



OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

WASHINGTON, D.C. 20460

July 29, 2025

Arianna Shorey
Regulatory Consultant
Tessengerlo Kerley, Inc.
c/o Pyxis Regulatory Consulting Inc.
4110 136th St. Ct. NW
Gig Harbor, WA 98332

Subject: Registration Review Label Amendments Incorporating Mitigation from the
National Marine Fisheries Services (NMFS) Biological Opinions on the Effects of
Methomyl
Product Name: Lannate® SP Insecticide
EPA Registration Number: 61842-52
Application Date: April 29, 2024
Decision Number: 595711
Case Number: 00626454

Dear Arianna Shorey:

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 of the above referenced product in connection with the NMFS' Biological Opinion (BiOp) on the effects of methomyl 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 FIFRA and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) 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 Assurance.

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.

The U.S. Fish and Wildlife Service's (FWS) finalized their BiOp on the effects of EPA's national registration of methomyl on December 30, 2024, and EPA posted it on the [website](#) on January 16, 2025. The Agency plans to incorporate and implement this FWS BiOp when issuing the interim decision for methomyl. EPA will notify the registrants of any need to submit label amendments within 60 days of the issuance of the interim decision.

If you have any questions about this letter, please contact Rachel Blatnick at blatnick.rachel@epa.gov.

Sincerely,

A handwritten signature in dark ink, appearing to read "Kevin Costello".

Kevin Costello, Branch Chief
Risk Management and Implementation Branch 2
Pesticide Re-Evaluation Division
Office of Pesticide Programs

Enclosure

{MASTER LABEL}

{Note to reviewer: [Text] in brackets denotes optional text. {Text} in braces denotes where in the final label text will appear and notes to reviewer.}

{Base label}

RESTRICTED USE PESTICIDE

Due to High Acute Toxicity to Humans

For retail sale and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification. Direct supervision for this product requires the certified applicator to review federal and supplemental label instructions with all personnel prior to application, mixing, loading, or repair or cleaning of application equipment.

METHOMYL

GROUP

1A

INSECTICIDE

Lannate® SP

INSECTICIDE

{Alternate Brand Name:} [Lannate® SP]

Water Soluble Powder In Water Soluble Bags

Active Ingredient

Methomyl

By Weight

(S-methyl-N-[(methylcarbamoyl)oxy]thioacetimidate) 90%

Other Ingredients 10%

Total 100%

Net Contents of Package Sizes Available:

24 - 8 oz product (1-8 oz water soluble bag inside 1 barrier bag), 24 barrier bags in a box

6 - 2 lb product (1-2 lb water soluble bag inside 1 barrier bag), 6 barrier bags in a box

2- 10 lb product (2-5 lb water soluble bags inside 1 barrier bag), 2 barrier bags in a box

{Note to Reviewer - First Aid information will appear on the front panel as is required for Category 1 products.}

ACCEPTED

Jul 29, 2025

Under the Federal Insecticide, Fungicide
and Rodenticide Act as amended, for the
pesticide registered under
EPA Reg. No. 61842-52

KEEP OUT OF REACH OF CHILDREN

DANGER PELIGRO



POISON

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.)

First Aid

This Product is an N-Methyl Carbamate insecticide.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

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

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

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

ATROPINE IS AN ANTIDOTE-SEEK MEDICAL ATTENTION AT ONCE IN ALL CASES OF SUSPECTED POISONING.

If poisoning symptoms appear (see POISONING SYMPTOMS), get medical attention.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 866-374-1975 for emergency medical treatment information.

POISONING SYMPTOMS - Methomyl poisoning produces effects associated with anticholinesterase activity which may include weakness, blurred vision, headache, nausea, abdominal cramps, discomfort in the chest, constriction of pupils, sweating, slow pulse, muscle tremors. If poisoning symptoms appear, refer to First Aid section on front of Lannate SP label and seek medical attention at once.

NOTE TO PHYSICIAN

Probable mucosal damage may contraindicate the use of gastric lavage.

TREATMENT - Atropine sulfate should be used for treatment. Administer repeated doses, 1.2 to 2.0 mg. intravenously every 10 to 30 minutes until full atropinization is achieved. Maintain atropinization until the patient recovers. Artificial respiration or oxygen may be necessary. Allow no further exposure to any cholinesterase inhibitor until recovery is assured.

Do not use 2-PAM for exposure to LANNATE SP alone. However, for exposure to combinations of LANNATE SP and organophosphorous insecticides, 2-PAM may be used as required to supplement the atropine sulfate treatment. Do not use morphine.

For medical emergencies involving this product, call toll free 866-374-1975.

Precautionary Statements

Hazards To Humans And Domestic Animals

DANGER - FATAL IF SWALLOWED. MAY BE FATAL IF INHALED OR GETS IN EYES. DO NOT BREATHE DUST OR SPRAY MIST.

Do not get in eyes or on clothing. Wear protective eyewear and respirator. Harmful if absorbed through skin. Avoid contact with skin. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Personal Protective Equipment

Applicators and others exposed to the diluted spray solution must wear:

- Long-sleeved shirt and long pants.
- Chemical resistant gloves made of barrier laminate or butyl rubber \geq 14 mils.
- Shoes plus socks.
- Protective eyewear.

Mixers, loaders, cleaners, repairers of application equipment, and others exposed to the concentrate must wear:

- Long sleeve shirt and long pants.
- Chemical-resistant gloves made of barrier laminate or butyl rubber \geq 14 mil.
- Socks and chemical resistant footwear.
- Protective eyewear.
- Respirator as outlined below.
- Chemical resistant apron.

Wear a minimum of a NIOSH-approved elastomeric half mask respirator with organic vapor (OV) cartridges and combination N, R, or P filters; OR a NIOSH-approved gas mask with OV canisters; OR a NIOSH-approved powered air purifying respirator with OV cartridges and combination HE filters.

Engineering Control Statements

Human flaggers must be in enclosed cabs.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR part 170.240 (d)(4-6)], the handler

PPE requirements may be reduced or modified as specified in the WPS.

The enclosed cabs must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR part 170.240 (d)(4-6)). The handler PPE requirements may be reduced or modified as specified in the WPS.

Water soluble packets, when used correctly, qualify as a closed mixing/loading system under the Worker Protection Standard (40 CFR 170.607(d)). Mixers and loaders handling this product while it is enclosed in intact water soluble packets may elect to wear reduced PPE of long-sleeved shirt, long pants, shoes, socks, a chemical-resistant apron, and chemical-resistant gloves.

When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment break-down.

Pilots must not assist in the mixing and loading operations.

User Safety Recommendations

User should:

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

Environmental Hazards

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

This chemical is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

This chemical can contaminate surface water through spray drift. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

Physical And Chemical Hazards

Keep container closed. Use with adequate ventilation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Handle this package carefully to prevent breakage of inner bag when stored at low temperatures. Allow to warm above 50 Deg. F for normal handling. Store product in original container only. Do

not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING:

Outer Foil Pouches of Water Soluble Packets (WSP): Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or, dispose of the empty outer foil pouch in the trash as long as WSP is unbroken. If the outer pouch contacts the formulated product in any way, the pouch must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer pouch as described previously.

Outer Box: Do not reuse this box. When empty, place in trash or offer for recycling if available.

Refer to the inside of label booklet for additional precautionary information including directions for use.

Notice: Read the entire label, Use only according to label directions. Before using this product, read Warranty Disclaimer, Inherent Risks or use and Limitation of Remedies at tend of label booklet. If terms are unacceptable, return at once unopened.

In case of emergency endangering health or the environment involving this product, call 866-374-1975.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 61842-52

EPA Establishment No: _____

NET _____
Nonrefillable Container

Tessenderlo Kerley, Inc.
2910 N. 44th Street, Suite 100
Phoenix, AZ 85018 U.S.A.
1-800-525-2803

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{Water Soluble Film:}

{Note to Reviewer: size of printable area is 3-3/8" H X 2-1/2" W}

RESTRICTED USE PESTICIDE

Lannate[®] SP

INSECTICIDE

EPA Reg. No. 61842-52

KEEP OUT OF REACH OF CHILDREN

**DANGER
PELIGRO**



POISON

90% METHOMYL

Refer to accompanying labeling for complete Directions for Use and Handling Instructions.

{Booklet cover / shipping container:}

RESTRICTED USE PESTICIDE**Due to High Acute Toxicity to Humans**

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METHOMYL**GROUP****1A****INSECTICIDE****Lannate® SP****INSECTICIDE****{Alternate Brand Name:} [Lannate® SP]****Water Soluble Powder In Water Soluble Bags**

Active Ingredient

By Weight

Methomyl

(S-methyl-N-[(methylcarbamoyl)oxy]thioacetimidate) 90%

Other Ingredients 10%

Total 100%

{Note to Reviewer - First Aid information will appear on the front panel as is required for Category 1 products.}

KEEP OUT OF REACH OF CHILDREN**DANGER
PELIGRO****POISON**

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NOTE TO PHYSICIAN

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TREATMENT - Atropine sulfate should be used for treatment. Administer repeated doses, 1.2 to 2.0 mg. intravenously every 10 to 30 minutes until full atropinization is achieved. Maintain atropinization until the patient recovers. Artificial respiration or oxygen may be necessary. Allow no further exposure to any cholinesterase inhibitor until recovery is assured.

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Personal Protective Equipment

Applicators and others exposed to the diluted spray solution must wear:

- Long-sleeved shirt and long pants.
- Chemical resistant gloves made of barrier laminate or butyl rubber \geq 14 mil.
- Shoes plus socks.
- Protective eyewear.

Mixers, loaders, cleaners, repairers of application equipment, and others exposed to the concentrate must wear:

- Long sleeve shirt and long pants.
- Chemical-resistant gloves made of barrier laminate or butyl rubber \geq 14 mil.
- Socks and chemical resistant footwear.
- Protective eyewear.
- Respirator as outlined below.
- Chemical resistant apron.

Wear a minimum of a NIOSH-approved elastomeric half mask respirator with organic vapor (OV) cartridges and combination N, R, or P filters; OR a NIOSH-approved gas mask with OV canisters; OR a NIOSH-approved powered air purifying respirator with OV cartridges and combination HE filters.

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Water soluble packets, when used correctly, qualify as a closed mixing/loading system under the Worker

Protection Standard [40 CFR 170.607(d)]. Mixers and loaders handling this product while it is enclosed in intact water-soluble packets may elect to wear reduced PPE of long-sleeved shirt, long pants, shoes, socks, a chemical-resistant apron, and chemical-resistant gloves. When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as in case of a spill or equipment break-down..

Pilots must not assist in the mixing and loading operations.

User Safety Recommendations

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

Environmental Hazards

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

This chemical is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

This chemical can contaminate surface water through spray drift. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

Physical And Chemical Hazards

Keep container closed. Use with adequate ventilation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Refer to the inside of label booklet for additional precautionary information including directions for use.

Notice: Read the entire label, Use only according to label directions. Before using this product, read Warranty Disclaimer, Inherent Risks or use and Limitation of Remedies at tend of label booklet. If terms are unacceptable, return at once unopened.

In case of emergency endangering health or the environment involving this product, call 866-374-1975.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 61842-52

EPA Establishment No: _____

NET _____

Nonrefillable Container

Tessengerlo Kerley, Inc.

2910 N. 44th Street, Suite 100
Phoenix, AZ 85018 U.S.A.
1-800-525-2803

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{Booklet page 1 through end}

Directions For Use

Restricted Use Pesticide

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

Lannate® SP must be used in accordance with the directions for use on this label, or as otherwise permitted by FIFRA. Always read the entire label, including the Limitation of Warranty and Liability.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

ENDANGERED AND THREATENED SPECIES PROTECTION REQUIREMENTS: Before using this product, you must obtain any applicable Endangered Species Protection Bulletins ('Bulletins') within six months prior to or on the day of application. To obtain Bulletins, go to Bulletins Live! Two (BLT) at <https://www.epa.gov/pesticides/bulletins>. When using this product, you must follow all directions and restrictions contained in any applicable Bulletin(s) for the area where you are applying the product, including any restrictions on application timing if applicable. It is a violation of Federal law to use this product in a manner inconsistent with its labeling, including this labeling instruction to follow all directions and restrictions contained in any applicable Bulletin(s). For general questions or technical help, call 1-844-447-3813, or email ESPP@epa.gov.

REPORTING ECOLOGICAL INCIDENTS: For guidance on reporting ecological incidents, including death, injury, or harm to plants and animals, including bees and other non-target insects, see EPA's Pesticide Incident Reporting website: <https://www.epa.gov/pesticide-incidents> or call 1-800-525-2803.

Agricultural Use Requirements

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

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

REI Summary: REI peaches = 4 days; REI apple, cotton, grapefruit, lemon, nectarine, orange, tangelo, tangerine = 3 days; all other WPS uses = 48 hour REI.

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.

Chemical Resistant Gloves made of butyl rubber, natural rubber, neoprene rubber or nitrile rubber), all ≥ 14 mils.

Shoes plus socks.

Protective eyewear.

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

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Handle this package carefully to prevent breakage of inner bag when stored at low temperatures. Allow to warm above 50 Deg. F for normal handling. Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER HANDLING:

Outer Foil Pouches of Water Soluble Packets (WSP): Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or, dispose of the empty outer foil pouch in the trash as long as WSP is unbroken. If the outer pouch contacts the formulated product in any way, the pouch must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer pouch as described previously.

Outer Box: Do not reuse this box. When empty, place in trash or offer for recycling if available.

Product Information

Chemigation: Overhead sprinkler chemigation is allowed for use in alfalfa, green and dry bulb onions, potatoes, sugar beets, and wheat (ID, OR and WA only). Refer to the crop specific sections of this label for use directions for chemigation. Do not apply this product through any other type of irrigation systems, except those allowed by instructions provided in this product label.

Restrictions:

- Do not apply more than 13 lbs ai per acre per year. Please see crop-specific annual application rates below.
- Do not formulate this product into other end-use products.
- Lannate SP is a dry powder in a water soluble bag to be dissolved in water for application by mechanical ground, overhead sprinkler or aerial application equipment only. Hand-held equipment is prohibited for application to crops.
- Do not apply by ground equipment within 25 feet, or by air within 100 feet of lakes, reservoirs, rivers, estuaries, commercial fish ponds and natural, permanent streams, marshes or natural, permanent ponds. Increase the buffer zone to 450 feet from the above aquatic areas when ultra-low volume application is made.
- Pilots must not assist in the mixing and loading operations.
- Use only in commercial and farm plantings. Not for use in home plantings.
- Not for use during any period after a commercial crop site is opened for public entry as a "U-Pick" or "Pick Your Own" or similar operation; in no case shall preharvest applications be made after first public entry.
- Do not apply during rain. Do not apply when soil in the area to be treated is saturated (if there is standing water on the field or if water can be squeezed from soil) or if NOAA/National Weather Service predicts a total rainfall of 1 inch or greater over the 48 hours following the day of application, only considering a 48-hour period when, at any point during the 48-hour period, the precipitation potential is 50% or greater. Detailed National Weather Service forecasts for local weather conditions should be obtained on-line at: www.weather.gov or by contacting your local National Weather Service Forecasting Office.

The restricted entry interval and preharvest interval for the crop stated elsewhere on this label must be followed.

Scouting

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

Beneficial Arthropods

Lannate SP at rates of 1/8 to 1/4 lb. per acre helps conserve certain beneficials, including big-eyed bugs, damsel bugs, flower bugs, and spiders in cotton and soybeans. While these beneficials cannot be relied upon to control pests, they are of potential value and should be monitored along with pests in pest management programs on these crops.

RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, Lannate SP contains a Group 1A insecticide/acaricide. Any insect/mite population may contain individuals naturally resistant to Lannate SP and other Group 1A 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 Lannate SP or other Group 1A insecticides/acaricides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides/acaricides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider

any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):

- Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
 - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
 - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
 - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
 - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual 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 Tessenderlo Kerley, Inc. at 1-800-525-2803.

Integrated Pest Management

This product should be used as part of an Integrated Pest Management (IPM) program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

Spray Preparation

Spray equipment must be clean and free of previous pesticide deposits before applying Lannate SP.

Instructions for Introducing Water Soluble Packages Directly into Spray tanks:

Water-Soluble Packages (WSPs) are designed to dissolve in water. Agitation may be used, if necessary, to help dissolve the WSP. Failure to follow handling and mixing instructions can increase your exposure to the pesticide products in WSPs. WSPs, when used properly, qualify as a closed mixing/loading system under the Agricultural Worker Protection Standard [40 CFR 170.607(d)].

Handling Instructions

Follow these steps when handling pesticide products in WSPs.

1. Mix in spray tank only.
2. Handle the WSP in a manner that protects package from breakage and/or unintended release of contents. If package is broken, put on PPE required for clean-up and then continue with mixing instructions.
3. Keep the WSP in outer packaging until just before use.
4. Keep the WSP dry prior to adding to the spray tank.
5. Handle with dry gloves and according to the label instructions for PPE.
6. Keep the WSP intact. Do not cut or puncture the WSP.
7. Reseal the WSP outer packaging to protect any unused WSP(s).

Mixing Instructions

Follow the steps below when mixing this product, including if it is tank-mixed with other pesticide products. If being tank-mixed, the mixing directions 1 through 9 below take precedence over the mixing directions of the other tank mix products. WSPs may, in some cases, be mixed with other pesticide products so long as the directions for use

of all the pesticide product components do not conflict. Do not tank-mix this product with products that prohibit tank-mixing or have conflicting mixing directions.

1. If a basket or strainer is present in the tank hatch, remove prior to adding the WSP to the tank.
2. Fill tank with water to approximately one-third to one-half of the desired final volume of spray.
3. Stop adding water and stop any agitation.
4. Place intact/unopened WSP into the tank.
5. Do not spray water from a hose or fill pipe to break or dissolve the WSP.
6. Start mechanical and recirculation agitation from the bottom of tank without using any overhead recirculation, if possible. If overhead recirculation cannot be turned off, close the hatch before starting agitation.
7. Dissolving the WSP may take up to 5 minutes or longer, depending on water temperature, water hardness and intensity of agitation.
8. Stop agitation before tank lid is opened.
9. Open the lid to the tank, exercising caution to avoid contact with dusts or spray mix, to verify that the WSP has fully dissolved and the contents have been thoroughly mixed into the solution.
10. Do not add other allowed products or complete filling the tank until the bags have fully dissolved and pesticide is thoroughly mixed.
11. Once the WSP has fully dissolved and any other products have been added to the tank, resume filling the tank with water to the desired level, close the tank lid, and resume agitation.
12. Use the spray solution when mixing is complete.
13. Maintain agitation of the diluted pesticide mix during transport and application.
14. It is unlawful to use any registered pesticide, including WSPs, in a manner inconsistent with its label.

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

Do not apply Lannate SP with fungicides containing Bordeaux mixture or triphenyltin hydroxide as active ingredients, nor with lime sulfur, "Rayplex" iron soil nutrients, or in highly alkaline solutions.

Tank-mix solutions containing Boron may affect solubility of the water soluble film. When using Boron containing solutions in a tank-mix, follow these procedures:

- Add the correct amount of Lannate SP water soluble packets first.
- Be sure the soluble packets are completely dissolved.
- Introduce Boron containing solutions last.

If the above procedure cannot be followed, and Boron is an essential part of the spray mix, substitute Lannate LV formulation for the water soluble packets.

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

1. Lannate SP and other products in water soluble bags
2. Water dispersible granules
3. Wettable powders
4. Water based suspension concentrates
5. Water soluble concentrates
6. Oil based suspension concentrates
7. Emulsifiable concentrates
8. Adjuvants, surfactants, oils
9. Soluble fertilizers
10. Drift retardants

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Application

Apply at the labeled rates when insect populations reach locally determined economic thresholds. Consult the cooperative extension service, professional consultants or other qualified authorities to determine appropriate

threshold levels for treatment in your area.

Follow-up treatments of Lannate SP should be applied, as needed, to keep pest populations within threshold limits. On most crops, apply Lannate SP at 5 to 7 day intervals to maintain control. Refer to crop specific directions for use in the crop tables for more specific information on treatment intervals.

Use sufficient water to obtain thorough, uniform coverage. Since Lannate SP is a contact insecticide, spray target insects directly.

For aerial application, use a minimum of 2 gallons per acre (gpa) with the following exceptions: 10 gpa for peaches and nectarines; 15 gpa for oranges, lemons, grapefruit, tangelos and tangerines.

For aerial application on certain crops as listed below, a minimum of 1 gallon per acre may be used providing the following conditions are met:

- equipment is adjusted to distribute spray uniformly over the spray swath,
- wind conditions and other factors such as temperature and humidity are such that the spray is delivered to the target area,
- local regulations do not prohibit low-volume aerial sprays,
- use rates are applied as directed on the package label or supplemental labeling for the following crops:

Alfalfa	Celery	Peas (succulent)
Anise	Collards	Peppermint
Asparagus	Corn	Peppers
Beans	Cotton	Potato
Broccoli	Cucumber	Soybean
Brussels sprouts	Lettuce	Spinach
Cabbage	Melons	Sugar beet
Carrot	Mint	Summer Squash
Cauliflower	Peanuts	Wheat

Apply the low labeled rates on small plants, small insects, and light infestations of insects. Use intermediate rates on large insects and heavier infestations of insects. Use 1 to 3 applications of the highest labeled rate for controlling severe infestations. Thereafter, use the lowest labeled rate possible to maintain control.

Spray Tank Cleanout

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

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

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

Chemigation

Instructions for the use of Lannate SP on Alfalfa, Green and Dry Bulb Onions, Potatoes, Sugar Beets, and Wheat Using Overhead Sprinkler Chemigation

Overhead chemigation applications offer the advantage of greater penetration and coverage of the target plant. However, typical chemigation applications are more dilute than ground or aerial applications. It is recommended to keep the concentration of Lannate SP as high as possible in the application. Apply Lannate SP in 0.1 to 0.2 inches of water per acre.

Lannate SP is most active as a contact insecticide, although it does also have activity via ingestion of treated plants. Apply Lannate SP when the insects are active and most likely to come into direct contact with the application.

Types of Irrigation Systems:

Apply Lannate SP only through overhead sprinkler irrigation systems (center pivot, lateral move, end tow, side (wheel) roll and solid set) for control of various pests. Other overhead sprinkler systems; such as end tow, side (wheel) roll and solid set, may be used if they provide uniform water distribution. Do not use filter screens smaller than 50 mesh throughout the system due to possible build-up of material on 100 mesh or smaller screens. Do not apply Lannate SP through any other type of irrigation systems.

General Directions for Chemigation:

Preparation

A pesticide tank is recommended for the application of Lannate SP in chemigation systems. Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure.

Dispose of any residues in accordance with State and Federal laws. Add 1/4 to 1/2 of the desired amount of water and then measure the required amount of Lannate SP into the tank. Complete filling the tank by adding the required amount of water. Agitate thoroughly to insure a uniform solution of Lannate SP. Once in solution, no further agitation is required. Injection solution should not be stored overnight. Highly alkaline water should be buffered so that the pH of the injection solution is approximately neutral (pH 7 - 7.5).

Injection Into Chemigation Systems

Inject the proper amount of the Lannate SP solution into the irrigation water flow using a positive displacement injection pump. Injection should occur at a point in the main irrigation water flow to ensure thorough mixing with the irrigation water. For continuously moving systems, inject the solution containing Lannate SP into the irrigation water line continually and uniformly throughout the irrigation cycle. Apply in no more than 0.2 inches of water per acre. For overhead sprinkler systems that are stationary, add the solution containing Lannate SP to the irrigation water line, and apply no more than 0.2 inches of water per acre, just before the end of the irrigation cycle.

Uniform Water Distribution

The irrigation system used for application of Lannate SP must provide for uniform distribution of Lannate SP treated water. Non-uniform distribution might result in crop injury, lack of effectiveness, or illegal pesticide residues in or on the crop being treated. Ensure the irrigation system is calibrated to uniformly distribute the chemigation application to the crop. Contact the equipment manufacturer, the local University Extension agent, or other experts if you have questions about achieving uniform distribution of the application.

Equipment calibration

Calibrate the irrigation system and injector before applying Lannate SP. Calibrate the injection pump while the system is running using the expected irrigation rate. If you have questions about calibration, you should contact your state extension service specialists, equipment manufacturer, or other experts.

Monitoring of Chemigation Applications

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise. Wear the personal protective equipment as defined in the PPE section of the label for cleaners and repairers of application equipment when making adjustments or repairs on the chemigation system when Lannate SP is in the irrigation water.

Required System Safety Devices

Do not connect any irrigation system used for pesticide applications to a public water system unless the pesticide label-prescribed safety devices are in place. Public water system means a system for the provision to the public of piped water for human consumption, if such a system has at least 15 service connections or regularly serves an average of at least 25 individuals at least 60 days out of the year.

1. 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.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. 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.
4. The system must contain functional interlocking controls to automatically shut *off* the pesticide injection pump when the water pump motor stops.
5. 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.
6. 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.

7. 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 outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

Posting of Areas to be Treated

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, daycare centers, hospitals, in-patient clinics, nursing homes, or any other public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to all the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The signs shall be printed in ENGLISH. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters at least 2 1/2 inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words "KEEP OUT" followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word "STOP." Below the symbol shall be the words "PESTICIDE IN IRRIGATED WATER."

Posting for chemigation does not replace other posting and reentry requirements for farm worker safety.

Operation

Start the water pump and sprinkler, and let the system achieve the desired pressure and speed before starting the injector. Start the injector and calibrate the injection system according to the directions above. This procedure is necessary to deliver the desired rate per acre in a uniform manner. Apply Lannate SP in 0.1 to 0.2 inches of water per acre. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

End guns must be turned off during the application, if they irrigate nontarget areas or if they do not provide uniform application and coverage.

It is recommended that nozzles in the immediate area of control panels, chemical supply tanks, wellheads and system safety devices be plugged to prevent contamination of these areas.

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

Do not apply when system connections or fittings leak or when nozzles do not provide uniform distribution.

Cleaning the System

Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. Dispose of any residues in accordance with State and Federal laws. Consult your owner's manual or your local equipment dealer for cleanout procedures for your injection system.

MANDATORY SPRAY DRIFT MANAGEMENT

Aerial Applications:

- Do not apply methomyl within 50 feet of residential areas, including schools, homes, playgrounds, recreational areas, athletic fields, residential lawns, gardens, and other areas where children may be present.
- 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 641 (ASABE S641).
- During application, the Sustained Wind Speed, as defined by the National Weather Service (standard averaging period of 2 minutes) must register between 3 and 10 miles per hour.

- Wind speed and direction must be measured on location using a windsock, an anemometer (including systems to measure wind speed or velocity on an aircraft), or an aircraft smoke system.
- Wind speed must be measured at the release height or higher, in an area free from obstructions such as trees, buildings, and farm equipment.
- Applicators must use a minimum of ½ swath displacement upwind at the downwind edge of the field.
- 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.

Ground Boom Applications:

- During application, the Sustained Wind Speed, as defined by the National Weather Service (standard averaging period of 2 minutes), must register between 3 and 10 miles per hour.
- Wind speed and direction must be measured on location using a windsock or anemometer (including systems to measure wind speed or velocity using application equipment).
- Wind speed must be measured at the release height or higher, in an area free from obstructions such as trees, buildings, and farm equipment.
- Do not release spray at a height greater than 3 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 during temperature inversions.

Airblast Applications:

- Sprays must be directed into the canopy.
- During application, the Sustained Wind Speed, as defined by the National Weather Service (standard averaging period of 2 minutes), must register between 3 and 10 miles per hour.
- Wind speed and direction must be measured on location using a windsock or anemometer (including systems to measure wind speed or velocity using application equipment).
- Wind speed must be measured at the release height or higher, in an area free from obstructions such as trees, buildings, and farm equipment.
- User must turn off outward pointing nozzles at row ends and when spraying outer row.
- Do not apply during temperature inversions.

Spray Drift Management

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather- related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

Aerial Drift Reduction Advisory Information

Importance of Droplet Size

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE

ENVIRONMENTAL CONDITIONS! See **Wind, Temperature, and Humidity**, and **Temperature Inversions** sections of this label.

Controlling Droplet Size - General Techniques

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Controlling Droplet Size - Aircraft

- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- **Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types and the lowest drift.
- **Boom Length** - For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height** - Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
- **Swath Adjustment** - When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downward edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.)

Boom Height

Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce.

Wind

Drift potential is lowest between wind speeds of 3 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 3 mph due to variable wind direction and high inversion potential. AVOID GUSTY OR WINDLESS CONDITIONS.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature And Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions

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

Sensitive Areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

Shielded Sprayers

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

Air Assisted (Air Blast) Field Crop Sprayers

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift is not occurring.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Consult the application equipment section of this label to determine if use of an air assisted sprayer is recommended.

Air Assisted (Air Blast) Tree And Vine Sprayers

Air assisted tree and vine sprayers carry droplets into the canopy of trees and vines via a radially or laterally directed air stream. These sprayers are not suitable for applying herbicides.

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

- Adjust deflectors and aiming devices so that spray is only directed into the canopy.
- Block off upward pointed nozzles when there is no overhanging canopy.
- Use only enough air volume to penetrate the canopy and provide good coverage.
- Do not allow spray to go beyond the edge of the cultivated area. Spray the outside row only from outside the planting.

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
Alfalfa	Pea Aphid Lygus Bugs Blotch Leafminer Aphids Egyptian Alfalfa Weevil Larvae Loopers Beet Armyworm Armyworm Alfalfa Caterpillar Fall Armyworm Western Yellowstriped Armyworm Yellowstriped Armyworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	7 *
	Alfalfa Weevil Larvae	1 (0.9 lb ai/acre)	
	Variegated Cutworm	1/4 - 1 (0.23 - 0.9 lb ai/acre)	
	Restrictions: Do not apply to dormant or semidormant alfalfa when min. daily temp. is 50° F or lower. Do not apply more than 4 pounds (3.6 lbs ai) of Lannate SP/acre/year. Do not make more than 10 applications/year. Chemigation - Lannate SP may be applied by overhead sprinkler chemigation. For best results, use the highest listed rate of Lannate SP. Apply in 0.1 to 0.2 inches of water per acre. See "Chemigation" section for more information. Reentry Interval (REI): 48 hours * Do not apply within 7 days of cutting or allowing livestock to graze. When Lannate SP is used on alfalfa grown for seed, the seed may not be used for sprouts.		

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
	All seed from treated crop must be tagged, "Not for Human Use" at the processing plant.		
Anise (Fennel)	Cabbage Looper	1 (0.9 lb ai/acre)	7
	Beet Armyworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	
	Restrictions: Do not apply more than 5 pounds (4.5 lbs ai) of Lannate SP/acre/year. Do not make more than 10 applications/year. Reentry Interval (REI): 48 hours		
Apple Ground application only	Apple Aphid Rosy Apple Aphid Tufted Apple Budmoth Brown Marmorated Stink Bug ** Green Fruitworm Tarnished Plant Bug	1/2 - 1 *(0.45 - 0.9 lb ai/acre)	14
	Codling Moth (10-12 day spray intervals)		
	Leafrollers (Fruittree, Obliquebanded, Redbanded, Variegated) Lesser Appleworm White Apple Leafhopper Tentiform Leafminer Cutworm	1 * (0.9 lb ai/acre)	
	Restrictions: Do not use on Early Macintosh & Wealthy varieties. Do not apply more than 5 pounds (4.5 lbs ai) of Lannate SP /acre /year. Do not make more than 5 applications/year; minimum interval between treatments is 7 days. Reentry Interval (REI): 72 hours * Apply in a minimum of 50 gallons of water per acre. ** Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area quickly. If another application is needed prior to the minimum application interval, use a different insecticide. Since Lannate SP is a contact insecticide, follow direct spraying of the target pest and the use of the highest labeled rate. Use sufficient water to obtain thorough, uniform coverage.		
Asparagus	Beet Armyworm, Western Yellowstriped Armyworm Asparagus Beetle Spotted Asparagus Beetle White Cutworm Redbacked Cutworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1
	Variegated Cutworm	1/2 (0.45 lb ai/acre)	
	Restrictions: Do not apply more than 5 pounds (4.5 lbs ai) of Lannate SP /acre/year. Do not make more than 8 applications/year. Reentry Interval (REI): 48 hours		
Avocado	Western Avocado Leafroller Omnivorous Looper	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1
	Restrictions: Do not apply more than 1 pound (0.9 lb ai) of Lannate SP /acre/year. Do not make more than 2 applications/year. Reentry Interval (REI): 48 hours		
Beans (Succulent) Including:	Leafhopper Mexican Bean Beetle	1/4 -1 (0.23 - 0.9 lb ai/acre)	Succulent Beans 1/4 - 1/2 lb. -- 1, over 1/2 lb. -- 3;
	Fall Armyworm	1/2 (0.45 lb ai/acre)	

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
Kidney beans Lima beans Mung beans Navy beans Pinto beans Snap beans Wax Beans Broad beans Fava beans Asparagus beans Black-eyed peas Cowpeas Chick peas Garbanzo beans Sweet lupine White sweet lupine White lupine Grain lupine	Variegated Cutworm Beet Armyworm Corn Earworm Saltmarsh Caterpillar Yellowstriped Armyworm Western Yellowstriped Armyworm Lygus Bugs Thrips Aphids Loopers * Brown Marmorated Stink Bug ** European Corn Borer (Ovicide & Larvicide) – Initiate when moth flights first appear and continue preventive treatments at 3-4-day intervals to control eggs and larvae	1/2 - 1 (0.45 - 0.9 lb ai/acre)	3 Vines 7 Hay
	Spotted Cucumber Beetle	1/4 - 1/2 (0.23 - 0.45 lb ai/acre)	
	Restrictions: Succulent Beans – Do not apply more than 5 pounds (4.5 lbs ai) of Lannate SP /acre /year. Do not make more than 10 applications/year. Reentry Interval (REI): 48 hours * Do not use for Loopers in AL & GA. ** Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area quickly. If another application is needed prior to the minimum application interval, use a different insecticide. Since Lannate SP is a contact insecticide, follow direct spraying of the target pest. Use sufficient water to obtain thorough, uniform coverage. Use a minimum of 20 gallons of water per acre for ground applications and 5 gallons of water per acre for aerial applications.		
Beans (Dry) (Same as Succulent Beans)	(Same as Succulent Beans)	(Same as Succulent Beans)	14 Dry Beans * 14 Vines * 14 Hay *
	Restrictions: Do not apply more than 5 pounds (4.5 lbs ai) of Lannate SP /acre /year. Do not make more than 10 applications/year. Do not use for Loopers in AL & GA. Reentry Interval (REI): 48 hours * Do not apply within 14 days of cutting. ** Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area quickly. If another application is needed prior to the minimum application interval, use a different insecticide. Since Lannate SP is a contact insecticide, follow direct spraying of the target pest. Use sufficient water to obtain thorough, uniform coverage. Use a minimum of 20 gallons of water per acre for ground applications and 5 gallons of water per acre for aerial applications.		
Beets (Table)	Imported Cabbageworm	1/4 - 1 (0.23 - 0.9 lb ai/acre)	0 - roots
	Beet Armyworm Cabbage Looper Diamondback Moth	1/2 - 1 (0.45 - 0.9 lb ai/acre)	10 - tops
	Cucumber Beetle Variegated Cutworm	1/2 (0.45 lb ai/acre)	
	Restrictions: Do not apply more than 4 (3.6 lbs ai) pounds of Lannate SP /acre/year.		

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
	Do not make more than 8 applications/year. Reentry Interval (REI): 48 hours		
Bermudagrass pasture	Fall Armyworm, Armyworm, Striped Grass Looper	1/4 -1 (0.23 - 0.9 lb ai/acre)	7 Forage* 3 Dehydrated Hay**
	Restrictions: Do not apply more than 1 pound (0.9 lb ai) of Lannate SP /acre/year. Do not make more than 4 applications/year. Reentry Interval (REI): 48 hours * Do not apply within 7 days of feeding forage or allowing livestock to graze. ** Do not apply within 3 days of cutting for hay.		
Blueberries	Blueberry Leafhopper Aphids Tussock Moth Weevil Sharp-Nosed Leafhopper	1/2 (0.45 lb ai/acre)	3
	Cranberry Fruitworm * Cherry Fruitworm * Brown Marmorated Stink Bug *† Spotted Wing Drosophila **	1/2 - 1 (0.45 - 0.9 lb ai/acre)	
	Flea Beetle (larvae) Sawfly (larvae) Blueberry Leafroller	1 (0.9 lb ai/acre)	
	Blueberry Maggot	1/4 - 1/2 (0.23 - 0.45 lb ai/acre)	
	Restrictions: Do not apply during bloom. Do not apply more than 4 pounds (3.6 lb ai) of Lannate SP /acre/year. Do not make more than 4 applications/year. Reentry Interval (REI): 48 hours * For ground use only. † Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area quickly. If another application is needed prior to the minimum application interval, use a different insecticide. Since Lannate SP is a contact insecticide, follow direct spraying of the target pest and the use of the highest labeled rate. Use sufficient water to obtain thorough, uniform coverage. Use a minimum of 50 gallons of water per acre. **Apply when the first adult spotted wing drosophila are trapped or based on local university crop stage timing recommendations in order to protect ripening fruit. Apply by properly calibrated air or ground equipment using sufficient spray volume to obtain thorough coverage. For aerial application in dense growth blueberries, use a minimum spray volume of 10 gallons per acre.		
Broccoli	Loopers Diamondback Moth	1/2 - 1 ** (0.45 - 0.9 lb ai/acre)	3
	Imported Cabbageworm	1/4 - 1 ** (0.23 - 0.9 lb ai/acre)	
	Restrictions: Do not apply more than 7 pounds (6.3 lb ai) of Lannate SP /acre/year. Do not make more than 10 applications/year; minimum interval between treatments is 2 days. Reentry Interval (REI): 48 hours **Add a wetting agent to improve coverage.		
Brussels Sprouts	Loopers Imported Cabbageworm Diamondback Moth	1/2 - 1 ** (0.45 - 0.9 lb ai/acre)	3
	Variegated Cutworm	1/2 ** (0.45 lb ai/acre)	

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
	Restrictions: Do not apply more than 6 pounds (5.4 lb ai) of Lannate SP /acre/year. Do not make more than 10 applications/year; minimum interval between treatments is 2 days. Reentry Interval (REI): 48 hours **Add a wetting agent to improve coverage.		
Cabbage	Loopers * Diamondback Moth Fall Armyworm	1/2 - 1 ** (0.45 - 0.9 lb ai/acre)	1
	Imported Cabbageworm	1/4 - 1 ** (0.23 - 0.9 lb ai/acre)	
	Variegated Cutworm	1/2 ** (0.45 lb ai/acre)	
	Restrictions: Do not apply more than 8 pounds (7.2 lb ai) of Lannate SP /acre/year. Do not make more than 15 applications/year; minimum interval between treatments is 2 days. Reentry Interval (REI): 48 hours * Do not use for Loopers in AL & GA. **Add a wetting agent to improve coverage.		
Carrot	Beet Armyworm Armyworms Aster Leafhopper	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1
	Variegated Cutworm	1/4 - 1/2 (0.23 - 0.45 lb ai/acre)	
	Restrictions: Do not apply more than 7 pounds (6.3 lb ai) of Lannate SP /acre/year. Do not make more than 10 applications/year. Reentry Interval (REI): 48 hours		
Cauliflower	Imported Cabbageworm	1/4 – 1 ** (0.23 - 0.9 lb ai/acre)	3
	Loopers Diamondback Moth	1/2 – 1 ** (0.45 - 0.9 lb ai/acre)	
	Variegated Cutworm	1/2 ** (0.45 lb ai/acre)	
	Restrictions: Do not apply more than 8 pounds (7.2 lb ai) of Lannate SP /acre/year. Do not make more than 10 applications/year; minimum interval between treatments is 2 days. Reentry Interval (REI): 48 hours **Add a wetting agent to improve coverage.		
Celery	Beet Armyworm Aster Leafhopper	1/2 - 1 (0.45 - 0.9 lb ai/acre)	7
	Loopers	1 (0.9 lb ai/acre)	
	Variegated Cutworm	1/2 (0.45 lb ai/acre)	
	Armyworms	1/4 - 1 (0.23 - 0.9 lb ai/acre)	
	Restrictions: Do not apply more than 7 pounds (6.3 lb ai) of Lannate SP /acre/year. Do not make more than 8 applications/year. Reentry Interval (REI): 48 hours		
Chicory	Beet Armyworm Variegated Cutworm Leafhoppers	1/2 - 1 (0.45 - 0.9 lb ai/acre)	80
	Restrictions: Do not apply more than 2 pounds (1.8 lb ai) of Lannate SP /acre/year. Do not make more than 2 applications/year. Reentry Interval (REI): 48 hours		
Chinese	Loopers	1/2 - 1 * (0.45 - 0.9 lb ai/acre)	10

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
Cabbage (Napa, Bok Choy)	Beet Armyworm		
	Restrictions: Do not apply more than 8 pounds (7.2 lb ai) of Lannate SP /acre/year. Do not make more than 10 applications/year. Reentry Interval (REI): 48 hours * Minimum of 25 gallons water per acre by ground or 5 gallons by air.		
Collards (Fresh market only)	Diamondback Moth	1/2 (0.45 lb ai/acre)	10
	Variegated Cutworm		
	Imported Cabbageworm Beet Armyworm Loopers *	1/2 - 1 (0.45 - 0.9 lb ai/acre)	
	Restrictions: Do not apply when temp. is less than 50° F. Do not apply when crop is less than 10" tall. Do not apply more than 6 pounds (5.4 lb ai) of Lannate SP /acre/year. Do not make more than 8 applications/year. Reentry Interval (REI): 48 hours * Do not use for Loopers in AL & GA.		
Corn (Field, Popcorn & Seed)	Earworm, (Ovicide/Larvicide) Armyworm Fall Armyworm European Corn Borer – Ears 1 to 3 days or as needed Corn Rootworm (adult beetles) Flea Beetles Picnic Beetles Aphids	1/4 - 1/2 (0.23 - 0.45 lb ai/acre)	21 Ears 3 Forage* 21 Stover*
	Variegated Cutworm Beet Armyworm Brown Marmorated Stink Bug **	1/2 (0.45 lb ai/acre)	
	Restrictions: Do not apply more than 2.5 pounds (2.25 lb ai) of Lannate SP /acre/year. Do not make more than 5 applications/year. Do not make more than two applications to corn prior to tassel push. Make one application when corn is at 1-2 leaf stage for control of early season pests; make a second application, if needed, 5-7 days later. Reentry Interval (REI): 48 hours * Corn forage is green actively growing plants that are harvested with the ears intact. The plants can be fed directly to animals or used to make silage. Corn stover are the parts of the plant that remain after removal of the grain at full plant maturity. These remaining stalks and leaves can be fed as roughage to animals. ** Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area quickly. If another application is needed prior to the minimum application interval, use a different insecticide. Since Lannate SP is a contact insecticide, follow direct spraying of the target pest. Use sufficient water to obtain thorough, uniform coverage. Use a minimum of 20 gallons of water per acre for ground applications and 5 gallons of water per acre for aerial applications.		
Corn (Sweet)	Earworm – Whorl as needed	1/3 - 1/2 (0.27 - 0.45 lb ai/acre)	0 Ears
	Fall Armyworm Armyworm Earworm – (Ovicide/Larvicide) European Corn Borer – Ears 1-3 days or as needed	1/4 - 1/2 (0.23 - 0.45 lb ai/acre)	3 Forage 21 Stover

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
	Corn Rootworm (adult beetles) Flea Beetles Picnic Beetles Aphids		
	Variegated Cutworm Beet Armyworm Brown Marmorated Stink Bug *	1/2 (0.45 lb ai/acre)	
	Certain hybrid varieties of sweet corn are susceptible to methomyl injury. Treat a small area to determine crop safety before full scale spraying. Restrictions Do not apply more than 7 pounds (6.3 lb ai) of Lannate SP /acre/year. Do not make more than 28 applications/year; minimum interval between treatments is 1 day. Do not make more than two applications to corn prior to tassel push. Make one application when corn is at 1-2-leaf stage for control of early season pests; make a second application, if needed, 5-7 days later. Reentry Interval (REI): 48 hours * Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area quickly. If another application is needed prior to the minimum application interval, use a different insecticide. Since Lannate SP is a contact insecticide, follow direct spraying of the target pest. Use sufficient water to obtain thorough, uniform coverage. Use a minimum of 20 gallons of water per acre for ground applications and 5 gallons of water per acre for aerial applications.		
Cotton U.S. ----	Ovicide/Larvicide – Bollworm, Tobacco Budworm (Initiate schedule when significant numbers of eggs are present. Continue at 3 to 5-day intervals while eggs are present and larval control is adequate. If significant larvae survive, use higher rates below.) Lygus Bugs/Plant Bugs (adults and nymphs) Start treatment on low level population for suppression.	1/8 - 1/4 (0.11 - 0.23 lb ai/acre) (see Insect Predator Section)	15
	Cotton Leafworm	1/4 - 1/2 (0.23 - 0.45 lb ai/acre)	
	Cotton Fleahopper (as needed)	1/8 - 1/4 (0.11 - 0.23 lb ai/acre)	
	Aphids, Thrips	1/4 (0.23 lb ai/acre)	
Cotton East of Rockies only ---	(Early Season) Bollworm, Tobacco Budworm, Beet Armyworm, Cotton Leafperforator, Fall Armyworm, Lygus Bugs/Plant Bugs (adults and nymphs) Use as occasional spray in regular schedule but not more often than every 10 days.	1/2 (0.45 lb ai/acre)	
	(Late Season) Bollworm, Tobacco Budworm, Beet Armyworm, Cotton Leafperforator, Fall Armyworm, Lygus Bugs/Plant Bugs (adult and nymphs). Up to 3 applications at 3-5-day intervals after desired boll	1/2 - 3/4 (0.45 - 0.68 lb ai/acre)	

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
	load set on plants.		
Cotton Texas	Cotton Aphid	1/4 - 2/3 (0.23 - 0.0.6 lb ai/acre)	
Cotton West of Rockies only----	Larvicide for worms: Bollworm, Fall Armyworm, Tobacco Budworm, Lygus Bugs Beet Armyworm	1/2 - 3/4 (0.45 - 0.68 lb ai/acre)	
	Cotton Leafperforator	1/3 - 3/4 (0.3 - 0.68 lb ai/acre)	
	Restrictions: For applications West of the Rockies, make applications on 3-5-day intervals after desired boll load set on plants. For all applications made to cotton in the United States: Do not apply more than 2 pounds (1.8 lb ai) of Lannate SP /acre/year. Do not make more than 8 applications/year. Use may redden cotton if excessive stop or alternate with other insecticides. Do not graze or feed. Reentry Interval (REI): 72 hours		
Cucumber	Loopers Tobacco Budworm Beet Armyworm Yellowstriped Armyworm Granulate Cutworm Flea Beetles Cucumber Beetles Melon Aphid Melonworm Pickleworm Fall Armyworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1/2 lb. -- 1 Over 1/2 lb.-- 3
	Variegated Cutworm	1/2 (0.45 lb ai/acre)	
	Restrictions: Do not apply more than 6 pounds (5.4 lb ai) of Lannate SP /acre/year. Do not make more than 12 applications /year. Reentry Interval (REI): 48 hours		
Eggplant	Green Peach Aphid	1/4 - 1 (0.23 - 0.9 lb ai/acre)	5
	Tomato Pinworm (Ground Application Only) Beet Armyworm Corn Earworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	
	Restrictions: Do not apply more than 5 pounds (4.5 lb ai) of Lannate SP /acre/year. Do not make more than 10 applications/year. Reentry Interval (REI): 48 hours		
Endive, Escarole	Beet Armyworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	10
	Restrictions: Do not apply more than 5 pounds (4.5 lb ai) of Lannate SP /acre/year. Do not make more than 8 applications/year. Reentry Interval (REI): 48 hours		
Garlic	Beet Armyworm	1/2 ** (0.45 lb ai/acre)	7
	Restrictions: Do not apply more than 3 pounds (2.7 lb ai) of Lannate SP /acre/year. Do not make more than 6 applications/year. Reentry Interval (REI): 48 hours ** Add a wetting agent to improve coverage.		

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
Grapefruit CA, AZ, & HI only	Thrips Fruittree Leafroller Orange Tortrix Western Tussock Moth Beet Armyworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1
	Restrictions: Do not apply more than 3 pounds (2.7 lb ai) of v/acre/year. Do not make more than 4 applications/year. Reentry Interval (REI): 72 hours		
Horseradish Ground application only	Aphids Thrips	1/2 (0.45 lb ai/acre)	65
	Restrictions: Do not apply more than 2 pounds (1.8 lb ai) of Lannate SP /acre/year. Do not make more than 4 applications/year. Reentry Interval (REI): 48 hours		
Leafy Green Vegetables: Beet (tops), Dandelions, Kale, Mustard Greens, Parsley, Swiss Chard, Turnip Greens	Beet Armyworm Cabbage Looper * Diamondback Moth Imported Cabbageworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	10
	Restrictions: Do not apply more than 4 pounds (3.6 lb ai) of Lannate SP /acre/year. Do not make more than 8 applications/year. Reentry Interval (REI): 48 hours * Do not use for Cabbage Loopers in AL & GA.		
Lemon CA, AZ, & HI only	Thrips Western Tussock Moth Orange Tortrix Beet Armyworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1
	Restrictions: Do not apply more than 3 pounds (2.7 lb ai) of Lannate SP /acre/year. Do not make more than 4 applications/year. Reentry Interval (REI): 72 hours		
Lentils	Western Yellowstriped Armyworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	21
	Restrictions: Do not apply more than 1 pound (0.9 lb ai) of Lannate SP /acre/year. Do not make more than 2 applications/year. Reentry Interval (REI): 48 hours		
Lettuce (head varieties and leaf varieties)	Alfalfa Looper	1/4 - 1 (0.23-0.9 lb ai/acre)	1/4-1/2 lb. -- 7 over 1/2 lb. -- 10
	Thrips Aphids Beet Armyworm Cabbage Looper Corn Earworm Aster Leafhopper	1/2 - 1 (0.45 - 0.9 lb ai/acre)	
	Variegated Cutworm	1/2 (0.45 lb ai/acre)	
	Restrictions: Lettuce (head varieties) Do not apply more than 7 pounds (6.3 lb ai) of Lannate SP /acre/year. Do not make more than 12 applications/year; minimum interval between treatments is 2 days. Reentry Interval (REI): 48 hours Lettuce (leaf varieties) Do not apply more than 4 pounds of Lannate SP /acre/year.		

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
	Do not make more than 6 applications/year; minimum interval between treatments is 2 days. Reentry Interval (REI): 48 hours		
Melons Including: Cantaloupe Casaba Santa Claus melon Crenshaw melon Honeydew melon Honey balls Persian melon Golden pershaw melon Mango melon Pineapple melon Snake melon Watermelon	Loopers Tobacco Budworm Beet Armyworm Yellowstriped Armyworm Granulate Cutworm Flea Beetles Cucumber Beetles Melon Aphid Melonworm Pickleworm Fall Armyworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1/2 lb. -- 1 day over 1/2 lb. -- 3 days
	Variegated Cutworm	1/2 (0.45 lb ai/acre)	
	Restrictions: Do not apply more than 6 pounds (5.4 lb ai) of Lannate SP/acre/year. Do not make more than 12 applications/year. Reentry Interval (REI): 48 hours		
Mint (Peppermint, Spearmint)	Variegated Cutworm Alfalfa Looper	1 (0.9 lb ai/acre)	14
	Flea Beetles	3/4 - 1 (0.68 - 0.9 lb ai/acre)	
	Restrictions: Do not apply more than 2 pounds (1.8 lb ai) of Lannate SP /acre/year. Do not make more than 4 applications/year. Reentry Interval (REI): 48 hours		
Nectarine CA and AZ only	Thrips Brown Marmorated Stink Bug *	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1
	Restrictions: Do not apply more than 3 pounds (2.7 lb ai) of Lannate SP /acre/year. Do not make more than 3 applications/year. Reentry Interval (REI): 72 hours * Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area quickly. If another application is needed prior to the minimum application interval, use a different insecticide. Since Lannate SP is a contact insecticide, follow direct spraying of the target pest and the use of the highest labeled rate. Apply by ground application only and use sufficient water to obtain thorough, uniform coverage. Use a minimum of 50 gallons of water per acre.		
Onions (Green & Dry Bulb)	Beet Armyworm	1/2 - 1 ** (0.45 - 0.9 lb ai/acre)	7 Green and Dry Bulb Onions
	Thrips * Variegated Cutworm Black Cutworm	1 ** (0.9 lb ai/acre)	
	Restrictions: Onions, green Do not apply more than 6 pounds (5.4 lb ai) of Lannate SP /acre/year. Do not make more than 8 applications/year; minimum interval between treatments is 5 days. Reentry Interval (REI): 48 hours Onions, dry bulb Do not apply more than 4 pounds (3.6 lb ai) of Lannate SP /acre/year.		

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
	Do not make more than 8 applications/year; minimum treatment interval between treatments is 5 days. Reentry Interval (REI): 48 hours *Chemigation - Lannate SP may be applied by overhead sprinkler chemigation to control thrips. Begin applications before thrips populations reach 3 to 5 thrips per plant. Add a wetting agent. Apply in 0.1 to 0.2 inches of water per acre. See "Chemigation" section for more information. ** Add a wetting agent to improve coverage.		
Oranges CA, AZ, & HI only	Thrips Western Tussock Moth Orange Tortrix Fruittree Leafroller Beet Armyworm Citrus Cutworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1
	Restrictions: Do not apply more than 3 pounds (2.7 lb ai) of Lannate SP /acre/year. Do not make more than 4 applications/year. Reentry Interval (REI): 72 hours		
Peaches	Catfacing Insects (Plant Bugs and Stink Bugs) - begin at petal fall and continue in cover sprays at 7- to 10-day intervals	1 lb (0.9 lb ai/acre) (or 1/4 lb per 100 gal up to 400 gal per acre)	4
	Oriental Fruit Moth * - begin at petalfall; use trapping devices and frequent field inspection to determine need for treatment. Continue treatment in cover sprays and alternate with residual-type insecticides registered for this use.		
	Green Peach Aphid	1/2 - 1 (0.45 - 0.9 lb ai/acre)	
	Brown Marmorated Stink Bug **		
	Restrictions: Do not apply more than 6 pounds (5.4 lb ai)of Lannate SP /acre/year. Do not make more than 6 applications/year. Reentry Interval (REI): 4 days * Oriental Fruit Moth (ground application only). ** Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area quickly. If another application is needed prior to the minimum application interval, use a different insecticide. Since Lannate SP is a contact insecticide, follow direct spraying of the target pest and the use of the highest labeled rate. Apply by ground application only and use sufficient water to obtain thorough, uniform coverage. Use a minimum of 50 gallons of water per acre.		
Peanuts	Corn Earworm * Potato Leafhopper Fall Armyworm	1/4 - 1 (0.23 - 0.9 lb ai/acre)	21
	Beet Armyworm	3/8 - 1 (0.34-0.9 lb ai/acre)	
	Green Cloverworm Velvetbean Caterpillar Cabbage Looper	1/2 - 1 (0.45 - 0.9 lb ai/acre)	

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
	Soybean Looper ** Thrips Granulate Cutworm		
	Restrictions: Do not apply more than 4 pounds (3.6 lb ai) of Lannate SP /acre/year. Do not make more than 8 applications/year. Do not feed treated vines. Reentry Interval (REI): 48 hours * Lannate SP has ovicidal and larvicidal control on corn earworm. ** Soybean Looper is difficult to control. Do not apply to worms greater than 1/2" long. Use higher rate for severe infestations		
Pears CT, DE, NH, NJ, NY, MD, ME, MA, PA, RI, and VT	Green Fruitworm Obliquebanded Leafroller Brown Marmorated Stink Bug **	1/2 - 1 * (0.45 - 0.9 lb ai/acre)	7
	Restrictions: Do not apply more than 2 pounds (1.8 lb ai) of Lannate SP /acre/year. Do not make more than 2 applications/year. Reentry Interval (REI): 48 hours * Apply in a minimum of 50 gallons of water per acre. ** Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area quickly. If another application is needed prior to the minimum application interval, use a different insecticide. Since Lannate SP is a contact insecticide, follow direct spraying of the target pest and the use of the highest labeled rate. Apply by ground application only and use sufficient water to obtain thorough, uniform coverage.		
Peas (succulent) Including: Pigeon peas Chick peas Garbanzo beans Dwarf peas Garden peas Green peas English Peas Field peas Edible pod peas	Alfalfa Looper Cabbage Looper * Pea Aphid Beet Armyworm Saltmarsh Caterpillar Variegated Cutworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1 Peas 5 Forage 14 Hay
	Alfalfa Caterpillar Armyworm Green Cloverworm	1/4 - 1 (0.23 - 0.9 lb ai/acre)	
		Restrictions: Do not apply more than 3 pounds (2.7 lb ai) of Lannate SP /acre/year. Do not make more than 6 applications/year; minimum interval between treatments is 3 days. Reentry Interval (REI): 48 hours Do not use for Cabbage Leapers in AL & GA.	
Pecans AL, AR, FL, GA, LA, KY, NC, MS, SC, TN, VA, and WV	Aphids	1/2 - 1 (0.45 - 0.9 lb ai/acre)	30
	Restrictions: Do not apply more than 7 pounds (6.3 lb ai) of Lannate SP /acre/year. Do not make more than 7 applications/year. Reentry Interval (REI): 48 hours		
Peppers Including: Bell Hot Pimentos Sweet	Loopers Beet Armyworm Green Peach Aphid Armyworm Fall Armyworm Brown Marmorated Stink Bug *	1/2- 1 (0.45 - 0.9 lb ai/acre)	3
	Variegated Cutworm	1/4 - 1/2 (0.23 - 0.45 lb ai/acre)	
	European Corn Borer	1 (0.9 lb ai/acre)	

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
	Restrictions: Do not apply more than 4 pounds (3.6 lb ai) of Lannate SP /acre/year. Do not make more than 8 applications/year. Reentry Interval (REI): 48 hours * Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area quickly. If another application is needed prior to the minimum application interval, use a different insecticide. Since Lannate SP is a contact insecticide, follow direct spraying of the target pest and the use of the highest labeled rate. Use sufficient water to obtain thorough, uniform coverage. Use a minimum of 20 gallons of water per acre for ground applications and 5 gallons of water per acre for aerial applications.		
Pomegranates	Omnivorous Leafroller	1 (0.9 lb ai/acre)	14
	Restrictions: Do not apply more than 2 pounds (1.8 lb ai) of Lannate SP /acre/year. Do not make more than 2 applications/year. Reentry Interval (REI): 48 hours		
Potato	Tuberworm * Loopers Aphids Beet Armyworm Leafhoppers Fall Armyworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	6
	Variegated Cutworm Flea Beetles	1/2 (0.45 lb ai/acre)	
	Restrictions: Do not apply more than 5 pounds (4.5 lb ai) of Lannate SP /acre/year. Do not make more than 10 applications/year. Chemigation: Lannate SP may be applied by overhead sprinkler chemigation. Use the highest labeled rate of Lannate SP. Apply in 0.1 to 0.2 inches of water per acre. See "Chemigation" section for more information. Reentry Interval (REI): 48 hours * Repeat applications of Lannate SP on a 5- 7- day schedule, or longer as needed, to control tuber worm populations. An application schedule of effective insecticides with different modes of action may be needed to keep foliar feeding larval populations as low as possible prior to harvest to reduce the risk of larval damage to the tubers. Failure to adequately control tuberworm larvae prior to crop senescence or vinekill increases the risk of tuber damage.		
Sorghum Including: Sudangrass (Except Sweet Sorghum)	Sorghum Webworm	1/2 * (0.45 lb ai/acre)	14 **
	Sorghum Midge - Apply when 50% bloom and 3-5 days later if needed. Fall Armyworm (Budworm) Beet Armyworm Corn Earworm Armyworm	1/4- 1/2 * (0.23 - 0.45 lb ai/acre)	
	Restrictions: Do not apply more than 1 pound (0.9 lb ai) of Lannate SP /acre/year. Do not make more than 2 application/year. Reentry Interval (REI): 48 hours * Minimum of 10 gallons per acre by ground or 2 gallons per acre by air. ** Do not apply within 14 days of feeding forage or cutting for hay.		
Soybeans	Green Cloverworm Velvetbean Caterpillar Mexican Bean Beetle Corn Earworm	1/8 - 1/4 (0.11 - 0.23 lb ai/acre) (see Insect Predator section)	14 Soybeans 3 Forage 12 Hay

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
	Light to moderate infestations		
	Moderate to severe Infestations	1/4 - 1/2 (0.23 - 0.45 lb ai/acre)	
	Soybean Aphid	1/6-1/3 (0.15 - 0.3 lb ai/acre)	
	Beet Armyworm Salt Marsh Caterpillar Bean Leaf Beetle Fall Armyworm Thrips Silver Spotted Skipper Light to moderate infestations	1/4 - 3/8 (0.23 - 0.34 lb ai/acre)	
	Moderate to severe infestations	3/8 - 1/2 (0.34 - 0.45 lb ai/acre)	
	Brown Marmorated Stink Bug *	1/2 (0.45 lb ai/acre)	
	Restrictions: Do not apply more than 1.5 pounds (1.35 lb ai) of Lannate SP /acre/year. Do not make more than 3 applications/year. Reentry Interval (REI): 48 hours * Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area quickly. If another application is needed prior to the minimum application interval, use a different insecticide. Since Lannate SP is a contact insecticide, follow direct spraying of the target pest. Use sufficient water to obtain thorough, uniform coverage. Use a minimum of 20 gallons of water per acre for ground applications and 5 gallons of water per acre for aerial applications.		
Spinach	Alfalfa Loopers Cabbage Looper Beet Armyworm Fall Armyworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	7
	Variegated Cutworm	1/2 (0.45 lb ai/acre)	
	Restrictions: Do not apply when min. daily temp. is 32° F or lower. Do not apply to seedlings less than 3" diameter. Do not apply more than 4 pounds (3.6 lb ai) of Lannate SP /acre/year. Do not make more than 8 applications/year. Reentry Interval (REI): 48 hours		
Sugar Beet	Beet Webworm Flea Beetles Carrion Beetles Beet Armyworm * Aphids * Western Yellowstriped Armyworm *	1/4 - 1 (0.23 - 0.9 lb ai/acre)	30 Tops 21 Roots
	Variegated Cutworm	1/2 (0.45 lb ai/acre)	
	Restrictions: Do not apply more than 5 pounds (4.5 lb ai) of Lannate SP /acre/year. Do not make more than 10 applications/year. Reentry Interval (REI): 48 hours * Chemigation - Lannate SP may be applied by overhead sprinkler chemigation to control beet armyworm, aphids, and western yellowstriped armyworm. Use the highest labeled rate of Lannate SP. Apply in 0.1 to 0.2 inches of water per acre. See "Chemigation" section for more information.		
Summer Squash *	Loopers Tobacco Budworm Beet Armyworm Yellowstriped Armyworm Granulate Cutworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1/2 lb. -- 1 day over 1/2 lb.-- 3 days

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
Straightneck squash Scallop squash Vegetable marrow Spaghetti squash Hyotan Cucuzza Hechima Chinese okra Bitter melon Balsam pear Balsam apple Chinese cucumber	Flea Beetles Cucumber Beetles Melon Aphid Melonworm Pickleworm Fall Armyworm		
Restrictions: Do not apply more than 6 pounds (5.4 lb ai) of Lannate SP /acre/year. Do not make more than 12 applications/year. Reentry Interval (REI): 48 hours * Fruit of the Gourd (Cucurbitaceae) family that are consumed when immature, 100% of the fruit is edible cooked or raw, once picked cannot be stored, has a soft rind which is easily penetrated, and if seeds were harvested they would not germinate.			
Tangelo, Tangerine CA, AZ, & HI only	Thrips Western Tussock Moth Orange Tortrix Beet Armyworm	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1
	Restrictions: Do not apply more than 3 pounds (2.7 lb ai) of Lannate SP /acre/year. Do not make more than 4 applications/year. Reentry Interval (REI): 72 hours		
Tobacco (Except shade)	Flea Beetle Hornworm	1/4 - 1/2 (0.23 - 0.45 lb ai/acre)	5 Flue cured 14 Air or fire cured
	Loopers Aphids Tobacco Budworm Fall Armyworm	1/2 (0.45 lb ai/acre)	
	Restrictions: Do not apply more than 2.5 pounds (2.25 lb ai) of Lannate SP /acre/year. Do not make more than 5 applications/year. Reentry Interval (REI): 48 hours		
Tomato (Including Tomatillos *)	Tomato Fruitworm Aphids Hornworm Loopers Beet Armyworm Southern Armyworm Pinworm Armyworm Fall Armyworm Brown Marmorated Stink Bug **	1/2 - 1 (0.45 - 0.9 lb ai/acre)	1
	Variegated Cutworm	1/2 (0.45 lb ai/acre)	
	Restrictions: Do not apply more than 7 pounds (6.3 lb ai) of Lannate SP /acre/year. Do not make more than 16 applications/year. Reentry Interval (REI): 48 hours * For tomatillos do not apply more than 5 pounds of Lannate SP /acre/year. Do not make more than 5 applications/year. ** Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area		

Crops	Insects	Rate Lannate SP Lbs. Per Acre	Last Application – Days To Harvest
	<p>quickly. If another application is needed prior to the minimum application interval, use a different insecticide.</p> <p>Since Lannate SP is a contact insecticide, follow direct spraying of the target pest and the use of the highest labeled rate. Use sufficient water to obtain thorough, uniform coverage. Use a minimum of 20 gallons of water per acre for ground applications and 5 gallons of water per acre for aerial applications.</p>		
Turf (For use on sod farms only)	Sod Webworm (after application, sprinkle irrigate for 15 minutes)	1 (0.9 lb ai/acre) (2/5 oz product per 1000 sq. ft.)	
	<p>Restrictions: Do not apply more than 4 pounds (3.6 lb ai) of Lannate SP /acre/year. Do not make more than 4 applications/year. Do not graze or feed. Reentry Interval (REI): 48 hours</p>		
Wheat ID, OR, WA only	Armyworms Cereal Leaf Beetle * Aphids **	1/4 - 1/2 (0.23 - 0.45 lb ai/acre)	7
	Brown Marmorated Stink Bug ***	1/2 (0.45 lb ai/acre)	
	<p>Restrictions: Do not apply more than 2 pounds (1.8 lb ai) of Lannate SP/acre/year. Do not make more than 4 applications/year. Chemigation: Lannate SP may be applied by overhead sprinkler chemigation for control of all pests, except brown marmorated stink bug. Use the highest labeled rate of Lannate SP. Apply in 0.1 to 0.2 inches of water per acre. See "Chemigation" section for more information. Reentry Interval (REI): 48 hours * Cereal leaf beetle: Lannate SP can provide contact ovicidal effect on cereal leaf beetle eggs when applied according to label directions. Application should be timed to correspond with the appearance of newly laid eggs or in anticipation of egg hatch to achieve maximum ovicidal effect. Use on this pest stage (egg) is not currently registered in California. ** Aphids: For aphid control, crop must be actively growing and not under stress from adverse environmental conditions (such as, extreme temperatures or drought). Applications on Russian wheat aphid need to begin when aphid population is low (<10 adults per stem). *** Brown marmorated stink bugs are very mobile pests. They may reinfest the treated area quickly. If another application is needed prior to the minimum application interval, use a different insecticide. Since Lannate SP is a contact insecticide, follow direct spraying of the target pest. Use sufficient water to obtain thorough, uniform coverage. Use a minimum of 20 gallons of water per acre for ground applications and 5 gallons of water per acre for aerial applications.</p>		

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