OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION
WASHINGTON, D.C. 20460

July 29, 2025

Arianna Shorey
Regulatory Consultant
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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 LV Insecticide
EPA Registration Number: 61842-55
Application Date: April 29, 2024
Decision Number: 595710

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,

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

Enclosure

{Note to reviewer: [Text] in brackets denotes optional text. In instances where a word or phrase has multiple optional text options, at least one will be used to ensure that the entire statement is clear and understandable. {Text} in braces denotes where in the final label text will appear and notes to reviewer.}

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® LV
INSECTICIDE

ACCEPTED
Jul 29, 2025
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 61842-55

{Alternate Brand Name:} [Lannate® LV]

Water Soluble Liquid

Contains 2.4 lbs active ingredient per gallon.

Active Ingredient	***By Weight***
Methomyl (S-methyl-N-[(methylcarbamoyl)oxy]thioacetimidate)	29%
Other Ingredients	71%
TOTAL	100%

EPA Reg. 61842-55 EPA Est. No. _____

[See back and side panels for additional precautionary statements.] [See] [inside] [label] [booklet] [side] [panel] [for] [additional] [Precautionary Statements][,] [and] [Directions for Use] [including] [Storage and Disposal] [instructions][.]

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 further 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.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

FATAL IF SWALLOWED. CONTAINS METHANOL; MAY CAUSE BLINDNESS. CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE.

Do not get in eyes, or on clothing. Wear protective eyewear. Harmful if inhaled or absorbed through skin. Avoid contact with skin or breathing spray mist. Wash hands thoroughly with soap and water after handling.

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 panel of LANNATE® LV 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® LV alone. However, for exposure to combinations of LANNATE® LV 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.

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 ≥ 14 mils.
Shoes plus socks.
Protective eyewear.

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

Long-sleeved shirt and long pants.
Chemical-resistant gloves made of barrier laminate or butyl rubber ≥14 mils.
Socks and chemical-resistant footwear.
Protective eyewear.
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.

Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

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.

Pilots must not assist in the mixing and loading operations.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. 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 highwater 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 foraging 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 overlaying tile drainage systems that drain to surface water.

PHYSICAL AND CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame. Keep container closed. Use with adequate ventilation.

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® LV insecticide, referred to below as LANNATE® LV insecticide or LANNATE® LV, must be used in accordance with the directions for use on this label, in separately issued labeling or exemptions under FIFRA (Supplemental Labels, Special Local Need registrations, FIFRA Section 18 exemptions), 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: apple, cotton, grapefruit, lemon, nectarines, oranges, tangelo, tangerine = 3 day REI; peaches = 4 day REI; 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 barrier laminate or butyl rubber ≥ 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.

PRODUCT INFORMATION

LANNATE® LV is a water-soluble liquid that is applied by foliar application to control many important insect pests. LANNATE® LV is mixed with water for application.

RESTRICTIONS

- Chemigation: Overhead sprinkler chemigation is allowed for use in alfalfa, succulent and dry beans, onions, succulent peas, potatoes, sugar beets, and wheat. Drip chemigation is allowed for onions in the states of ID, NV, OR, UT, and WA ONLY. Refer to the chemigation and the crop sections of this label for specific use directions for chemigation. Do not apply this product through any other type of irrigation systems except those allowed by instructions provided in a supplemental, SLN, or this product label.
- 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.
- Pilots must not assist in the mixing and loading operations.
- 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.
- Hand-held equipment is prohibited for applications to crops. This product must be applied to crops only with mechanical ground, overhead sprinkler chemigation, drip chemigation, or aerial application equipment.
- 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. The restricted-entry interval and preharvest interval for the crop stated elsewhere on this label must be followed.

- 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.

SCOUTING

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

BENEFICIAL ARTHROPODS

LANNATE® LV at rates of 2/5 to 3/4 pt. 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

For resistance management, LANNATE® LV insecticide contains a Group 1A insecticide/acaricide. Any insect/mite population may contain individuals naturally resistant to LANNATE® LV insecticide 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® LV insecticide 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.

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

For additional information on insect resistance monitoring, visit the Insecticide Resistance Action Committee (IRAC) on the web at http://www.irac-online.org.

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 well maintained, clean, and free of previous pesticide deposits before applying LANNATE® LV. LANNATE® LV is a water-soluble liquid. Fill spray tank 1/4 to 1/2 full of water. Add LANNATE® LV directly to spray tank. Mix thoroughly while adding the remaining water. Use mechanical or hydraulic means; do not use air agitation. Once thoroughly mixed, continued agitation is not necessary. Spray mix should not be stored overnight in spray tank. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

Tank Mixing and Compatibility

Since formulations may be changed and new ones introduced, it is a best practice that users premix a small quantity of a desired tank mix and observe for possible physical incompatibility (settling out, flocculation, crystallization, etc.). This product can be tank mixed with pesticide products labeled for use on crops on this label in accordance with the most restrictive of label limitations and precautions. Do not exceed label dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing.

Spray volumes of less than 3 gallons of water and tank mixtures of more than two products can increase the chances of incompatible spray mixtures. A jar test (as described below) should be conducted when label guidance is not given or prior experience with a specific tank mixture is unknown. The jar test should follow the proper sequence of addition at the spray water volume planned to assure that the tank mixture is compatible. Constant agitation may be needed during mixing and spraying of mixtures. LANNATE® LV is compatible with most commonly used plant protectants with the exception of Bordeaux mixture, “DuTer” (triphenyltin hydroxide), lime sulfur, and “Rayplex” iron. Do not use LANNATE® LV in highly alkaline mixtures or solutions. Use mildly alkaline mixtures and solutions immediately after mixing to prevent loss of efficacy.

Steps to conduct a jar test to determine physical tank mix compatibility of LANNATE® LV with other products:

- Add clean water to the jar in proportion to the planned water volume that will be used in the spray tank (a jar size of 8 to 16 oz is acceptable).
- Using the most restrictive PPE of the products being tested, mix proper proportional amounts of LANNATE® LV and desired tank mix partner(s) as will be present in the spray tank. Add one product at a time following the sequence of addition according to formulation type provided in this label.
- Seal and shake mixture after each product is added.
- Allow to stand for 1 hour.

- View jar to determine if settling, flocculation, crystallization, or any other undesirable changes have happened.
- If none of the above is observed or the solution can be easily remixed after shaking, the mixture is compatible with LANNATE® LV.
- If the tank mixture is not compatible, a higher water volume, reduced rate of the tank mix partner(s), reduced number of tank mix partners, or a compatibility agent may be needed.

Tank Mixtures and Crop Safety
LANNATE® LV is a water-soluble liquid. The crop safety of LANNATE® LV alone or in a tank mix with many common insecticides, fungicides, nutritionals, and adjuvants has been found to be acceptable. Some materials including oils, surfactants, adjuvants, nutritionals, and pesticide formulations when applied individually, sequentially or in tank mixtures may solubilize the plant cuticle, facilitate penetration into plant tissue, and increase the potential for crop injury.

Applying LANNATE® LV with any product that produces adverse crop response in a tank mixture may also cause adverse crop response when applied in a short time sequence (i.e., seven days apart or less between applications). Such uses should be tested as described below before broad application is made.

Crop varieties can differ in their responsiveness to tank mixtures, and environmental conditions can have an influence on product performance and crop response. It is not possible to test LANNATE® LV alone or with all possible tank mix combinations and sequences on all varieties under all environmental conditions. When considering the use of a tank mixture on a labeled crop without prior experience, or which is not specifically described on LANNATE® LV product labeling or in other Tessenderlo Kerley, Inc. product use instructions, or when applying any products in close sequence with LANNATE® LV, it is important to check crop safety first. To test for crop safety, prepare a small volume of the intended tank mixture or sequence, apply it to an area of the target crop as directed by both this and the tank mix partner product labels, and observe the treated crop to ensure that a phytotoxic response does not occur.

Use of LANNATE® LV in any tank mixture or sequence of applications that is not specifically described on LANNATE® LV product labeling or other Tessenderlo Kerley, Inc. product use instructions could potentially result in crop injury. Follow the precautions on this label and on the label for any other product to be used in tank mixtures or in sequential applications before making such applications to your crops. It is the pesticide user's responsibility to ensure that all products listed in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture. Follow the most restrictive label. To the extent allowed by applicable law, Tessenderlo Kerley, Inc. will not be responsible for any crop injury arising from the use of a tank mixture or sequence of applications that is not specifically described on the LANNATE® LV product labeling or in other Tessenderlo Kerley, Inc. product use instruction.

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

1. Products in water-soluble bags (WSB)
2. Water-soluble granules (SG)
3. Water-dispersible granules (WG, XP, DF)
4. Wettable powders (WP)
5. Water-based suspensions concentrates (SC)
6. LANNATE® LV and other water-soluble concentrates (SL)
7. Suspoemulsions (SE)
8. Oil-based suspension concentrates (OD)
9. Emulsifiable concentrates (EC)
10. Adjuvants, surfactants, oils
11. Soluble fertilizers
12. Drift retardants

***** – unless otherwise specified by manufacturer directions for use or by local experience.

APPLICATION

Apply at the recommended 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® LV should be applied, as needed, to keep pest populations within threshold limits. On most crops, LANNATE® LV should be applied 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® LV is a fast-acting contact insecticide, best results follow direct spraying of the target insect.

For aerial, use a minimum of 2 gals. per acre (gpa) except 10 gpa for nectarines and peaches; 15 gpa for oranges, lemons, grapefruit, tangelos, and tangerines.

LANNATE® LV is recommended for use as a low volume aerial spray 0.53 gpa (2L) for cotton* and soybeans* and 1 gpa for the crops listed below 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 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 recommended rate for controlling severe infestations. Thereafter, use the lowest rate possible to maintain control.

* Not registered for aerial application in a diluted volume of less than 1 gal in CA.

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® LV on Alfalfa, Succulent and Dry Beans, Succulent Peas, Green and Dry Bulb Onions, Potatoes, Sugar Beets, and Wheat Using Chemigation Systems

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. For best results, it is recommended to keep the concentration of LANNATE® LV as high as possible in the application. Apply LANNATE® LV in 0.1 to 0.2 inches of water per acre.

LANNATE® LV is most active as a contact insecticide, although it does also have activity via ingestion of treated plants. For best results, applications of LANNATE® LV should take place when the insects are active and most likely to come into direct contact with the application.

Types of Irrigation Systems
LANNATE® LV may be applied through overhead sprinkler or drip irrigation systems for control of various pests. The irrigation system used must provide uniform water distribution. Do not use filter screens smaller than 50 mesh throughout the system, due to possible buildup of material on 100 mesh or smaller screens. Do not apply LANNATE® LV through any other type of irrigation systems except those allowed by instructions provided in a supplemental, SLN, or this product label.

General Directions for Chemigation

Preparation
A pesticide tank is recommended for the application of LANNATE® LV 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® LV into the tank. Complete filling the tank by adding the required amount of water. Agitate thoroughly to ensure a uniform solution of LANNATE® LV. 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 in the range of neutral to slightly acidic (pH 5-7).

Injection Into Chemigation Systems
Inject the proper amount of the LANNATE® LV 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® LV into the irrigation water line continually and uniformly throughout the irrigation cycle. When using overhead sprinkler systems, apply no more than 0.2 inches of water per acre. For overhead sprinkler systems that are stationary, add the solution containing LANNATE® LV 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. When using drip chemigation, the injection solution containing LANNATE® LV should be injected during the middle one-third of the irrigation cycle.

Uniform Water Distribution
The irrigation system used for application of LANNATE® LV must provide for uniform distribution of LANNATE® LV 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 foliage (overhead chemigation) or the crop root zone (drip chemigation). 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® LV. 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® LV 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 irrigation system and allow it to achieve the desired pressure and flow 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. 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 or emitters do not provide uniform distribution.

Directions Specific to Drip Chemigation Systems:

1. Tape placement is critical. All products applied via drip irrigation must be deposited in the root zone. It is recommended to place the tape either under each row, or within each bed at the minimum depth that

allows planting. The goal is to have the tape within or adjacent to the root zone and buried no more than 2 inches deep.

2. Optimum emitter spacing is 6 inches or less. The maximum emitter spacing should not exceed 12 inches. Emitters should be free of debris and deliver consistent amounts of water. Best results are seen when the same amount of LANNATE® LV comes out of each emitter.
3. The length of the irrigation cycle should be adjusted so that the water reaches the entire root zone without being pushed beyond the root zone.
4. The minimum injection time that will result in uniform distribution of LANNATE® LV throughout the field is the time it takes water to move from the injection point to the most distant emitter. Extending the injection time to twice the minimum will improve uniformity of the application. Also, applications made with lower delivery volumes of water will improve uniformity.
5. When the drip tape is located between two single or double rows of onions, injection of LANNATE® LV should begin as soon as the system is up to pressure and continue through the first half to two-thirds of the irrigation cycle. The purpose is to ensure that the LANNATE® LV is pushed all the way to the root zone of the outer row and not left in the area around the emitter.
6. Applications should be made before pests reach thresholds.
7. Drip chemigation works best when fields are relatively flat.
8. The tape flow rate should be matched to the soil type, crop and climate. Too much flow can result in puddling and excessive time at soil saturation. Consult the tape manufacturer for more information.

Cleaning the System

Thoroughly clean the injection system and tank of any fertilizer or chemical residues using a standard clean-out procedure. LANNATE® LV should not be applied at the same time that a drip/irrigation line clean-out product is being used as performance may be reduced. 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

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

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

IMPORTANCE OF DROPLET SIZE

The most effective drift management strategy is to apply the largest droplets which are consistent with pest control objectives. 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.

A droplet size classification system describes the range of droplet sizes produced by spray nozzles. The American Society of Agricultural and Biological Engineers (ASABE) provides a standard that describes droplet size spectrum categories defined by a number of reference nozzles (fine, coarse, etc.). Droplet spectra resulting from the use of a specific nozzle may also be described in terms of volume mean diameter (VMD). Coarser droplet size spectra have larger VMDs and lower drift potential.

CONTROLLING DROPLET SIZE – GROUND APPLICATION

- **Nozzle Type** – Select a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. The use of low-drift nozzles will reduce drift potential.
- **Pressure** – The lowest spray pressures recommended for the nozzle produce the largest droplets. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, using a higher-capacity nozzle instead of increasing pressure results in the coarsest droplet spectrum.
- **Flow Rate / Orifice Size** – Using the highest flow rate nozzles (largest orifice) that are consistent with pest control objectives reduces the potential for spray drift. Nozzles with higher rated flows produce coarser droplet spectra.

CONTROLLING DROPLET SIZE – AIRCRAFT

- Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.
- **Nozzle Type** – Solid stream or other low-drift nozzles produce the coarsest droplet spectra.
- **Number of Nozzles** – Using the minimum number of nozzles with the highest flow rate that provide uniform coverage will produce a coarser droplet spectrum.
- **Nozzle Orientation** – Orienting nozzles in a manner that minimizes the effects of air shear will produce the coarsest droplet spectra. For some nozzles such as solid stream, pointing the nozzles straight back parallel to the airstream will produce a coarser droplet spectrum than other orientations.
- **Pressure** – Selecting the pressure that produces the coarsest droplet spectrum for a particular nozzle and airspeed reduces spray drift potential. For some nozzle types such as solid streams, lower pressures can produce finer droplet spectra and increase drift potential.

BOOM LENGTH (AIRCRAFT) AND APPLICATION HEIGHT

- The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.

- **Boom Length (aircraft**) – Using shorter booms decreases drift potential. Boom lengths are expressed as a percentage of an aircraft's wingspan or a helicopter's rotor blade diameter. Shorter boom length and proper positioning can minimize drift caused by wingtip or rotor vortices.
- **Application Height (aircraft**) – Applications made at the lowest height that are consistent with pest control objectives and the safe operation of the aircraft will reduce the potential for spray drift.
- **Application Height (ground)** – Applications made at the lowest height consistent with pest control objectives, and that allow the applicator to keep the boom level with the application site and minimize bounce, will reduce the exposure of spray droplets to evaporation and wind, and reduce spray drift potential.
- **Swath Adjustment** – When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind 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.).

WIND
Drift potential is lowest when applications are made in light to gentle sustained winds (2 to 10 mph) which are blowing in a constant direction. Many factors, including droplet size and equipment type, also determine drift potential at any given wind speed. AVOID GUSTY OR CALM CONDITIONS (<2mph).

Local terrain can also influence wind patterns. Every applicator is expected to be familiar with local wind patterns and how they affect spray drift.

TEMPERATURE AND HUMIDITY
Setting up equipment to produce larger droplets to compensate for droplet evaporation can reduce spray drift potential. Droplet evaporation is most severe when conditions are both hot and dry.

SURFACE TEMPERATURE INVERSIONS
Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which may cause small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Mist or fog may indicate the presence of an inversion in humid areas. Inversions may also be identified by producing smoke and observing its behavior. Smoke that remains close to the ground or moves laterally in a concentrated cloud under low wind conditions indicates a surface inversion. Smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SHIELDED SPRAYERS
Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are minimizing drift potential, 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, that it is configured properly, and that drift potential has been minimized.

Note: Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration. Read the specific crop use and application equipment instructions to determine if an air assisted field crop sprayer can be used.

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.

- Movement of spray that goes beyond the edge of the cultivated area may be minimized by practices such as spraying the outside row only from outside the planting.

SENSITIVE AREAS

Making applications when there is a sustained wind moving away from adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is an effective way to minimize the effects of spray drift.

DRIFT CONTROL ADDITIVES

Using product compatible drift control additives can reduce drift potential. When a drift control additive is used, read and carefully observe cautionary statements and all other information on the additive's label. If using an additive that increases viscosity, ensure that the nozzles and other application equipment will function properly with a viscous spray solution. Preferred drift control additives have been certified by the Council of Producers & Distributors of Agrotechnology.

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
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 1/2 - 3	7 *	48 hrs
	Alfalfa Weevil Larvae	3		
	Variegated Cutworm	3/4 - 3		
	Do not apply to dormant or semidormant alfalfa when min. daily temp. is 50 degrees F. or lower. Do not apply more than 12 pints of LANNATE® LV/acre/year. Do not make more than 10 applications/year. Chemigation – LANNATE® LV may be applied by overhead sprinkler chemigation. For best results, use the highest listed rate of LANNATE® LV. Apply in 0.1 to 0.2 inches of water per acre. See "Chemigation" section for more information. * Do not apply within 7 days of cutting or allowing livestock to graze. When LANNATE® LV is used on alfalfa grown for seed, the seed may not be used for sprouts. All seed from treated crop must be tagged, "Not for Human use" at the processing plant.			
Anise (Fennel)	Cabbage Looper	3	7	48 hrs
	Beet Armyworm	1 1/2 - 3		
	Do not apply more than 15 pints of LANNATE® LV/acre/year. Do not make more than 10 applications/year.			
Apple Ground application only	Apple Aphid Rosy Apple Aphid Tufted Apple Budmoth Green Fruitworm Brown Marmorated Stink Bug ** Tarnished Plant Bug	1 1/2 - 3 *	14	72 hrs
	Codling Moth (10-12 day spray intervals)			
	Leafrollers (Fruittree, Obliquebanded, Redbanded, Variegated) Lesser Appleworm White Apple Leafhopper Tentiform Leafminer Cutworm	3 *		
	Do not use on Early Macintosh & Wealthy varieties. Do not apply more than 15 pints of LANNATE® LV/acre /year. Do not make more than 5 applications/year; minimum interval between treatments is 7 days. * 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.			

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
	Since LANNATE® LV is a fast-acting contact insecticide, best results 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 1/2 - 3	1	48 hrs
	Variegated Cutworm	1 1/2		
	Do not apply more than 15 pints of LANNATE® LV/acre/year. Do not make more than 8 applications/year.			
Avocado	Western Avocado Leafroller Omnivorous Looper	1 1/2 - 3	1	48 hrs
	Do not apply more than 3 pints of LANNATE® LV/acre/year. Do not make more than 2 applications/year.			
Beans (Succulent) Including: Kidney beans Lima beans Mung beans Navy bean Pinto beans Snap beans Wax Beans Broad beans Fava beans Asparagus beans Black-eyed peas Cowpeas Chickpeas Garbanzo beans Sweet lupine White sweet lupine White lupine Grain lupine	Leafhopper Mexican Bean Beetle	3/4 - 3	Succulent Beans 3/4 - 1 1/2 pt. – 1, over 1 1/2 pt. – 3; 3 Vines 7 Hay	48 hrs
	Fall Armyworm Variegated Cutworm	1 1/2		
	Beet Armyworm Corn Earworm Saltmarsh Caterpillar Yellowstriped Armyworm Western Yellowstriped Armyworm Lygus Bugs Thrips Aphids Looper * Brown Marmorated Stink Bug **	1 1/2 - 3		
	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.			
	Spotted Cucumber Beetle	3/4 - 1 1/2		
	Do not apply more than 15 pints of LANNATE® LV/acre /year. Do not make more than 10 applications/year. * 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® LV is a fast-acting contact insecticide, best results follow direct spraying of the target pest. Use sufficient water to obtain thorough, uniform coverage. 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. Chemigation – ONLY in Idaho, Montana, Nevada, Oregon, Utah, and Washington – LANNATE® LV may be applied by overhead sprinkler chemigation for control of beet armyworm, yellowstriped armyworm, western yellowstriped armyworm, saltmarsh caterpillar, aphids, variegated cutworm, and loopers at a rate of 3 pints of product per acre. Use of a wetting agent may improve			

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
	performance. Make sequential applications at 5 to 7 day intervals or until pest populations are brought below threshold. Apply in 0.1 to 0.2 inches of water per acre. See "Chemigation" section for more information.			
Beans (Dry) (Same as Succulent Beans)	(Same as Succulent Beans)	(Same as Succulent Beans)	14 Dry Beans * 14 Vines * 14 Hay *	48 hrs
	Do not apply more than 15 pints of LANNATE® LV/acre /year. Do not make more than 10 applications/year. Do not use for Loopers in AL & GA. * 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® LV is a fast-acting contact insecticide, best results follow direct spraying of the target pest. Use sufficient water to obtain thorough, uniform coverage. 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. Chemigation – ONLY in Idaho, Montana, Nevada, Oregon, Utah, and Washington – LANNATE® LV may be applied by overhead sprinkler chemigation for control of beet armyworm, yellowstriped armyworm, western yellowstriped armyworm, saltmarsh caterpillar, aphids, variegated cutworm, and loopers at a rate of 3 pints of product per acre. Use of a wetting agent may improve performance. Make sequential applications at 5 to 7 day intervals or until pest populations are brought below threshold. Apply in 0.1 to 0.2 inches of water per acre. See "Chemigation" section for more information.			
Beets (Table)	Imported Cabbageworm	3/4 - 3	0 – Roots 10 – Tops	48 hrs
	Beet Armyworm Cabbage Looper Diamondback Moth	1 1/2 - 3		
	Cucumber Beetle Variegated Cutworm	1 1/2		
	Do not apply more than 12 pints of LANNATE® LV/acre/year. Do not make more than 8 applications/year.			
Bermudagrass pasture	Fall Armyworm Armyworm Striped grass Looper	3/4 - 3	7 Forage * 3 Dehydrated Hay **	48 hrs
	Do not apply more than 3 pints of LANNATE® LV/acre/year. Do not make more than 4 applications/year. * 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 1/2	3	48 hrs
	Cranberry Fruitworm * Cherry Fruitworm * Brown Marmorated Stink Bug *† Spotted Wing Drosophila **	1 1/2 - 3		
	Flea Beetle (larvae) Sawfly (larvae)	3		

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
	Blueberry Leafroller			
	Blueberry Maggot	3/4 - 1 1/2		
	Do not apply during bloom. Do not apply more than 12 pints of LANNATE® LV/acre/year. Do not make more than 4 applications/year. * 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® LV is a fast-acting contact insecticide, best results 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 1/2 - 3 **	3	48 hrs
	Imported Cabbageworm	3/4 - 3 **		
	Do not apply more than 21 pints of LANNATE® LV/acre/year. Do not make more than 10 applications/year; minimum interval between treatments is 2 days. ** Add a wetting agent to improve coverage.			
Brussels Sprouts	Loopers Imported Cabbageworm Diamondback Moth	1 1/2 - 3 **	3	48 hrs
	Variegated Cutworm	1 1/2 **		
	Do not apply more than 18 pints of LANNATE® LV/acre/year. Do not make more than 10 applications/year; minimum interval between treatments is 2 days. ** Add a wetting agent to improve coverage.			
Cabbage	Loopers * Diamondback Moth Fall Armyworm	1 1/2 - 3 **	1	48 hrs
	Imported Cabbageworm	3/4 - 3 **		
	Variegated Cutworm	1 1/2 **		
	Do not apply more than 24 pints of LANNATE® LV/acre/year. Do not make more than 15 applications/year; minimum interval between treatments is 2 days. * Do not use for Loopers in AL & GA. ** Add a wetting agent to improve coverage.			
Carrot	Aster Leafhopper Armyworms Beet Armyworm	1 1/2 - 3	1	48 hrs
	Variegated Cutworm	3/4 - 1 1/2		
	Do not apply more than 21 pints of LANNATE® LV/acre/year. Do not make more than 10 applications/year.			
Cauliflower	Imported Cabbageworm	3/4 - 3 **	3	48 hrs
	Loopers Diamondback Moth	1 1/2 - 3 **		
	Variegated Cutworm	1 1/2 **		

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
	Do not apply more than 24 pints of LANNATE® LV/acre/year. Do not make more than 10 applications/year; minimum interval between treatments is 2 days. ** Add a wetting agent to improve coverage.			
Celery	Beet Armyworm Aster Leafhopper	1 1/2 - 3	7	48 hrs
	Loopers	3		
	Variegated Cutworm	1 1/2		
	Armyworms	3/4 - 3		
	Do not apply more than 21 pints of LANNATE® LV/acre/year. Do not make more than 8 applications/year.			
Chicory	Beet Armyworm Variegated Cutworm Leafhoppers	1 1/2 - 3	80	48 hrs
	Do not apply more than 6 pints of LANNATE® LV/acre/year. Do not make more than 2 applications/year.			
Chinese Cabbage (Napa, Bok Choy)	Loopers Beet Armyworm	1 1/2 - 3 *	10	48 hrs
	Do not apply more than 24 pints of LANNATE® LV/acre/year. Do not make more than 10 applications/year. * Minimum of 25 gallons water per acre by ground or 5 gallons by air.			
Collards (Fresh market only)	Diamondback Moth Variegated Cutworm	1 1/2	10	48 hrs
	Imported Cabbageworm Beet Armyworm Loopers *	1 1/2 - 3		
	Do not apply when temp. is less than 50 degrees F. Do not apply when crop is less than 10" tall. Do not apply more than 18 pints of LANNATE® LV/acre/year. Do not make more than 8 applications/year. * 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	3/4 - 1 1/2	21 Ears 3 Forage * 21 Stover *	48 hrs
	Variegated Cutworm Beet Armyworm Brown Marmorated Stink Bug **	1 1/2		
	Do not apply more than 7.5 pints of LANNATE® LV/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. * 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.			

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
	** 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® LV is a fast-acting contact insecticide, best results 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 - 1 1/2	0 Ears 3 Forage 21 Stover	48 hrs
	Fall Armyworm Armyworm Earworm – (Ovicide/Larvicide) European Corn Borer – Ears 1 to 3 days or as needed Corn rootworm (adult beetles) Flea Beetles Picnic Beetles Aphids	3/4 - 1 1/2		
	Variegated Cutworm Beet Armyworm Brown Marmorated Stink Bug *	1 1/2		
	Certain hybrid varieties of sweet corn are susceptible to methomyl injury. Treat a small area to determine crop safety before full scale spraying. Do not apply more than 21 pints of LANNATE® LV/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. * 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® LV is a fast-acting contact insecticide, best results 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.	2/5 - 3/4 (see Insect Predators section)	15	72 hrs
	Cotton Leafworm	3/4 - 1 1/2		
	Cotton Fleahopper (as needed)	2/5 - 3/4		
	Aphids Thrips	3/4		

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
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 1/2		
	(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 load set on plants.	1 1/2 - 2 1/4		
Texas West of Rockies only –	Cotton Aphid **Larvicide for worms:** Bollworm Beet Armyworm Fall Armyworm Tobacco Budworm Lygus Bugs	3/4 - 2 1 1/2 - 2 1/4		
	Cotton Leafperforator	1 - 2 1/4		
	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 6 pints of LANNATE® LV/acre/year. Do not make more than 8 applications/year. Do not graze or feed. Use may redden cotton; if excessive, stop or alternate with other insecticides.			
Cucumber	Loopers Tobacco Budworm Beet Armyworm Yellowstriped Armyworm Granulate Cutworm Flea Beetles Cucumber Beetles Melon Aphid Melonworm Pickleworm Fall Armyworm	1 1/2 - 3	1 1/2 pt. – 1 Over 1 1/2 pt – 3	48 hrs
	Variegated Cutworm	1 1/2		
	Do not apply more than 18 pints of LANNATE® LV/acre/year. Do not make more than 12 applications /year.			
Eggplant	Green Peach Aphid	3/4 - 3	5	48 hrs
	Tomato Pinworm (Ground Application	1 1/2 - 3		

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
	only) Beet Armyworm Corn Earworm			
	Do not apply more than 15 pints of LANNATE® LV/acre/year. Do not make more than 10 applications/year.			
Endive, Escarole	Beet Armyworm	1 1/2 - 3	10	48 hrs
	Do not apply more than 15 pints of LANNATE® LV/acre/year. Do not make more than 8 applications/year.			
Garlic	Beet Armyworm	1 1/2 **	7	48 hrs
	Do not apply more than 9 pints of LANNATE® LV/acre/year. Do not make more than 6 applications/year. ** Add a wetting agent to improve coverage.			
Grapefruit CA, AZ, & HI only	Thrips Fruittree Leafroller Orange Tortrix Western Tussock Moth Beet Armyworm	1 1/2 - 3	1	72 hrs
	Do not apply more than 9 pints of LANNATE® LV/acre/year. Do not make more than 4 applications/year.			
Horseradish Ground application only	Aphids Thrips	1 1/2	65	48 hrs
	Do not apply more than 6 pints of LANNATE® LV/acre/year. Do not make more than 4 applications/year.			
Leafy Green Vegetables: Beet (tops) Dandelions Kale Mustard Greens Parsley Swiss Chard Turnip Greens	Beet Armyworm Cabbage Looper * Diamondback Moth Imported Cabbageworm	1 1/2 - 3	10	48 hrs
	Do not apply more than 12 pints of LANNATE® LV/acre/year. Do not make more than 8 applications/year. * Do not use for Cabbage Looper in AL & GA.			
Lemon CA, AZ, & HI only	Thrips Western Tussock Moth Orange Tortrix Beet Armyworm	1 1/2 - 3	1	72 hrs
	Do not apply more than 9 pints of LANNATE® LV/acre/year. Do not make more than 4 applications/year.			
Lentils	Western Yellowstriped Armyworm	1 1/2 - 3	21	48 hrs
	Do not apply more than 3 pints of LANNATE® LV/acre/year. Do not make more than 2 applications/year.			
Lettuce (head varieties and Leaf varieties)	Alfalfa Looper	3/4 - 3	3/4 -1 1/2 pt. – 7 over 1 1/2 pt. – 10	48 hrs
	Thrips Aphids Beet Armyworm Cabbage Looper Corn Earworm Aster Leafhopper	1 1/2 - 3		
	Variegated Cutworm	1 1/2		
	Lettuce (head varieties): Do not apply more than 21 pints of LANNATE® LV/acre/year. Do not make more than 12 applications/year; minimum interval between			

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
	treatments is 2 days. Lettuce (leaf varieties): Do not apply more than 12 pints of LANNATE® LV/acre/year. Do not make more than 6 applications/year; minimum interval between treatments is 2 days.			
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 1/2 - 3	1 1/2 pt. – 1 day over 1 1/2 pt. – 3 days	48 hrs
	Variegated Cutworm	1 1/2		
	Do not apply more than 18 pints of LANNATE® LV/acre/year. Do not make more than 12 applications/year.			
Mint (Peppermint, Spearmint)	Variegated Cutworm Alfalfa Looper	3	14	48 hrs
	Flea Beetles	2 1/4 - 3		
	Do not apply more than 6 pints of LANNATE® LV/acre/year. Do not make more than 4 applications/year.			
Nectarine CA and AZ only	Thrips Brown Marmorated Stink Bug *	1 1/2 - 3	1	72 hrs
	Do not apply more than 9 pints of LANNATE® LV/acre/year. Do not make more than 3 applications/year. * 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® LV is a fast-acting contact insecticide, best results 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 1/2 - 3 **	7 Green and Dry Bulb Onions	48 hrs
	Thrips * Variegated Cutworm Black Cutworm	3 **		
	Onions, green: Do not apply more than 18 pints of LANNATE® LV/acre/year. Do not make more than 8 applications/year; minimum interval between treatments is 5 days. Onions, dry bulb: Do not apply more than 12 pints of LANNATE® LV/acre/year. Do not make more than 8 applications/year; minimum interval between treatments is 5 days. * Chemigation – LANNATE® LV may be applied by overhead sprinkler chemigation (1 1/2 - 3 pints/ acre) to control thrips. For best results, use the highest listed rate of LANNATE® LV. LANNATE® LV may be applied by drip			

<table>
<tr><th>Crops</th><th>Insects</th><th>Rate
LANNATE® LV
Pts. Per Acre</th><th>Last Application
– Days To Harvest</th><th>REI</th></tr>
<tr><td></td><td colspan="3">irrigation (3 pints/acre) ONLY in Idaho, Nevada, Oregon, Utah, and Washington. Treatments should begin before populations of thrips reach 3-5 thrips per plant. Once thrips populations reach an average of 10 thrips per plant or higher, it is very difficult to achieve satisfactory control with any insecticide program. Make sequential applications at 7 to 10 day intervals. Consider use of products with an alternate mode of action as part of your thrips control program. When using sprinkler irrigation, apply in 0.1 to 0.2 inches of water per acre.
Drip Chemigation in the states of ID, NV, OR, UT, and WA ONLY.
The rate of LANNATE® LV is listed as a broadcast rate. For drip irrigation rates of LANNATE® LV to be applied per 1000 feet, see example in the table below.
<table>
<tr><th>Bed Spacing</th><th>Linear Ft. of Bed to Equal One Acre</th><th>Lannate® LV 3 pt./A Rate per 1000 row Feet</th></tr>
<tr><td>36 inches</td><td>14,520 ft.</td><td>3.3 fl. oz.</td></tr>
<tr><td>48 inches</td><td>10,890 ft.</td><td>4.4 fl. oz.</td></tr>
<tr><td>60 inches</td><td>8,712 ft.</td><td>5.5 fl. oz.</td></tr>
<tr><td>72 inches</td><td>7,260 ft.</td><td>6.6 fl. oz.</td></tr>
</table>
See "Chemigation" section for more information.
** Adda wetting agent to improve coverage.</td><td></td></tr>
<tr><td>Oranges
CA, AZ, & HI only</td><td>Thrips
Western Tussock Moth
Orange Tortrix
Fruittree Leafroller
Beet Armyworm
Citrus Cutworm</td><td>1 1/2 - 3</td><td>1</td><td>72 hrs</td></tr>
<tr><td colspan="4">Do not apply more than 9 pints of LANNATE® LV/acre/year.
Do not make more than 4 applications/year.</td></tr>
<tr><td>Peaches</td><td>Catfacing Insects
(Plant Bugs and Stink Bugs)
– begin at petal fall and continue in cover sprays at 7- to 10-day intervals.
Oriental Fruit Moth *
– begin at petal fall; 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</td><td>3 pt
(or 3/4 pt per 100 gal up to 400 gal per acre)</td><td>4</td><td>4 days</td></tr>
<tr><td>Brown Marmorated Stink Bug **</td><td>1 1/2 - 3</td><td></td><td></td></tr>
<tr><td colspan="4">Do not apply more than 18 pints of LANNATE® LV/acre/year.
Do not make more than 6 applications/year.
* 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® LV is a fast-acting contact insecticide, best results 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.</td></tr>
</table>

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
Peanuts	Corn Earworm * Potato Leafhopper Fall Armyworm	3/4 - 3	21	48 hrs
	Beet Armyworm	1 1/4 - 3		
	Green Cloverworm Velvetbean Caterpillar Cabbage Looper Soybean Looper ** Thrips Granulate Cutworm	1 1/2 - 3		
	Do not apply more than 12 pints of LANNATE® LV/acre/year. Do not make more than 8 applications/year. Do not feed treated vines. * LANNATE® LV 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 1/2 - 3 *	7	48 hrs
	Do not apply more than 6 pints of LANNATE® LV/acre/year. Do not make more than 2 applications/year. * 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® LV is a fast-acting contact insecticide, best results 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 1/2 - 3	1 Peas 5 Forage 14 Hay	48 hrs
	Alfalfa Caterpillar Armyworm Green Cloverworm	3/4 - 3		
	Do not apply more than 9 pints of LANNATE® LV/acre/year. Do not make more than 6 applications/year; minimum interval between treatments is 3 days. * Do not use for Cabbage Looper in AL & GA. Chemigation – ONLY in Idaho, Montana, Nevada, Oregon, Utah, and Washington – LANNATE® LV may be applied by overhead sprinkler chemigation for control of armyworm, beet armyworm, loopers, pea aphid, saltmarsh caterpillar, variegated cutworm, alfalfa caterpillar, and green cloverworm at a rate of 3 pints of product per acre. Use of a wetting agent may improve performance. Make sequential applications at 5 to 7 day intervals or until pest populations are brought below threshold. Apply in 0.1 to 0.2 inches of water per acre. See "Chemigation" section for more information.			
Pecans AL, AR, FL, GA, LA, KY, NC, MS,	Aphids	1 1/2 - 3	30	48 hrs
	Do not apply more than 21 pints of LANNATE® LV/acre/year. Do not make more than 7 applications/year.			

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
SC, TN, VA, and WV				
Peppers Including: Bell Hot Pimentos Sweet	Loopers Beet Armyworm Green Peach Aphid Fall Armyworm Armyworm Brown Marmorated Stink Bug *	1 1/2 - 3	3	48 hrs
	Variegated Cutworm	3/4 - 1 1/2		
	European Corn Borer	3		
	Do not apply more than 12 pints of LANNATE® LV/acre/year. Do not make more than 8 applications/year. * 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® LV is a fast-acting contact insecticide, best results 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	3	14	48 hrs
	Do not apply more than 6 pints of LANNATE® LV/acre/year. Do not make more than 2 applications/year.			
Potato	Tuberworm * Loopers Aphids Beet Armyworm Leafhoppers Fall Armyworm	1 1/2 - 3	6	48 hrs
	Variegated Cutworm Flea Beetles	1 1/2		
	Do not apply more than 15 pints of LANNATE® LV/acre/year. Do not make more than 10 applications/year. Chemigation – LANNATE® LV may be applied by overhead sprinkler chemigation. For best results, use the highest listed rate of LANNATE® LV for the target pests. Apply in 0.1 to 0.2 inches of water per acre. See "Chemigation" section for more information. * Repeat applications of LANNATE® LV on a 5-7 day schedule, or longer as needed, to control tuberworm 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 1/2 *	14 **	48 hrs
	Sorghum Midge - Apply when 50% bloom and 3-5 days later if needed. Fall Armyworm (Budworm) Beet Armyworm Corn Earworm Armyworm	3/4 - 1 1/2 *		
	Do not apply more than 3 pints of LANNATE® LV/acre/year. Do not make more than 2 application/year. * Minimum of 10 gallons per acre by ground or 2 gallons per acre by air.			

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
	** Do not apply within 14 days of feeding forage or cutting for hay.			
Soybeans	Green Cloverworm Velvetbean Caterpillar Mexican Bean Beetle Corn Earworm Light to moderate infestations	2/5 - 3/4 (see Insect Predator section)	14 Soybeans 3 Forage 12 Hay	48 hrs
	Moderate to severe infestations	3/4 - 1 1/2		
	Soybean Aphid	1/2 - 1		
	Beet Armyworm Salt Marsh Caterpillar Bean Leaf Beetle Fall Armyworm Thrips Silver Spotted Skipper Light to moderate infestations	3/4 - 1		
	Moderate to severe infestations	1 - 1 1/2		
	Brown Marmorated Stink Bug *	1 1/2		
	Do not apply more than 4.5 pints of LANNATE® LV/acre/year. Do not make more than 3 applications/year. * 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® LV is a fast-acting contact insecticide, best results 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 1/2 - 3	7	48 hrs
	Variegated Cutworm	1 1/2		
	Do not apply when min. daily temp. is 32 degrees F. or lower. Do not apply to seedlings less than 3" diameter. Do not apply more than 12 pints of LANNATE® LV/acre/year. Do not make more than 8 applications/year.			
Sugar Beet	Beet Webworm Flea Beetles Carrion Beetle Beet Armyworm * Aphids * Western Yellowstriped Armyworm *	3/4 - 3	21 Roots 30 Tops	48 hrs
	Variegated Cutworm	1 1/2		
	Do not apply more than 15 pints of LANNATE® LV/acre/year. Do not make more than 10 applications/year. * Chemigation – LANNATE® LV may be applied by overhead sprinkler chemigation to control beet armyworm, aphids, and western yellowstriped armyworm. For best results, use the highest listed rate of LANNATE® LV. Apply in 0.1 to 0.2 inches of water per acre. See "Chemigation" section for more information.			
Summer Squash * Including: Crookneck	Loopers Tobacco Budworm Beet Armyworm	1 1/2 - 3	1 1/2 pt. – 1 day over 1 1/2 pt. – 3 days	48 hrs

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
squash Straightneck squash Scallop squash Vegetable marrow Spaghetti squash Hyotan Cucuzza Hechima Chinese okra Bitter melon Balsam pear Balsam apple Chinese cucumber	Yellowstriped Armyworm Granulate Cutworm Flea Beetles Cucumber Beetles Melon Aphid Melonworm Pickleworm Fall Armyworm			
	Do not apply more than 18 pints of LANNATE® LV/acre/year. Do not make more than 12 applications/year. * 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 1/2 - 3	1	72 hrs
	Do not apply more than 9 pints of LANNATE® LV/acre/year. Do not make more than 4 applications/year.			
Tobacco (Except shade)	Flea Beetle Hornworm	3/4 - 1 1/2	5 Flue cured 14 Air or fire cured	48 hrs
	Loopers Aphids Tobacco Budworm Fall Armyworm	1 1/2		
	Do not apply more than 7.5 pints of LANNATE® LV/acre/year. Do not make more than 5 applications/year.			
Tomato (Including Tomatillos *)	Tomato Fruitworm Aphids Hornworm Loopers Beet Armyworm Southern Armyworm Pinworm Fall Armyworm Armyworm Brown Marmorated Stink Bug **	1 1/2 - 3	1	48 hrs
	Variegated Cutworm	1 1/2		
	Do not apply more than 21 pints of LANNATE® LV/acre/year. Do not make more than 16 applications/year. * For tomatillos, do not apply more than 15 pints of LANNATE® LV/acre/year. Do not make more than 5 applications/year. ** 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® LV is a fast-acting contact insecticide, best results 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.			

Crops	Insects	Rate LANNATE® LV Pts. Per Acre	Last Application – Days To Harvest	REI
Turf (For use on sod farms only)	Sod Webworm (after application, sprinkle irrigate for 15 minutes)	3 1.1 fl. oz. per 1000 sq. ft.)		48 hrs
	Do not apply more than 12 pints of LANNATE® LV/acre/year. Do not make more than 4 applications/year. Do not graze or feed.			
Wheat ID, OR, and WA only	Armyworms Cereal Leaf Beetle * Aphids **	3/4 -1 1/2	7	48 hrs
	Brown Marmorated Stink Bug ***	1 1/2		
	Do not apply more than 6 pints of LANNATE® LV/acre/year. Do not make more than 4 applications/year. Chemigation – LANNATE® LV may be applied by overhead sprinkler chemigation for control of all pests listed except brown marmorated stink bug. For best results, use the highest listed rate of LANNATE® LV. Apply in 0.1 to 0.2 inches of water per acre. See "Chemigation" section for more information. * Cereal leaf beetle: LANNATE® LV 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 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 the 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® LV is a fast-acting contact insecticide, best results 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.			

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not subject to temperatures below 32 degrees F. Store product in original container only. 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:

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

Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 5 Gallons): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10

seconds after the flow begins to drip. Repeat this procedure two more times. Then, (a) for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning; if burned, stay out of smoke, or (b) for Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers (Capacity Greater Than 5 Gallons): Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, (a) for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning; if burned, stay out of smoke, or (b) for Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down): Nonrefillable container. Do not reuse or refill this container. Pressure rinse as follows: Empty the remaining product contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Insert pressure rinsing nozzle in the container and rinse at about 40 PSI for at least 30 seconds. Drain rinsate for 10 seconds after the flow begins to drip. Pour or pump rinsate into application equipment or rinsate collection system. Then, (a) for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning; if burned, stay out of smoke, or (b) for Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

All Refillable Containers: Refillable container. *Refilling Container*: Refill this container with LANNATE® LV containing methomyl only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. Check for leaks after refilling and before transporting. *Disposing of Container:* Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then, (a) for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning; if burned, stay out of smoke, or (b) for Metal Containers, offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Do not transport if container is damaged or leaking.

If the container is damaged, leaking, or obsolete, or in the event of a major spill, fire, or other emergency, contact CHEMTREC at 1-800-424-9300, day or night.

FOR PUERTO RICO: PESTICIDES MUST BE STORED IN THEIR ORIGINAL CONTAINER; DO NOT REUSE CONTAINER OR STORE CONTENTS IN ANY OTHER CONTAINER.

Notice: Please read the entire label, including the supplemental labeling enclosed. Before buying or using this product, read the Limitation of Warranty and Liability in the supplemental labeling. If the terms are not acceptable, return the product at once, unopened, for a refund of the purchase price.

Notice to Buyer: Purchase of this material does not confer any rights under patents of countries outside of the United States.

LIMITATION OF WARRANTY AND LIABILITY

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