



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

August 23, 2023

Maryanne Kellogg
Regulatory Consultant
Loveland Products, Inc.
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Subject: Registration Review Label Amendments Incorporating Mitigation from the Fish and Wildlife Services (FWS) and the National Marine Fisheries Services (NMFS) Biological Opinions on the Effects of Malathion on Endangered and Threatened Species and Designated Critical Habitat
Product Name: Malathion 57 EC
EPA Registration Number: 34704-108
Application Dates: August 25, 2022, and March 8, 2023
Decision Numbers: 587134 and 591132

Dear Maryanne Kellogg:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the FWS and NMFS' Biological Opinions on the effects of Malathion on federally listed Endangered and Threatened species and designated critical habitat in accordance with section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). The Agency has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

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

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling

before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 12 months from the date of this letter. After 12 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

If you have any questions, please contact Carolyn Smith by phone at (202) 566-2273 or via email at smith.carolyn@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Kelly Sherman", with a long horizontal flourish extending to the right.

Kelly Sherman
Chief, Risk Management Implementation Branch 3
Pesticide Re-evaluation Division
Office of Pesticide Programs

Enclosure



MALATHION 57 EC

ORGANOPHOSPHATE INSECTICIDE

ACTIVE INGREDIENT:		%BYWT.
Malathion*		57.00%
OTHER INGREDIENTS**		43.00%
	TOTAL	100.00%

*O,O-dimethyl phosphorodithioate of diethyl mercaptosuccinate.

** This product contains xylene range aromatics.

Contains 5.0 pounds of malathion per gallon.

KEEP OUT OF REACH OF CHILDREN WARNING—AVISO

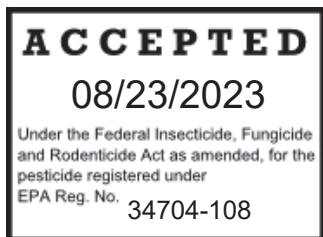
Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

DO NOT USE INSIDE THE HOME.

FIRST AID	
If in eyes:	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If swallowed:	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor. • Do not induce vomiting unless told to by a poison control center or doctor. • Do not give any liquid to the person. • Do not give anything by mouth to an unconscious person.
If on skin or clothing:	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
If inhaled:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
HOTLINE For Medical Emergencies	
FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565.	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
NOTE TO PHYSICIAN: This product may cause cholinesterase inhibition. Atropine is antidotal. 2-PAM may be effective as an adjunct to atropine. May pose an aspiration pneumonia hazard. Contains petroleum distillate.	
For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC – 1-800-424-9300.	

[For additional Precautionary Statements; [complete] [First Aid,] Directions for Use, Storage and Disposal and other Use Information, see [inside] [this] [label] [booklet] [booklet label] [container label] [booklet and container label].]

[For Additional Precautionary Statements, Directions for Use, and Other Use Information, See Inside [This] [Attached] Label Booklet.]



EPA REG. NO. 34704-108
EPA EST. NO.
NET CONTENTS 1.0 GAL (3.78 L)

[EXP 08/2022,06/29PRC FWS NMFS BiOp]

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Warning. Causes substantial but temporary eye injury. Harmful if swallowed. Harmful if absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are barrier laminate, butyl rubber, nitrile rubber or viton.

For all formulations and all use patterns – mixers, loaders, applicators, flaggers, and other handlers must wear:

- Protective eyewear (goggles, faceshield, safety glasses)
- Longsleeved shirt and long pants
- Shoes plus socks
- Chemical resistant gloves

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.

See engineering controls for additional requirements.

ENGINEERING CONTROLS

Pilots must use an enclosed cockpit in a manner that is consistent with the WPS for Agricultural Pesticides [40 CFR 170.240(d)(6)]. Pilots must wear the PPE required on this labeling for applicators.

USER SAFETY RECOMMENDATIONS

Users should:

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

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and aquatic invertebrates.

Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

Use care when applying in or to an area which is adjacent to any body of water, and do not apply when weather conditions favor drift from target area. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product.

A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate. To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters.

This pesticide is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively 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.**

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Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

Reporting Ecological Incidents: To report ecological incidents, including mortality, injury, or harm to plants and animals, call 1-866-944-8565.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame. Chemical incompatibility of this product is likely to occur when the product is mixed or comes into contact with common oxidizing and reducing agents.

DIRECTIONS FOR USE

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

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For 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.

AGRICULTURAL USE REQUIREMENTS

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI). The REI for each crop is listed in the directions for use associated with each crop.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Shoes plus socks, and
- Chemical-resistant gloves made of any waterproof material.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, or nurseries. **Do not enter or allow others to enter until sprays have dried.**

PRECAUTIONS AND RESTRICTIONS

- For use in mushroom houses and empty grain storage (grain elevators/silos): Use only with adequate ventilation.
- After using this product, ventilate thoroughly before occupying enclosed spaces. Do not allow contact with treated surface until sprays have dried.
- Do not use in undiluted form.
- Do not combine emulsifiable liquids with wettable powders in the same spray tank unless previous use of the materials being combined has proven them to be physically compatible.
- Use on cull piles (including cull dumps, fruit dumps, cull fruit and vegetable dumps) is prohibited.
- Use as a mosquito larvicide is prohibited.
- Do not apply Malathion 57 EC Insecticide by ULV (Ultra Low Volume).

Agricultural Application Uses

Malathion 57 Insecticide is 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.

Do not apply Malathion 57 EC Insecticide 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.

[Note to Reviewer: may or may not be presented in tabular format.]

Required Buffer Zones for Bodies of Water		
Bodies of Water	Type of Application	Buffer Zone (in Feet)
Bodies of water, such as, but not limited to, lakes, reservoirs, rivers, streams, wetlands, (natural) ponds, estuaries, and commercial fish ponds	Non-ULV Ground Application	Do not apply within 25 feet of aquatic habitats*
	Non-ULV Aerial Application	Do not apply within 50 feet of aquatic habitats**
<p>* You must follow the instructions for additional buffer distances beyond the 25 feet, as applicable, per 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.</p> <p>** You must follow instructions for additional buffer distances beyond the 50 feet, as applicable, per 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 use using this product. To obtain Bulletins, consult http://www.epa.gov/espp/, call 1-844-447-3813, or email ESPP@epa.gov.</p>		

[Note to Reviewer: may or may not be presented in tabular format.]

Restricted Application Sites	Programs Allowed to Apply to These Sites
Agricultural, uncultivated areas and fence rows/hedge rows Non-agricultural right of way/hedgerows	Federal or State Sponsored Programs, Boll Weevil Eradication Programs, Curly Top Virus Programs, Other Federally or State designated programs.

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MANDATORY SPRAY DRIFT MANAGEMENT

AIRBLAST APPLICATIONS

- 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.

GROUND BOOM APPLICATIONS

- 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.

AERIAL APPLICATIONS - NON-ULV (Non-Ultra Low Volume)

- 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 $\frac{3}{4}$ swath displacement upwind at the downwind edge of the field. When the windspeed is between 11-15 miles per hour, applicators must use a full 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.

SPRAY DRIFT REQUIREMENTS

Observe the following requirements when spraying in the vicinity of aquatic areas such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries and commercial fish ponds.

Droplet Size – Use the largest droplet size consistent with acceptable efficacy. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible, and by avoiding excessive spray boom pressure.

Wind Direction and Speed –For all non-aerial applications, wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.

Temperature Inversion – Do not make aerial or ground applications into areas of temperature inversions. Inversions are characterized by stable air and increasing temperatures with increasing distance above the ground. Mist or fog may indicate the presence of an inversion in humid areas. Where permissible by local regulations, the applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

In conditions of low humidity and high temperatures, applicators should use a coarser droplet size.

Additional Requirements for Ground Applications – Spray should be released at the lowest height consistent with pest control and flight safety. Applications more than 10 feet above the crop canopy should be avoided. For ground boom applications, apply with nozzle height no more than 4 feet above the ground or crop canopy. For airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

Additional Requirements for Aerial Applications – For aerial applications, the spray boom should be mounted on the aircraft as to minimize drift caused by wingtip or rotor vortices.

Aerial applicators must consider flight speed and nozzle orientation in determining droplet size.

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

APPLICATION THROUGH IRRIGATION SYSTEMS – CHEMIGATION

Apply this product only through sprinkler, including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move; flood (basin); furrow; border; or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not connect an irrigation system used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Mix in clean supply tank the specified amount of this product for acreage to be covered, and needed quantity of water. This product should not be tank-mixed with other pesticides, surfactants or fertilizers unless prior use has shown the combination noninjurious under your conditions of use.

Follow precautionary statements and directions for all tank-mixed products.

On all crops, use sufficient gallonage of water to obtain thorough and uniform coverage, but not cause runoff or excessive leaching. This will vary depending on equipment, pest problem and stage of crop growth. Application of more or less than optimal quantity of water may result in decreased chemical performance, crop injury or illegal pesticide residues.

Meter this product into the irrigation water uniformly during the period of operation. Do not overlap application. Follow specified label rates, application timing, and other directions and precautions for crop being treated.

Continuous mild agitation of pesticide mixture may be needed to assure a uniform application, particularly if the supply tank requires a number of hours to empty.

Chemigation Systems Connected To Public Water Systems

Note: Loveland Products Inc. does not encourage connecting chemigation systems to public water supplies. The following information is provided for users who have diligently considered all other application and water supply options before electing to make such a connection.

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the flow fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection.

The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Sprinkler Chemigation (Foliar Spray Uses)

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Flood (Basin), Furrow And Border Chemigation (Soil Drench Uses)

Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

- a. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- b. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- c. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- e. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- f. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Drip (Trickle) Chemigation (Soil Drench Uses)

The system must contain a functional check valve, vacuum relief valve and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

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Resistance-Management Recommendations

For resistance management, Malathion 57 EC contains a Group 1B insecticide/acaricide. Any insect or mite population may contain individuals naturally resistant to Malathion 57 EC and other Group 1B insecticides/acaricides. The resistant individuals may dominate the insect/mite population if this group of insecticides/acaricides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay insecticide/acaricide resistance, take the following steps:

- Rotate the use of Malathion 57 EC or other Group 1B insecticides/acaricides within a growing season, and among growing seasons, with different groups that control the same pests.
- Avoid consecutive sprays of Malathion 57 EC or other insecticides in the 1B group during a season.
- Do not apply more than the maximum number of sprays allowed.
- Use tank mixtures with insecticides/acaricides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues target pest(s) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
 - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide/acaricides use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact Loveland Products, Inc at 1-866-944-8565 or at LovelandProducts.com and use the “contact us” link.

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.

Reporting Ecological Incidents: To report ecological incidents, including mortality, injury, or harm to plants and animals, call 1-866-944-8565.

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Pollinator Best Management Practices and Additional Information

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

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

How to Report Bee Kills. It is recommended that users contact both the state lead agency and the U.S. Environmental Protection Agency to report bee kills due to pesticide application. Bee kills can be reported to EPA at beekill@epa.gov. 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.

CROP USES

Use rates and use directions as noted below. Use higher rate when foliage is heavy or infestation is severe. Apply when pests first appear. Apply the following recommended rates in sufficient water to thoroughly cover 1 acre. By ground, apply using a minimum of 10.0 gallons of water per acre (standard is 100 gallons of water for thorough coverage sprays) and by air apply using a minimum of 2.0 gallons of water per acre.

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.

Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)
Alfalfa	Aerial, Ground boom	Grasshoppers Lygus bugs Pea aphid Spotted alfalfa aphid	1.5 to 2.0	Do not apply to alfalfa in bloom. The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications is 2/cutting; and the minimum retreatment interval is 14 days. The maximum number of applications per year is 2, for a maximum yearly total of 2.5 lbs. ai/A/year (4.0 pints/A/year).	0
		Alfalfa weevil larvae Armyworms Leafhoppers	2.0		
Apricots	Aerial, Airblast	Orange tortrix Soft scale	2.0	Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete. The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.5 lb AI/A (2.4 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days	6
Asparagus	Aerial, Ground boom	Asparagus aphid Asparagus beetle Thrips	1.5 to 2.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	6
Barley	Aerial, Ground boom	English grain aphid Greenbugs Young grasshoppers	1.5 to 2.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
		Armyworms	2.0		

**Malathion 57 EC
34704-108**

Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)
Beets, Garden (including tops) (Do not apply to Sugar beets)	Aerial, Ground boom	Aphids	1.5 to 2.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
Caneberries (Blackberries Boysenberries Dewberries Gooseberries Loganberries Raspberries)	Aerial, Ground boom	Rose scale aphids	3.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 2.0 lb AI/A (3.2 pt Malathion 57 EC); the maximum number of applications/yr is 3; and the minimum retreatment interval is 7 days. The standard dilute spray for this crop is 200 gal of water/A.	1
		Japanese beetle Leafhoppers Mites Thrips	1.5		
Blueberries (High bush and low bush)	Aerial, Ground boom	Japanese beetle	1.5	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 3; and the minimum retreatment interval is 5 days. The standard dilute spray for this crop is 200 gal of water/A.	1
		Cherry fruitworm Cranberry fruitworm	1.6		
		Plum curculia Sharp-nosed leafhopper	2.0		
Broccoli, Chinese Broccoli, Broccoli Rabb, Brussels sprouts, Cauliflower	Aerial, Ground boom	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 2.0	The Restricted Entry Interval (REI) is 48 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications /yr is 2; and the minimum retreatment interval is 7 days.	2
Cabbage (including Chinese)	Aerial, Ground boom	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 2.0	The Restricted Entry Interval (REI) is 48 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 3; and the minimum retreatment interval is 7 days.	7
Caneberries	See above				
Carrots (roots)	Aerial, Ground boom	Aphids	1.5 to 2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	1
Celery	Aerial, Ground boom	Aphids Spider mites	1.5	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.5 lb AI/A (2.4 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
Cherries (sweet, tart)	Aerial, Airblast	Black cherry aphid Fruittree leafroller	1.5	Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete. Injury may occur on certain varieties of Sweet Cherries. The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.75 lb AI/A (2.8 pt Malathion 57 EC); the maximum number of applications/yr is 4; and the minimum retreatment interval is 3 days. The standard dilute spray for this crop is 400 gal of water/A.	3
		Cherry fruit fly Eyespotted bud moth	1.0		

**Malathion 57 EC
34704-108**

Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)		
Chestnuts	Aerial, Airblast	Mites	0.8	Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete. Do not treat after shuck split. (REI) is 24 hours. The maximum single application rate is 2.5 lb ai/A (4.0 pt Malathion 57 EC); Maximum applications/yr is 2 Minimum retreatment intervals 7 days.	2		
Citrus (Grapefruit, Lemons, Limes, Oranges, Tangerines)	Option 1 and 2: Aerial or Ground Airblast Option 3: Ground Airblast only	Black scale California red scale Citricola scale Purple scale Soft scale Yellow scale	Employ only one option, applicable to your state, per year. Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete. Applications should be made in 100 gallons of diluent.				
			A - All States: Aerial Application or Ground Airblast Application				
			2.4 pints Malathion 57 EC/Acre (1.5 lbs. ai/A) applied in 3 separate applications.	Maximum single application rate is 1.5 lb ai/A (2.4 pt Malathion 57 EC). Maximum applications/yr is three (3), (for a total max annual application rate of 2.4 pt/A/yr (1.5 lbs max ai/A/year.)) REI is 12 hours, RTI (Minimum application interval) 30 days	7		
			OR, B - All States, except FL: Aerial Application or Ground Airblast Application				
			7.2 pints Malathion 57 EC/Acre/ (4.5 lbs. of a.i./A). Must be applied in a single application.	Maximum single application rate is 4.5 lb ai/A (7.2 pt Malathion 57 EC). Maximum applications/yr is one (1) (for a total max annual application rate of 7.2 pt/A/yr (4.5 lbs max ai/A/year.)) REI is 72 hours Maximum number of applications is one (1) per year. (RTI – 12 months.)	7		
OR, C - CA Only: Ground Airblast application only							
			12.0 pints Malathion 57 EC/Acre/ (7.5 lbs. of a.i./A). Must be applied in a single application.	Maximum single application rate is 7.5 lb ai/A (12.0 pt Malathion 57 EC). Maximum applications/yr is one (1) (for a total max annual application rate of 12.0 pt/A/yr (7.5 lbs max ai/A/year.)) REI is 72 hours Maximum number of applications is one (1) per year. (RTI – 12 months.)	7		
Clover	Aerial, Ground boom	Aphids Leafhoppers Lygus bugs	1.5 to 2.0	Apply to plants in bloom only in the evening or early morning when bees are not working in the field or are not hanging on the outside of hives. The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications /yr is 4 and 2/cutting; and the minimum retreatment interval is 14 days.	0		
Collards	Aerial, Ground boom	Harlequin cabbage bug	1.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.60 pt Malathion 57 EC); the maximum applications/yr is 3; Minimum retreatment interval is 7 days.	7		
		Leafhoppers	0.5				
		Leaf miners					
		Aphids	1.5 to 1.6				
		Cabbage looper Caterpillars Diamondback moth Imported cabbageworm	1.6				

**Malathion 57 EC
34704-108**

Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)
Corn (field)	Aerial, Ground boom	Sap beetle Young grasshoppers	1.5	Begin treatment when 10% of ears show silk. Apply when nymphs are young. Injury may occur in the whorl and silk stage, using this type of malathion product. The Restricted Entry Interval (REI) is 72 hours (3 days) for detasseling, and 12 hours for all other activities. The maximum single application rate is 1.0 lb ai/A (1.6 pt Malathion 57 EC); Maximum number of applications/yr is 2; Minimum retreatment interval (RTI) 7 days.	7
Corn (sweet and pop)	Aerial, Ground boom	Sap beetle Young grasshoppers	1.5	Begin treatment when 10% of ears show silk. Apply when nymphs are young. Injury may occur in the whorl and silk stage, using this type malathion product. The Restricted Entry Interval (REI) is 72 hours for detasseling, and 12 hours for all other activities. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); Maximum number of applications/yr is 3. Minimum retreatment interval is 5 days.	5
Cotton (Non-Boll Weevil Eradication Program (BWEP) Use)	Aerial, Ground boom	Aphids Brown cotton leafworm Cotton leaf perforator Leafhoppers Lygus bug Thrips Whiteflies	1.5 to 2.0	The Restricted Entry Interval (REI) is 48 hours. The maximum single application rate is 2.5 lb ai/A (4.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
		Boll weevil	1.0 to 4.0		
Cucumber	Aerial, Ground boom	Aphids	1.5	Do not apply unless plants are dry. The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.75 lb AI/A (2.8 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	1
Currants	Aerial, Ground boom	Currant aphid Imported currant worm	2.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days. The standard dilute spray for this crop is 200 gal of water/A.	1
		Japanese beetle Mites	1.6		
Dandelions	Aerial, Ground boom	Aphids	1.5 to 2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications /yr is 2; and the minimum retreatment interval is 7 days.	7
Eggplant, And Oriental Eggplant	Aerial, Ground boom	Aphids	1.0 to 1.5	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.56 lb AI/A (2.5 pt Malathion 57 EC); Maximum number of application/yr is 4 Minimum retreatment interval is 5 days.	3
		Lace bugs	2.5		

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Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)
Endive	Aerial, Ground boom	Aphids Mites	1.5 to 2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
Figs	Aerial, Airblast	Vinegar flies	2.4 to 3.2 plus 1.0 to 2.0 gal Sulfured Molasses in minimum of 300 gal diluent/A	Option 1: For a REI of 24 hours, use the maximum single application rate of 3.2 pts Malathion 57 EC (2.0 lbs. a.i./A); Maximum number of applications/yr is 2; Minimum retreatment interval is 5 days.	5
				Option 2: For a REI, Restricted Entry Interval, of 12 hours, apply 2.4 pts Malathion 57 EC (1.5 lbs. a.i./A); Maximum number of applications/yr is 2; Minimum retreatment interval is 5 days.	5
Garlic	Aerial, Ground boom	Aphids Thrips	1.5 to 2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.56 lbs. a.i./A (2.5 pt Malathion 57 EC); the maximum number of applications/yr is 2; Minimum retreatment interval is 7 days.	3
Grain Sorghum	Aerial, Ground boom	Greenbugs	1.5	Make full coverage. The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
Grapes (raisin, table, wine)	Aerial, Airblast	Mealybugs	1.5	Emulsion may cause injury to foliage on some varieties (Ribier, Italia, Cardinals, Almeria). The Restricted Entry Interval (REI) is 72 hours for girdling and tying and 24 hours for all other activities. The maximum single application rate is 1.88 lb AI/A (3.0 pt Malathion 57 EC); maximum number of applications/yr is 2; minimum retreatment interval is 14 days. The standard dilute spray for this crop is 200 gal of water/A.	3
Grass; Forage, Hay (Bermuda, barnyard grass; Canary grass; Fescue; Orchard grass; Red top timothy; Yellow foxtail)	Aerial, Ground boom	Aphids Grasshoppers Leafhoppers	1.5 to 2.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); Maximum number of applications per cutting is 1. Minimum retreatment interval (RTI) is 14 days. Maximum of 4 applications per year.	0
		Armyworms	2.0		

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Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)
Grain Storage Facilities (Grain elevators/silos)	Hand-held sprayer	Confused flour beetle, Rice weevil, Granary weevil, Saw-toothed grain beetle, Flat grain beetle, Red flour beetle, Rusty grain beetle, Lesser grain borer and as an aid in control of Indian meal moth.	Mix: 1.0 gallon of Malathion 57 EC per 25.0 gallons of diluent Apply: 3 gal/1000 sq feet (0.6 lbs. ai/1000 sq ft.)	Malathion 57 EC must be applied using a hand-held sprayer from a non-ULV application system. This product may be used for residual wall, floor and machinery spray in grain elevators/silos before loading grain. Make a thorough application when applying the finished emulsion. The maximum application rate is 0.6 lbs. ai/1000 sq ft. (1.0 pint of Malathion 57 EC Insecticide/1000 sq ft.) When mixed at the rate of 1 gal of this product to 25 gallons water, that is 3 gal finished solution /1000 sq feet. Before applying spray, clean grain elevators/silos thoroughly. Remove and burn all sweepings and debris. Do not apply directly to grain. Only for use in facilities (grain elevators/silos) being prepared to store barley, corn, oats, rye, or wheat. Maximum of one application allowed per storage period. Restricted Entry Interval– 12 hrs (Note: 3 gal finished spray/1000 sq feet (0.6 lbs. ai/1000 sq ft.))	NA
Hops	Aerial, Airblast	Aphids Mites	1.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 0.63 lb ai/A (1.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	10
Horseradish	Aerial, Airblast	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.25 lb ai/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
Kale	Aerial, Airblast	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 1.6	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb ai/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 3; and the minimum retreatment interval is 5 days.	7
Kohlrabi	Aerial, Airblast	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.25 lb ai/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	3
Leeks	Airblast. Ground Boom	Aphids Thrips	1.5 to 2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.56 lb ai/A (2.5 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	3
Lespedeza	Airblast. Ground Boom	Grasshoppers	1.5 to 2.0	Do not apply to Lespedeza in bloom. The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb ai/A (2.0 pt Malathion 57 EC); the maximum number of applications is 1/cutting; with an annual maximum of 2 application per year; and the minimum retreatment interval is 14 days.	0
Lettuce (head lettuce,	Airblast. Ground Boom	Aphids Leafhoppers	2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.88 lb ai/A (3.0 pt Malathion 57 EC); the maximum number of	14

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Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)
Leaf lettuce)		Cabbage looper Mites	2.5 to 3.0	applications/yr is 2; and the minimum retreatment interval is 6 days for head and 5 days for leaf.	
Melons (other than watermelon)	Aerial, Airblast	Aphids Spider mites	1.5	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	1
		Cucumber beetle Leafhoppers Pickworm	1.6		
Mint	Aerial, Airblast	Adult flea beetles Aphids Caterpillars Leafhoppers Spider mites	1.0 to 1.35	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 0.84 lbs. ai/A (1.35 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
Mushrooms		Mites Phorid & Sciarid flies	2.5 OR 2.0 Tbsp/3.0 gal water/1000 sq ft of bed	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.7 lb AI/A (2.7 pt Malathion 57 EC); the maximum number of applications/yr is 4; and the minimum retreatment interval is 3 days.	1
Mustards (Mustard greens, Mustard spinach, Chinese mustard, Mizuna)	Aerial, Airblast	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 1.6	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 3; and the minimum retreatment interval is 5 days.	7
Nectarines	Aerial, Airblast	Mites	1.0 to 2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 3.0 lb ai/A (4.8 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
		Plum curculio	2.0	The standard dilute spray for this crop is 300 gal of water/A. Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete.	
Oats	Aerial, Ground boom	English grain aphid Greenbugs Young grasshoppers	1.5 to 1.6	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lbs. ai/A (1.6 pts Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
		Armyworms	1.6		
Okra	Aerial, Ground boom	Aphids Japanese beetle	1.5	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.2 lb AI/A (1.9 pt Malathion 57 EC); maximum number of applications/yr is 4; and the minimum retreatment interval is 7 days.	1
Onions, (bulb and green)	Aerial, Ground boom	Onion thrips	1.5	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.56 lb AI/A (2.5 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	3
		Onion maggots	2.5		

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Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)
Parsley	Aerial, Airblast	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.5 lb AI/A (2.4 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
Parsnips	Aerial, Airblast	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
Applications of Malathion 57 EC Insecticide made outside of Government Programs by appropriately licensed applicators to Pasture/Rangeland must be made by spot treatment only.					
Pasture/ Rangeland: For Applications made outside of Government Programs		Mirids (Black grass bugs)	0.97	Spot treatment only. The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 0.61 lbs.ai/A (0.97 pt Malathion 57 EC); the maximum single application rate is 0.92 lbs. ai/A (1.45 pts Malathion 57 EC) for grasshoppers; the maximum number of application/yr is 1/cutting; 2 applications per year for pasture; and the minimum retreatment interval is 30 days for pasture.	12 hrs.
		Grasshoppers	1.45		
Peaches	Aerial, Airblast	Aphids Oriental fruit moth	2.0	Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete. For Oriental fruit moth control, apply at petal fall and then 11 to 14 days later. The Maximum number of applications per year is 2. The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 3.0 lbs. ai/A (4.8 pts); and the minimum retreatment interval is 11 days. The standard dilute spray for this crop is 300 gal of water/A.	7
Peas (Dried and green)	Aerial, Ground boom	Aphids	1.5 to 1.6	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	3
Pecans	Aerial, Airblast	Pecan bud moth Pecan leaf casebearer Pecan nut casebearer Pecan Phylloxera	1.2	Do not apply this product within 3 days prior to bloom, during bloom, or until petal fall is complete. The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 2.5 lb AI/A (4.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days. The standard dilute spray for this crop is 500 gal of water/A.	7
		Aphids Mites	1.0 to 2.0		
Peppers	Aerial, Ground boom	Aphids	1.25 to 1.5	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.56 lb AI/A (2.5 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 5 days.	3
		Pepper maggots	2.5		

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Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)
Potatoes	Aerial, Ground boom	Aphids Leafhoppers	1.0 to 1.5	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.56 lb AI/A (2.5 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	0
Pumpkins	Aerial, Ground boom	Aphids	1.5	Do not apply unless plants are dry. The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	1
Radishes	Aerial, Ground boom	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 1.6	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
Rice	Aerial, Ground boom	Rice leafminer Rice stink bug	1.0 to 1.5	Apply when the eggs and larvae are abundant on the seedling rice. Apply during the early milk and dough stage of growing rice. The rice herbicide, Propanil, should not be applied within 15 days of a Malathion treatment. A 24-hour holding time is required before floodwaters may be released after treatment to rice. 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 commercially. The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
Rutabagas	Aerial, Ground boom	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 1.6	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
Rye	Aerial, Ground boom	English grain aphid Greenbugs Young grasshoppers	1.5 to 1.6	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
		Armyworms	1.6		
Salsify (including tops)	Aerial, Ground boom	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.25 lb AI/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
Shallots	Aerial, Ground boom	Aphids Thrips	1.5 to 2.0	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.56 lb AI/A (2.5 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	3
Sorghum, see Grain Sorghum					
Spinach	Aerial, Ground boom	Aphids	1.6	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7

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Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)
Squash	Aerial, Ground boom	Aphids	1.5	Do not apply unless plants are dry. For Summer Squash , the Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 1.75 lb AI/A (2.8 pt Malathion 57 EC); the maximum number of applications/yr is 3; and the minimum retreatment interval is 7 days. For Winter Squash , the Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 3; and the minimum retreatment interval is 7 days.	1
Strawberries	Aerial, Ground boom	Aphids Field crickets Lygus bugs Potato leafhoppers Spittle bugs Strawberry leafroller Strawberry root weevil Whitefly	1.5 to 3.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 2.0 lb AI/A (3.2 pt Malathion 57 EC); the maximum number of applications/yr is 4; and the minimum retreatment interval is 7 days.	3
Sweet Potatoes	Aerial, Ground boom	Leafhoppers Leafminers Morningglory	1.5 to 2.5	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.56 lb AI/A (2.5 pt Malathion 57 EC); the maximum number of applications /yr is 2; and the minimum retreatment interval is 7 days.	0
Swiss Chard	Aerial, Ground boom	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 1.6	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	14
Tomatoes	Aerial, Ground boom	Aphids Armyworm Tomato fruitworm Tomato russet mite	1.0 to 2.5	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.56 lb AI/A (2.5 pt Malathion 57 EC); the maximum number of applications/yr is 4; and the minimum retreatment interval is 5 days.	1
		Drosophila	2.5		
Turnips	Aerial, Ground boom	Aphids Cabbage looper Carrot weevil Imported cabbageworm	1.0 to 2.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb ai/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 5 days for greens and 7 days for roots.	1
Vetch	Aerial, Ground boom	Omniverous leaf tier Pea aphid Vetch bruchid	1.5 to 2.0	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.25 lb ai/A (2.0 pt Malathion 57 EC); the maximum number of applications/yr is 1 per cutting with no greater than 2 applications per year; and the minimum retreatment interval is 14 days.	0
Walnuts	Aerial, Airblast	Aphids Mites	0.2 to 0.4	The Restricted Entry Interval (REI) is 24 hours. The maximum single application rate is 2.5 lb AI/A (4.0 pt Malathion 57 EC); the maximum number of applications/yr is 3; and the minimum retreatment interval is 7 days. The standard dilute spray for this crop is 500 gal of water/A.	7
		Walnut husk fly	0.4 to 0.6		
Watermelon	Aerial, Ground boom	Aphids Spider mites	1.5	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6	1

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Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)
		Cucumber beetle Leafhoppers Pickeworms	1.6	pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	
Wheat (spring and summer)	Aerial, Ground boom	English grain aphid Greenbugs Young grasshoppers	1.5 to 1.6	The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 1.0 lb AI/A (1.6 pt Malathion 57 EC); the maximum number of applications/yr is 2; and the minimum retreatment interval is 7 days.	7
		Armyworms	1.6		

NON-AGRICULTURAL USES OF MALATHION 8-E Insecticide

Restrictions

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.

Pollinator Best Management Practices and Additional Information for Non-Agricultural 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 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>.

BUFFER ZONE FOR APPLICATION NEAR WATER

Do not apply within 25 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, wetlands, or natural ponds, estuaries, and commercial fish ponds).

ADDITIONAL WATER PROTECTIONS STATEMENTS for non-agricultural uses

- Do not apply directly to or allow the product to enter sewers or storm drains, or to any area like a drain or gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur.
- Do not apply directly to impervious horizontal surfaces such as sidewalks, driveways, and patios except as a spot or crack-and-crevice treatment.
- Do not apply to vertical surfaces directly above pervious or impervious surfaces that drain into ditches, storm drains, gutters, or surface waters.
- Do not apply or irrigate to the point of runoff.

For use in empty grain storage (grain elevators/silos): Use only with adequate ventilation. After using this product, ventilate thoroughly before occupying enclosed spaces. Do not allow contact with treated surface until sprays have dried

Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)
Grain Storage Facilities (Grain elevators/silos)	Hand-held sprayer	Confused flour beetle, Rice weevil, Granary weevil, Saw-toothed grain beetle, Flat grain beetle, Red flour beetle, Rusty grain beetle, Lesser grain borer and as an aid in control of Indian meal moth.	Mix: 1.0 gallon of Malathion 57 EC per 25.0 gallons of diluent Apply: 3 gal/1000 sq feet (0.6 lbs. ai/1000 sq ft.)	Malathion 57 EC must be applied using a hand-held sprayer from a non-ULV application system. This product may be used for residual wall, floor and machinery spray in grain elevators/silos before loading grain. Make a thorough application when applying the finished emulsion. The maximum application rate is 0.6 lbs. ai/1000 sq ft. (1.0 pint of Malathion 57 EC Insecticide/ 1000 sq ft.) When mixed at the rate of 1 gal of this product to 25 gallons water, that is 3 gal finished solution /1000 sq feet. Before applying spray, clean grain elevators/silos thoroughly. Remove and burn all sweepings and debris.	NA

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Do not apply directly to grain. Only for use in facilities (grain elevators/silos) being prepared to store barley, corn, oats, rye, or wheat.
Maximum of one application allowed per storage period.
Restricted Entry Interval– 12 hrs
(Note: 3 gal finished spray/1000 sq feet (0.6 lbs. ai/1000 sq ft.))

NON-AGRICULTURAL , UNCULTIVATED AREAS/SOIL

[Note to Reviewer: may or may not be presented in tabular format.]

Restricted Application Sites	Program Applicators Allowed to Apply to These Sites
Agricultural, uncultivated areas and fence rows/hedge rows Non-agricultural right of way/hedgerows	Federal or State Sponsored Programs, Boll Weevil Eradication Programs, Curly Top Virus Programs, Other Federally or State designated programs.

Crop	Application Type	Pest(s)	Application Rate Pts/A	Directions	Pre-Harvest Interval (PHI) (Days)
Non-agricultural, Uncultivated Areas/Soil	Aerial, Ground boom	Mirids (Black grass bugs)	1.5 pints	Apply in a minimum of 10.0 (ground) or 2.0 (aerial) gallons of water per acre. The Restricted Entry Interval (REI) is 12 hours. The maximum single application rate is 2.0 lbs.ai/A (3.2 pt Malathion 57 EC); the maximum number of application/yr is 4; and the minimum retreatment interval is 7 days.	NA
		Grasshoppers	1.5 to 3.0 pints		

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal. Do not store under conditions which might adversely affect the container or its ability to function properly.

PESTICIDE STORAGE: Malathion 57 EC should be stored in the original unopened container in a secure dry place. Do not contaminate with other pesticides or fertilizers. The product should never be heated above 55 °C (131 °F), and should not be stored for long periods of time at a temperature in excess of 25 °C (77 °F).

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 DISPOSAL: Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at www.acrecycle.org. If not recycled, then puncture and dispose of in a sanitary landfill.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

For containers up to 5 gallons: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

For containers greater than 5 gallons or 50 lbs: Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

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

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

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CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

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

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

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

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

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

**FORMULATED FOR
LOVELAND PRODUCTS, INC.
P.O. BOX 1286, GREELEY, COLORADO
80632-1286**

[EPA Approval Date]