultural uses		
area mosquito control applications		
<p>Information on how to report bee incidents (For liquid products formulated for outdoor foliar applications to agricultural row crops.)</p> <p>Excludes products formulated for residential use and/or Ultra Low Volume (ULV) wide area mosquito control applications</p>	<p>How to Report Bee Kills. It is recommended that users contact both the state lead agency and the U.S. Environmental Protection Agency to report bee kills due to pesticide application. Bee kills can be reported to EPA at beekill@epa.gov. To contact your state lead agency, see the current listing of state pesticide regulatory agencies at the National Pesticide Information Center’s website: http://npic.orst.edu/reg/state_agencies.html.</p>	<p>Directions for Use, prior to crop specific directions</p>

Table 5. Malathion Label Commitments to Use Directions for Food/Feed Agricultural Use Sites for Registration Review

Crop	Application Equipment	Application Method	Maximum Single Application Rate (lb ai/A)	Maximum Number of Applications Per Year	Minimum Application Interval (days)	Minimum Pre-Harvest Interval (days)	Restricted Entry Interval (days)	Current special restrictions	Label changes
Alfalfa	Aerial	ULV	0.61	2/cutting	14	0	12hrs	Do not apply to alfalfa in bloom. Apply when day temperature is expected to be above 65°F and when 50-70% of leaves show damage.	Limit the number of applications to 2 per year. Make special restriction language consistent by only including the phrase: “Do not apply to alfalfa in bloom”
Alfalfa	Aerial, groundboom	Non-ULV	1.25	2/cutting	14	0	12hrs	Apply to blooming alfalfa only in early morning or evening when bees are not working field or not hanging on outside of hives. Apply when day temperature is expected to be above 65°F and when 50-70% of leaves show damage.	Limit the number of applications to 2 per year. Make special restriction language consistent by only including the phrase: “Do not apply to alfalfa in bloom”
Apples	Aerial, Airblast	Non-ULV	1.25	2	7	1	12 hrs		Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete

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Apricot	Aerial, Airblast	Non-ULV	1.5	2	7	6	12 hrs		Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete
Asparagus	Aerial, groundboom	Non-ULV	1.25	2	7	6	12 hrs		No Changes
Avocado	Aerial, Airblast	Non-ULV	4.7	2	30	7	2 days		No Changes
Barley	Aerial	ULV	0.61	2	7	7	12 hrs		No Changes
Barley	Aerial, Groundboom	Non-ULV	1.25	2	7	7	12 hrs		No Changes
Beans (dry, snap, lima)	Aerial	ULV	0.61	2	7	1	12 hrs		No Changes
Beets, garden	Aerial, Groundboom	Non-ULV	1.25	2	7	7	12 hrs	Do not apply to sugar beets	No Changes
Blueberries (high bush and low bush)	Aerial	ULV	0.77	3	10	1	12 hrs		No Changes
Blueberries (high bush and low bush)	Aerial, Groundboom	Non-ULV	1.25	3	5	1	12 hrs		No Changes
Broccoli; Chinese Broccoli; Broccoli Rabb	Aerial, Groundboom	Non-ULV	1.25	2	7	2	2 days		No Changes

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Brussels sprouts	Aerial, Groundboom	Non-ULV	1.25	2	7	2	2 days		No Changes
Cabbage; Chinese cabbage	Aerial, Groundboom	Non-ULV	1.25	6	7	7	2 days		Limit the number of applications to 3 per year.
Cantaloupe	Aerial, Groundboom	Non-ULV	1.0	2	7	1	12 hrs		No Changes
Caneberries (blackberry, boysenberry, dewberry, gooseberry, loganberry, raspberry)	Aerial, Groundboom	Non-ULV	2.0	3	7	1	12 hrs		No Changes
Carrots	Aerial, groundboom	Non-ULV	1.25	2	7	1	24 hrs		No Changes
Cucumbers	Aerial, groundboom	Non-ULV	1.75	2	7	1	24 hrs		No Changes
Cauliflower	Aerial, groundboom	Non-ULV	1.25	2	7	2	2 days		No Changes
Celery	Aerial, groundboom	Non-ULV	1.5	2	7	7	24 hrs		No Changes

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Cherries (sweet)	Aerial	ULV	1.22	4	7	2	12 hrs	Apply by aircraft only	Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete
Cherries (tart)	Aerial	ULV	1.22	6	7	1	12 hrs	Apply by aircraft only	Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete
Cherries (sweet and tart)	Aerial, airblast	Non-ULV	1.75	4	3	3	12 hrs		Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete
Chayote fruit	Aerial, airblast	Non-ULV	1.75	2	7	1	24 hrs		No Changes
Chayote root	Aerial, airblast	Non-ULV	1.56	2	7	1	24 hrs		No Changes
Chestnut	Aerial, Airblast	Non-ULV	2.5	3	7	2	24 hrs	Do not treat after shuck split.	Limit the number of applications to 2 per year. Do not apply this product within 3 days prior to

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									bloom, during bloom, or until petal fall is complete
Citrus Fruits (grapefruit, lemon, lime, orange, tangerine, tangelo)	Aerial, Airblast	Non-ULV	1.5 4.5	3 1	30 N/A	7 7	12 hrs 72 hrs	All states other than CA	In Florida, remove the high rate of 4.5 lbs ai/A. Remove special restriction “All states other than CA” Add Restriction: “Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete”
Citrus Fruits (grapefruit, lemon, lime, orange, tangerine, tangelo)	Aerial, Airblast	Non-ULV	1.5 7.5	3 1	30 N/A	7 7	12 hrs 72 hrs	CA Only	Limit the 7.5 lb ai/A rate in CA to ground airblast application only (no aerial applications). Clarify label language to limit application of malathion to 1 application at 7.5 lbs ai/A OR 3 applications at 1.5 lbs ai/A. If the 7,5 lb ai/A rate is used in any one year, no

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Crop	Application Equipment	Application Method	Maximum Single Application Rate (lb ai/A)	Maximum Number of Applications Per Year	Minimum Application Interval (days)	Minimum Pre-Harvest Interval (days)	Restricted Entry Interval (days)	Current special restrictions	Label changes
									additional applications of malathion are allowed. Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete
Citrus (Grapefruit)	Aerial	ULV	0.175	10	7	7	12 hrs	Except CA	Limit the number of applications to 3 per year. Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete
Citrus (Grapefruit, Lemon, Limes, Oranges, Tangerine, Tangelos)	Aerial	ULV	0.175	3	7	7	12 hrs		Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete
Clover	Aerial	ULV	0.61	2/cutting	14	0	12 hrs	Do not apply to clover in bloom	Limit the number of applications to 4 applications per year
Clover	Aerial, Groundboom	Non-ULV	1.25	2/cutting	14	0	12 hrs	Do not apply to clover in bloom	Limit the number of applications to 4 per year

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Collards	Aerial, groundboom	Non-ULV	1.0	3	7	7	12 hrs		No Changes
Corn (field)	Aerial	ULV	0.61	2	7	7	3 days for detasseling; 12 hrs for all other activities		No Changes
Corn (field)	Aerial, Groundboom	Non-ULV	1.0	2	7	7	3 days for detasseling; 12 hrs for all other activities		No Changes
Corn (sweet and pop)	Aerial	ULV	0.61	5	5	5	3 days for detasseling; 12 hrs for all other activities		Limit the number of applications to 3 per year.
Corn (sweet and pop)	Aerial, Groundboom	Non-ULV	1.0	5	5	5	3 days for detasseling; 12 hrs for all other activities		Limit the number of applications to 3 per year.
Cotton (non-BWEP use)	Aerial	ULV	1.22	3	7	7	2 days		Limit the number of applications to 2 per year.
Cotton	Aerial, Groundboom	Non-ULV	2.5	3	7	7	2 days		Limit the number of applications to 2 per year.

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(non BWEP use)									
Cotton (BWEP only)	Aerial, Groundboom	ULV	1.22 0.61	25	3	0	24	Special use pattern relevant only to the USDA BWEP. 0.61 to 1.22 lbs ai/A used early to mid-season 1.22 lbs ai/A used later season	No Changes
Current	Aerial, Groundboom	Non-ULV	1.25	3	7	1	12 hrs		Limit the number of applications to 2 per year.
Dandelion	Aerial, groundboom	Non-ULV	1.25	3	7	7	24 hrs		Limit the number of applications to 2 per year.
Eggplant	Aerial, Groundboom	Non-ULV	1.56	4	5	3	12 hrs		Limit the number of applications to 4 per year.
Eggplant, oriental	Aerial, Groundboom	Non-ULV	1.56	5	5	3	12 hrs		Limit the number of applications to 4 per year.

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Endive	Aerial, groundboom	Non-ULV	1.25	2	7	7	24 hrs		No Changes
Figs	Aerial, airblast	Non-ULV	2.0 Or 1.5	2	5	5	24 hrs Or 12 hrs		No Changes
Garlic	Aerial, groundboom	Non-ULV	1.56	3	7	3	24 hrs		Limit the number of applications to 2 per year.
Grains, stored (barley, corn, oats, rye and wheat)	Hand-held sprayer	Non-ULV (liquid products)	0.6 lbs ai/1000 ft	1 per storage period	NA	NA	12 hours	This use reflects spraying the walls and floor of an empty storage bin prior to loading grain. Do not apply directly to grain.	No Changes
Grains, stored (barley, corn, oats, rye and wheat)		Dust	During loading: 10 lbs per 1,000 bushels. Surface treatment: 5 lbs per 1,000 square feet.	3	60	NA	NA		Added info to this table to reflect current labeled use

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Grapes (raisin, table, wine)	Aerial, airblast	Non-ULV	1.88	2	14	3	3 days for girdling and tying 24 hrs for all other activities		No Changes
Grape vines (overwintering on nursery stock only)	Dip	Dip	3 pints/200 gallons of water	1	NA	NA	NA	Remove excess soil from roots and submerge entire root system in the Fyfanon solution for 5 minutes.	No Changes
Grass, forage, hay (Bermuda, barnyard grass, canary grass, fescue, orchard grass, red top, timothy, yellow foxtail)	Aerial	ULV	0.92 0.61	1/cutting	N/A	0	12 hrs	Higher rate is for grasshoppers only	Limit the number of applications to 4 per year. 14-day minimum retreatment interval.
Grass, forage, hay (Bermuda, barnyard grass, canary grass, fescue, orchard grass,	Aerial, Groundboom	Non-ULV	1.25	1/cutting	N/A	0	12 hrs		Limit the number of applications to 4 per year. 14-day minimum retreatment interval.

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Crop	Application Equipment	Application Method	Maximum Single Application Rate (lb ai/A)	Maximum Number of Applications Per Year	Minimum Application Interval (days)	Minimum Pre-Harvest Interval (days)	Restricted Entry Interval (days)	Current special restrictions	Label changes
red top, timothy, yellow foxtail)									
Guava	Aerial, airblast	Non-ULV	1.25	13	3	2	12 hrs	Apply with 1 lb. partially hydrolyzed yeast protein or enzymatic yeast hydrolyzate	Limit the number of applications to 1/cutting and 4 per year. 14-day minimum retreatment interval.
Hops	Aerial, airblast	Non-ULV	0.63	3	7	10	12 hrs		Limit the number of applications to 2 per year.
Horseradish	Aerial, airblast	Non-ULV	1.25	3	7	7	24 hrs		Limit the number of applications to 2 per year.
Kale	Aerial, airblast	Non-ULV	1.0	3	5	7	12 hrs		No Changes
Kohlrabi	Aerial, airblast	Non-ULV	1.25	2	7	3	24 hrs		No Changes
Kumquats	Aerial, Groundboom	Non-ULV	4.5	1	NA	7	2 days		Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete.
Kumquats	Aerial	ULV	0.175	2	7	7	12 hrs		Do not apply this product within 3 days prior to

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									bloom, during bloom, or until petal fall is complete
Leek	Airblast, Groundboom	Non-ULV	1.56	2	7	3	24 hrs		No Changes
Lespedeza	Airblast, Groundboom	Non-ULV	1.25	2/cutting	14	0	12 hrs	Do not apply to alfalfa in bloom. Apply when day temperature is expected to be above 65°F and when 50-70% of leaves show damage.	Do not apply to lespedeza in bloom. Limit the number of applications to 1/cutting and 2 per year.
Lettuce (head)	Airblast, Groundboom	Non-ULV	1.88	2	6	14	24 hrs		No Changes
Lettuce (leaf)	Airblast, Groundboom	Non-ULV	1.88	2	5	14	24 hrs		No Changes
Macadamia nut	Aerial, Airblast	Non-ULV	0.94	6	7	1	12 hrs		No Changes
Mango	Aerial, Airblast	Non-ULV	0.94	13	7	1	12 hrs	Apply with 1 lb. partially hydrolyzed yeast protein or enzymatic yeast hydrolyzate	No Changes
Melons (other than watermelon)	Aerial, Airblast	Non-ULV	1.0	2	7	1	12 hrs		No Changes

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Mint	Aerial, Airblast	Non-ULV	0.84	3	7	7	12 hrs		Limit the number of applications to 2 per year.
Mustards (mustard greens, mustard spinach, Chinese mustard, mizuna)	Aerial, Airblast	Non-ULV	1.0	3	5	7	12 hrs		No Changes
Nectarines	Aerial, Airblast	Non-ULV	3.0	3	7	7	24 hrs		Limit the number of applications to 2 per year. Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete
Oats	Aerial	ULV	0.61	2	7	7	12 hrs		No Changes
Oats	Aerial, Groundboom	Non-ULV	1.0	2	7	7	12 hrs		No Changes
Okra	Aerial, Groundboom	Non-ULV	1.2	5	7	1	12 hrs		Limit the number of applications to 4 per year.
Onions (bulb and green)	Aerial, Groundboom	Non-ULV	1.56	2	7	3	12 hrs		No Changes

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Papaya	Aerial, Airblast	Non-ULV	1.25	8	3	1	12 hrs		No Changes
Parsley	Aerial, Airblast	Non-ULV	1.5	2	7	7	24 hrs		No Changes
Parsnip	Aerial, Airblast	Non-ULV	1.25	3	7	7	24 hrs		Limit the number of applications to 2 per year.
Passion fruit	Aerial, Groundboom	Non-ULV	1.0	13	7	3	12 hrs		No Changes
Pasture and Rangeland	Aerial	ULV	0.92 0.61	1/cutting	N/A	12 hrs		Higher rate is for grasshoppers only	Pasture: Limit use to 2 applications per year and a 30-day retreatment interval. Rangeland: Outside of government programs, Limit use to spot treatment only for grasshoppers and mosquito/fly control.
Peaches	Aerial, Airblast	Non-ULV	3.0	3	11	7	24 hrs		Limit the number of applications to 2 per year.

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									Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete
Pears	Aerial, Airblast	Non-ULV	1.25	2	7	1	12 hrs		Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete
Peas (dried, green)	Aerial, Groundboom	Non-ULV	1.0	2	7	3	12 hrs		No Changes
Pecans	Aerial, Airblast	Non-ULV	2.5	2	7	7	24 hrs		Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete
Peppers	Aerial, Groundboom	Non-ULV	1.56	2	5	3	12 hrs		No Changes
Pineapple	Aerial, Groundboom	Non-ULV	2.0	3	7	0	24 hrs		No Changes
Potatoes	Aerial, Groundboom	Non-ULV	1.56	2	7	0	12 hrs		No Changes
Pumpkins	Aerial, Groundboom	Non-ULV	1.0	2	7	1	12 hrs		No Changes
Radish	Aerial, Groundboom	Non-ULV	1.0	3	7	7	12 hrs		Limit the number of applications to 2 per year.
Rutabagas	Aerial, Groundboom	Non-ULV	1.0	3	7	7	12 hrs		Limit the number of applications to 2 per year.

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Crop	Application Equipment	Application Method	Maximum Single Application Rate (lb ai/A)	Maximum Number of Applications Per Year	Minimum Application Interval (days)	Minimum Pre-Harvest Interval (days)	Restricted Entry Interval (days)	Current special restrictions	Label changes
Rice (rice, wild rice)	Aerial	ULV	0.61	2	7	7	12 hrs	Broadcast use only over intermittently flooded areas. Application may not be made around bodies of water where fish or shellfish are grown and/or harvested.	The RED allows a 7-day PHI for rice (changed from 14 to 7). Require a 24-hour holding time after application of malathion before paddy water can be released.
Rice (rice, wild rice)	Aerial, Groundboom	Non-ULV	1.25	2	7	7	12 hrs	Broadcast use only over intermittently flooded areas. Application may not be made around bodies of water where fish or shellfish are grown and/or harvested.	Require a 24-hour holding time after application of malathion before paddy water can be released.
Rye	Aerial	ULV	0.61	1	N/A	7	12 hrs		No Changes
Rye	Aerial, Groundboom	Non-ULV	1.0	3	7	7	12 hrs		Limit the number of applications to 2 per year.
Salsify	Aerial, Groundboom	Non-ULV	1.25	3	7	7	24 hrs		Limit the number of applications to 2 per year.
Shallot	Aerial, Groundboom	Non-ULV	1.56	2	7	3	24 hrs		No Changes
Sorghum	Aerial, Groundboom	Non-ULV	1.0	2	7	7	12 hrs		No Changes
Sorghum	Aerial	ULV	0.61	2	7	7	12 hrs		No Changes

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Spinach	Aerial, Groundboom	Non-ULV	1.0	2	7	7	12 hrs		No Changes
Squash, summer	Aerial, Groundboom	Non-ULV	1.75	3	7	1	24 hrs		No Changes
Squash, winter	Aerial, Groundboom	Non-ULV	1.0	3	7	1	12 hrs		No Changes
Strawberry	Aerial, Groundboom	Non-ULV	2.0	4	7	3	12 hrs		No Changes
Sweet potatoes	Aerial, Groundboom	Non-ULV	1.56	2	7	0	12 hrs		No Changes
Swiss chard	Aerial, Groundboom	Non-ULV	1.0	2	7	14	12 hrs		No Changes
Tomatoes, tomatillo	Aerial, Groundboom	Non-ULV	1.56	4	5	1	12 hrs		No Changes
Trefoil (birdsfoot)	Aerial, Groundboom	Non-ULV	1.25	2/cutting	14	0	12 hrs		Limit the number of applications to 1 per cutting and no more than 2 per year.
Turnips	Aerial, Groundboom	Non-ULV	1.25	3	5 days for greens 7 days for roots	1	12 hrs		Limit the number of applications to 2 per year.
Vetch	Aerial, Groundboom	Non-ULV	1.25	2/cutting	14	0	12 hrs		Limit the number of applications to 1 per cutting and no more than 2 per year.

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Walnuts	Aerial, Airblast	Non-ULV	2.5	3	7	7	24 hrs		No Changes
Watercress	Aerial, Groundboom	Non-ULV	1.0 1.25	5	3	3	12 hrs, if Max App Rate is 1 24 hrs, if Max App Rate is 1.25		“Do not spray when water is on the field and do not irrigate until 24 hours after application.”
Watermelons	Aerial, Groundboom	Non-ULV	1.0	2	7	1	12 hrs		No Changes
Wheat (spring and winter)	Aerial	ULV	0.61	2	7	7	12 hrs		No Changes
Wheat (spring and winter)	Aerial, Groundboom	Non-ULV	1.0	2	7	7	12 hrs		No Changes
Yams	Aerial, Groundboom	Non-ULV	1.56	2	7	0	24 hrs		No Changes