

352-384

5-23-2005

1/23

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460



OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

5/23/05

Pat Devine
Du Pont Crop Protection
Stine-Haskell Research Center
PO Box 30
Newark, DE 19714-0030

Re: Du Pont Lannate LV Insecticide, EPA Reg. # 352-384
label submitted 5/18/05
accepted with comments

Dear Ms. Devine:

The revised labeling reference to above, submitted in connection with the registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable provided you incorporate the following changes required by the Agency:

Section	Action required
Directions for Use General Restrictions	<p>CHANGE the statement "Do not apply this product through any type of irrigation system except as allowed by Federal Supplemental labeling" to the following statement per PR Notice 87-1:</p> <p>"Chemigation: Refer to supplemental or Special Local Need (SLN) labeling for use directions for chemigation. Do not apply this product through any irrigation system unless the supplemental or SLN labeling on chemigation is followed."</p>

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Section	Action required
Supplemental label: onions Directions for Use Uniform Water Distribution	Per PR Notice 87-1, on the second page of the onion supplemental label under "Uniform Water Distribution" change the phrase "variable residues" to read: "... illegal pesticide residues ..."

This label incorporates changes required by the methomyl Reregistration Eligibility Document (RED) published December, 1998; adds potato advisory language; adds a revised tank mix prohibition for strawberries, and adds a supplemental label for chemigation on onions. The EPA approved master label includes both the main crop label plus the onion chemigation supplemental label.

Submit two (2) copies of your final printed labeling incorporating the above changes prior to releasing your product for shipment. If the above provisions are not complied with the registration will be subject to cancellation in accordance with FIFRA Section 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A copy of the label stamped "accepted with comments" is enclosed for your records.

Yours truly,



Thomas C. Harris
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Office of Pesticide Programs
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enclosure

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MASTER



DuPont™ Lannate® LV

insecticide

**ACCEPTED
with COMMENTS
In EPA Letter Dated:
MAY 23 2005**
**Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.
352-384**



“..... A Growing Partnership With Nature”

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DUPONT™ LANNATE® LV HIGHLIGHTS

- LANNATE® LV insecticide is a water soluble liquid containing 2.4 lbs active ingredient per gallon.
- LANNATE® LV is a broad spectrum insecticide registered in a wide range of field, fruit and vegetable crops.
- LANNATE® LV is particularly active on many Lepidopterous pests as an ovicide, larvicide and adulticide.
- LANNATE® LV is primarily a contact insecticide giving rapid knockdown effects on insects. LANNATE® LV also provides short term effects from the ingestion of treated foliage.
- LANNATE® LV's short residual on treated crops allows for short preharvest intervals.
- Consult label text for complete instructions. Always read and follow label directions for use.

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Green & Dry Bulb Onions	(DR-425)

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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.



DuPont™ Lannate® LV

insecticide

Water Soluble Liquid

Contains 2.4 lbs active ingredient per gallon.

<i>Active Ingredient</i>	<i>By Weight</i>
Methomyl (S-methyl-N-[(methylcarbamoyl) oxy]thioacetimidate)	29%
Inert Ingredients	71%
TOTAL	100%

EPA Reg. No. 352-384

EPA Est. No. _____

KEEP OUT OF REACH OF CHILDREN

DANGER



POISON

PELIGRO

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 1-800-441-3637 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.

("PRECAUTIONARY STATEMENTS")
Continued on next page)

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**PRECAUTIONARY STATEMENTS(continued)
HAZARDS TO HUMANS
AND DOMESTIC ANIMALS**

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 DuPont™ 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 1-800-441-3637.

PERSONAL PROTECTIVE EQUIPMENT

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category B on an EPA chemical-resistance category selection chart.

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

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves, such as barrier laminate or butyl rubber.
- 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, such as barrier laminate or butyl rubber.
- Socks and chemical resistant footwear.
- Protective eyewear.
- Chemical resistant apron.

For exposures in enclosed areas, a respirator with either an organic vapor-removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or NIOSH approved respirator with an organic vapor (OV) cartridge or a canister with any R, P, or HE prefilter.

For exposures outdoors, Dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any R, P, or HE prefilter. 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, 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.

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 visiting the treatment area.

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

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

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

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

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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; grapes = 7 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, such as barrier laminate or butyl rubber.
- 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.

Notify workers of the application to grapes by warning them orally and by posting warning signs at entrances to treated areas.

GENERAL RESTRICTIONS

Do not apply this product through any type of irrigation system, except as allowed by Federal Supplemental labeling.

Do not formulate this product into other end-use products without written permission from DuPont.

DuPont™ LANNATE® LV insecticide should be used only in accordance with directions for use on this label or in separate DuPont supplemental labeling.

DuPont will not be responsible for use of the product in a manner not specified by DuPont in the product's labeling and User assumes all risk for such use.

LANNATE® LV is a water soluble liquid to be diluted with water for application by mechanical ground or air equipment only.

Pilot should not assist in the mixing and loading operation.

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 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", "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.

GENERAL INFORMATION

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.

Insect Predators — 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 — 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, the use of this product should conform to resistance management strategies established for the use area. These strategies may include incorporation of cultural and biological control practices, alteration of active classes of insecticides on succeeding generations and targeting the most susceptible life stage. Consult your local agricultural authorities for details.

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

Do not use LANNATE® LV with Bordeaux mixture, "Du Ter" (triphenyltin hydroxide), lime sulfur, "Rayplex" iron nor in highly alkaline solutions. Use mildly alkaline mixtures immediately after mixing to prevent loss of insecticidal activity.

INTEGRATED PEST MANAGEMENT

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

SPRAY PREPARATION

Spray equipment must be clean and free of previous pesticide deposits before applying LANNATE® LV.

Fill spray tank 1/4 to 1/2 full of water. Add LANNATE® LV directly to spray tank. Mix thoroughly. Use mechanical or hydraulic means; do not use air agitation. Spray mix should not be stored overnight in spray tank.

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 DuPont™ 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 grapes, nectarines and strawberries; 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
Barley	Cotton	Potato
Beans	Cucumber	Rye
Broccoli	Lettuce	Soybean
Brussels sprouts	Melons	Spinach
Cabbage	Mint	Sugar beet
Carrot	Oats	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 DRIFT MANAGEMENT

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

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

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

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

AERIAL DRIFT REDUCTION ADVISORY INFORMATION

Importance of Droplet Size

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

Controlling Droplet Size - General Techniques

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

Controlling Droplet Size - Aircraft

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

BOOM HEIGHT

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

WIND

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. AVOID GUSTY OR WINDLESS CONDITIONS.

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

TEMPERATURE AND HUMIDITY

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

TEMPERATURE INVERSIONS

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions.

Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

SENSITIVE AREAS

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

SHIELDED SPRAYERS

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

AIR ASSISTED (AIR BLAST) FIELD CROP SPRAYERS

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

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

AIR ASSISTED (AIR BLAST) TREE AND VINE SPRAYERS

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

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

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

10/23

Crops	Insects	Rate	Last Application - Days To Harvest	REI
		DuPont™ LANNATE® LV Pts. Per Acre		
Alfalfa	Pea Aphid Lygus Bugs Blotch Leafminer Aphids Egyptian Alfalfa Weevil Larvae Loopers Beet Armyworm	1 1/2 - 3	7 *	48 hrs
	Fall Armyworm	1 1/2		
	Alfalfa Weevil Larvae	3		
	Alfalfa Caterpillar Yellowstriped Armyworm Western Yellowstriped Armyworm Armyworm	3/4 - 1 1/2		
	Variegated Cutworm	3/4 - 3		
	Do not apply to dormant or semidormant alfalfa when min. daily temp. is 50° F. or lower. Do not apply more than 3.6 lbs a.i./acre/crop. Do not make more than 10 applications/crop. * Do not apply within 7 days of cutting or allowing livestock to graze.			
Anise (Fennel)	Cabbage Looper	3	7	48 hrs
	Beet Armyworm	1 1/2 - 3		
	Do not apply more than 4.5 lbs a.i./acre/crop. Do not make more than 10 applications/crop.			
Apple Ground application only	Apple Aphid Rosy Apple Aphid Tufted Apple Budmoth Green Fruitworm 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 4.5 lbs a.i./acre /crop. Do not make more than 5 applications/crop; minimum interval between treatments is 7 days. * Apply in a minimum of 50 gallons of water per acre.			
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 4.5 lbs a.i./acre/crop. Do not make more than 8 applications/crop.			
Avocado	Western Avocado Leafroller Omnivorous Looper	1 1/2 - 3	1	48 hrs
	Do not apply more than 0.9 lbs a.i./acre/crop. Do not make more than 2 applications/crop.			
Barley	Armyworms Cereal Leaf Beetle Aphids	3/4 - 1 1/2	7	48 hrs
	Do not apply more than 1.8 lbs a.i./acre/crop. Do not make more than 4 applications/crop.			

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Crops	Insects	Rate	Last Application - Days To Harvest	REI
		DuPont™ LANNATE® LV Pts. Per Acre		
Beans (Succulent) Including: Kidney beans Lima beans Mung beans Navy beans Pinto beans Snap beans Wax Beans Broad beans Fava beans Asparagus beans Blackeyed peas Cowpeas	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	1 1/2 - 3		
	Lygus Bugs Thrips Aphids Loopers *			
	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		
Succulent Beans - Do not apply more than 4.5 lbs a.i./acre /crop. Do not make more than 10 applications/crop. * Do not use for Loopers in AL & GA.				
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 4.5 lbs a.i./acre /crop. Do not make more than 10 application/crop. Do not use for Loopers in AL & GA. * Do not apply within 14 days of cutting.				
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 3.6lbs a.i./acre/crop. Do not make more than 8 applications/crop.			
Bermudagrass pasture	Fall Armyworm Armyworm Striped Grass Looper	3/4 - 3	7 Forage * 3 Dehydrated Hay **	48 hrs
	Do not apply more than 0.9 lbs a.i./acre/crop. Do not make more than 4 applications/crop. * 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 *	1 1/2 - 3		
	Flea Beetle (larvae) Sawfly (larvae) Blueberry Leafroller	3		
	Blueberry Maggot	3/4 - 1 1/2		
	Do not apply during bloom. Do not apply more than 3.6 lbs a.i./acre/crop. Do not make more than 4 applications/crop. * For ground use only.			

12/23

Crops	Insects	Rate	Last Application - Days To Harvest	REI
		DuPont™ LANNATE® LV Pts. Per Acre		
Broccoli	Loopers Diamondback Moth	1 1/2 - 3 **	3	48 hrs
	Imported Cabbageworm	3/4 - 3 **		
	Do not apply more than 6.3 lbs a.i./acre/crop. Do not make more than 10 applications/crop; 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 5.4 lbs a.i./acre/crop. Do not make more than 10 applications/crop; minimum interval between treatments is 2 days ** Add a wetting agent to improve coverage.			
Cabbage	Loopers * Diamondback Moth	1 1/2 - 3 **	1	48 hrs
	Imported Cabbageworm	3/4 - 3 **		
	Fall Armyworm Variegated Cutworm	1 1/2 **		
	Do not apply more than 7.2 lbs a.i./acre/crop. Do not make more than 15 applications/crop; minimum interval between treatments is 2 days * Do not use for Loopers in AL & GA. ** Add a wetting agent to improve coverage.			
Carrot	Beet Armyworm	1 - 3	1	48 hrs
	Aster Leafhopper	1 1/2 - 3		
	Armyworms Variegated Cutworm	3/4 - 1 1/2		
	Do not apply more than 6.3 lbs a.i./acre/crop. Do not make more than 10 applications/crop.			
Cauliflower	Imported Cabbageworm	3/4 - 3 **	3	48 hrs
	Loopers Diamondback Moth	1 1/2 - 3 **		
	Variegated Cutworm	1 1/2 **		
	Do not apply more than 7.2 lbs a.i./acre/crop. Do not make more than 10 applications/crop; 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 - 1 1/2		
	Do not apply more than 7.2 lbs a.i./acre/crop. Do not make more than 10 applications/crop.			
Chicory	Beet Armyworm Variegated Cutworm Leafhoppers	1 1/2 - 3	80	48 hrs
	Do not apply more than 1.8 lbs a.i./acre/crop. Do not make more than 2 applications/crop.			
Chinese Cabbage	Loopers Beet Armyworm	1 1/2 - 3 *	10	48 hrs
	Do not apply more than 7.2 lbs. a.i./acre/crop. Do not make more than 10 applications/crop. * Minimum of 25 gallons water per acre by ground or 5 gallons by air.			

13/23

Crops	Insects	Rate	Last Application - Days To Harvest	REI
		DuPont™ LANNATE® LV Pts. Per Acre		
Collards (Fresh market only)	Loopers * Diamondback Moth Variegated Cutworm	1 1/2	10	48 hrs
	Imported Cabbageworm Beet Armyworm	1 1/2 - 3		
	Do not apply when temp. is less than 50° F. Do not apply when crop is less than 10" tall. Do not apply more than 5.4 lbs. a.i./acre/crop. Do not make more than 8 applications/crop. * Do not use for Loopers in AL & GA.			
Corn (Field & Popcorn)	Earworm Armyworm Fall Armyworm Corn Rootworm (adult beetles) Flea Beetles Picnic Beetles Aphids	3/4 - 1 1/2	21 Ears 3 Forage 21 Fodder	48 hrs
	Variegated Cutworm Beet Armyworm	1 1/2		
	Do not apply more than 2.25 lbs. a.i./acre/crop. Do not make more than 10 applications/crop.			
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 - 3 days or as needed Corn Rootworm (adult beetles) Flea Beetles Picnic Beetles Aphids	3/4 - 1 1/2		
	Variegated Cutworm Beet Armyworm	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 6.3 lbs a.i./acre/crop. Do not make more than 28 applications/crop; minimum interval between treatments is 1 day.			
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 (adults and nymphs) Start treatment on low level population for suppression.	2/5 - 3/4 (see Predators)	15	72 hrs
	Cotton Leafworm	3/4 - 1 1/2		
	Cotton Fleahopper (as needed)	2/5 - 3/4		
	Aphids, Thrips	3/4		
East of Rockies only -- (continued on next page)	(Early Season) Bollworm Tobacco Budworm Beet Armyworm Cotton Leafperforator Fall Armyworm Lygus Bugs (adults and nymphs) Use as occasional spray in regular schedule but not more often than every 10 days.	1 1/2		

14/23

Crops	Insects	Rate	Last Application - Days To Harvest	REI
		DuPont™ LANNATE® LV Pts. Per Acre		
Cotton (continued) East of Rockies only --	(Late Season) Bollworm Tobacco Budworm Beet Armyworm Cotton Leafperforator Fall Armyworm Lygus Bugs (adult and nymphs) Up to 3 applications at 3-5 day intervals after desired boll load set on plants.	1 1/2	15	72 hrs
	Texas Cotton Aphid	3/4 - 2		
West of Rockies only--	Larvicide for worms: Bollworm Fall Armyworm Tobacco Budworm Lygus Bugs	1 1/2 - 2 1/4		
	Beet Armyworm	1 - 1 1/2		
	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 cotton applications: Do not apply more than 1.8 lbs a.i./acre/crop. Do not make more than 8 applications/crop . 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	1 1/2 - 3	1 1/2 pt. -- 1 Over 1 1/2 pt.--3	48 hrs
	Fall Armyworm Variegated Cutworm	1 1/2		
	Do not apply more than 5.4 lbs a.i./acre/crop. Do not make more than 12 applications /crop.			
Eggplant	Green Peach Aphid	3/4 - 3	5	48 hrs
	Tomato Pinworm (Ground Application Only) Beet Armyworm Corn Earworm	1 1/2 - 3		
	Do not apply more than 4.5 lbs a.i./acre/crop. Do not make more than 10 applications/crop.			
Endive, Escarole	Beet Armyworm	1 1/2 - 3	10	48 hrs
	Do not apply more than 4.5 lbs a.i./acre/crop. Do not make more than 8 applications/crop.			
Garlic	Beet Armyworm	1 1/2 **	7	48 hrs
	Do not apply more than 2.7 lbs a.i./acre/crop. Do not make more than 6 applications/crop. ** Add a wetting agent to improve coverage.			
Grapefruit CA, AZ & HI only	Thrips Fruitree Leafroller Orange Tortrix Western Tussock Moth Beet Armyworm	1 1/2 - 3	1	72 hrs
	Do not apply more than 2.7 lbs a.i./acre/crop. Do not make more than 4 applications/crop.			

15/23

Crops	Insects	Rate	Last Application - Days To Harvest	REI
		DuPont™ LANNATE® LV Pts. Per Acre		
Grapes East of Rockies only --	Grape Berry Moth (apply pre- & post-bloom & repeat at 10-14 day intervals or as needed)	1 1/2 - 3	1 Fresh & Raisin 14 Wine Grapes	7 days
	Leafhoppers			
	U.S. -- Omnivorous Leafroller, Grape Leafroller Orange Tortrix			
	West of Rockies only-- Saltmarsh Caterpillar Leafhoppers *			
CA only --	Climbing Cutworm (Treat infestation and repeat at 7-14 day intervals as needed)	3		
	Grape Leaf Skeletonizer *	1 1/2 - 3		
	Thrips	1 1/2 - 3		
		Do not apply more than 4.5 lbs a.i./acre/crop. Do not make more than 5 applications/crop. * Leafhoppers & Grape Leaf Skeletonizer (Ground Application Only).		
Horseradish Ground application only	Aphids	1 1/2	65	48 hrs
	Thrips			
		Do not apply more than 1.8 lbs a.i./acre/crop. Do not make more than 4 applications/crop.		
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 3.6lbs a.i./acre/crop. Do not make more than 8 applications/crop. * Do not use for Cabbage Looper in AL & GA.			
Lemon CA, AZ & HI only	Thrips	1 1/2 - 3	1	72 hrs
	Western Tussock Moth Orange Tortrix Beet Armyworm			
		Do not apply more than 2.7 lbs a.i./acre/crop. Do not make more than 4 applications/crop.		
Lentils	Western Yellowstriped Armyworm	1 1/2 - 3	21	48 hrs
	Do not apply more than 0.9 lbs a.i./acre/crop. Do not make more than 2 applications/crop.			
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	1 1/2 - 3		
	Aphids Beet Armyworm Cabbage Looper Corn Earworm Aster Leafhopper			
	Variegated Cutworm	1 1/2		
	Lettuce(head varieties) Do not apply more than 7.2 lbs a.i./acre/crop. Do not make more than 15 applications/crop; minimum interval between treatments is 2 days. Lettuce(leaf varieties) Do not apply more than 3.6 lbs a.i./acre/crop. Do not make more than 8 applications/crop; minimum interval between treatments is 2 days.			

16/23

Crops	Insects	Rate	Last Application - Days To Harvest	REI
		DuPont™ LANNATE® LV Pts. Per Acre		
Melons Including: Canteloupe 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	1 1/2 - 3	1 1/2 pt. -- 1 day over 1 1/2 pt. -- 3 days	48 hrs
	Fall Armyworm Variegated Cutworm	1 1/2		
	Do not apply more than 5.4 lbs a.i./acre/crop. Do not make more than 12 applications/crop.			
Mint (Peppermint, Spearmint)	Variegated Cutworm Alfalfa Looper	3	14	48 hrs
	Flea Beetles	2 1/4 - 3		
	Do not apply more than 1.8 lbs a.i./acre/crop. Do not make more than 4 applications/crop.			
Nectarine CA & AZ only	Thrips	1 1/2 - 3	1	72 hrs
	Do not apply more than 2.7 lbs a.i./acre/crop. Do not make more than 3 applications/crop.			
Oats	Armyworms Cereal Leaf Beetle Aphids	3/4 - 1 1/2	7	48 hrs
	Do not apply more than 1.8 lbs a.i./acre/crop. Do not make more than 4 applications/crop.			
Onions (Green & Dry Bulb)	Beet Armyworm	1 1/2 - 3 **	7 Green and Dry Bulb Onions	48 hrs
	Thrips	3 **		
	Variegated Cutworm Black Cutworm			
	Onions, green Do not apply more than 5.4 lbs a.i./acre/crop. Do not make more than 8 applications/crop; minimum interval between treatments is 5 days. Onions, dry bulb Do not apply more than 3.6 lbs a.i./acre/crop. Do not make more than 8 applications/crop; minimum interval between treatments is 5 days. ** Add a wetting agent to improve coverage.			
Oranges CA, AZ & HI only	Thrips Western Tussock Moth Orange Tortrix Fruittree Leafroller Beet Armyworm Citrus Cutworm	1 1/2 - 3	1	72 hrs
	Do not apply more than 2.7 lbs a.i./acre/crop. Do not make more than 4 applications/crop.			
Peaches	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	3 pt (or 3/4 pt per 100 gal up to 400 gal per acre)	4	4 days
	Do not apply more than 5.4 lbs a.i./acre/crop. Do not make more than 6 applications/crop. * Oriental Fruit Moth (Ground Application Only).			

17/23

Crops	Insects	Rate	Last Application - Days To Harvest	REI
		DuPont™ LANNATE® LV Pts. Per Acre		
Peanuts	Corn Earworm *	3/4 - 3	21	48 hrs
	Potato Leafhopper			
	Fall Armyworm	3/4 - 1 1/2		
	Beet Armyworm	1 1/4 - 3		
	Green Cloverworm	1 1/2 - 3		
	Velvetbean Caterpillar			
	Cabbage Looper			
Soybean Looper **				
Thrips				
Granulate Cutworm				
Do not apply more than 3.6 lbs a.i./acre/crop. Do not make more than 8 applications/crop. 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 Northeast only	Green Fruitworm	1 1/2 - 3 *	7	48 hrs
	Obliquebanded Leafroller			
Do not apply more than 1.8 lbs a.i./acre/crop. Do not make more than 2 applications/crop. * Apply in a minimum of 50 gallons of water per acre.				
Peas (succulent) Including: Pigeon peas Chick peas Garbanzo beans Dwarf peas Garden peas Green peas English Peas Field peas Edible pod peas	Armyworm	3/4 - 1 1/2	1 Peas 5 Forage 14 Hay	48 hrs
	Green Cloverworm			
	Alfalfa Looper	1 1/2 - 3		
	Cabbage Looper *			
	Pea Aphid			
	Beet Armyworm			
	Saltmarsh Caterpillar	3/4 - 3		
Variegated Cutworm				
Alfalfa Caterpillar				
Do not apply more than 2.7 lbs a.i./acre/crop. Do not make more than 6 applications/crop; minimum interval between treatments is 3 days. * Do not use for Cabbage Looper in AL & GA.				
Pecans Southeast only	Aphids	1 1/2 - 3	30	48 hrs
	Do not apply more than 6.3 lbs a.i./acre/crop. Do not make more than 7 applications/crop.			
Peppers Including: Bell Hot Pimentos Sweet	Fall Armyworm	1 1/2	3	48 hrs
	Loopers	1 1/2 - 3		
	Beet Armyworm			
	Green Peach Aphid			
	Armyworm	3/4 - 1 1/2		
Variegated Cutworm				
European Corn Borer	3			
Do not apply more than 4.5 lbs a.i./acre/crop. Do not make more than 10 applications/crop.				
Pomegranates	Omnivorous Leafroller	3	14	48 hrs
	Do not apply more than 1.8 lbs a.i./acre/crop. Do not make more than 2 applications/crop.			
Potato	Tuberworm*	1 1/2 - 3	6	48 hrs
	Loopers			
	Aphids			
	Beet Armyworm			
Leafhoppers	1 1/2			
Variegated Cutworm				
Fall Armyworm				
Flea Beetles				
Do not apply more than 4.5 lbs a.i./acre/crop. Do not make more than 10 applications/crop. * 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.				

18/23

Crops	Insects	Rate	Last Application - Days To Harvest	REI	
		DuPont™ LANNATE® LV Pts. Per Acre			
Rye	Armyworms Cereal Leaf Beetle Aphids	3/4 - 1 1/2	7	48 hrs	
	Do not apply more than 1.8 lbs a.i./acre/crop. Do not make more than 4 applications/crop.				
Sorghum (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 0.9 lbs a.i./acre/crop. Do not make more than 2 application/crop. * Minimum of 10 gallons per acre by ground or 2 gallons per acre by air. ** Do not apply within 14 days of feeding forage or cutting for hay.				
Soybeans	Light to moderate infestations	2/5 - 3/4	14 Soybeans 3 Forage 12 Hay	48 hrs	
	Green Cloverworm Velvetbean Caterpillar Mexican Bean Beetle Corn Earworm	(see Predators)			
	Moderate to severe infestations	3/4 - 1 1/2			
	Light to moderate infestations	3/4 - 1			
	Beet Armyworm Salt Marsh Caterpillar Bean Leaf Beetle Fall Armyworm Thrips Silver Spotted Skipper				
	Moderate to severe infestations	1 - 1 1/2			
	Do not apply more than 1.35 lbs a.i./acre/crop. Do not make more than 3 applications/crop.				
Spinach	Alfalfa Loopers Cabbage Looper Beet Armyworm	1 1/2 - 3	7	48 hrs	
	Fall Armyworm Variegated Cutworm	1 1/2			
	Do not apply when min. daily temp. is 32° F. or lower. Do not apply to seedlings less than 3" diameter. Do not apply more than 3.6 lbs a.i./acre/crop. Do not make more than 8 applications/crop.				
Strawberry	Beet Armyworm Thrips Aphids	1 1/2 - 3	3 - Fresh Fruit 10 - Processing Fruit	48 hrs	
	Lygus Bugs Omnivorous Leaf Tiers	3			
	Armyworms	2 1/4 - 3			
	Do not apply more than 4.5 lbs a.i./acre/crop. Do not make more than 10 applications/crop. Do not tank mix LANNATE® with surfactants and/or adjuvants.				
Sugar Beet	Beet Webworm Flea Beetles Carrion Beetles 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 4.5 lbs a.i./acre/crop. Do not make more than 10 applications/crop.				

19/23

Crops	Insects	Rate	Last Application - Days To Harvest	REI
		DuPont™ LANNATE® LV Pts. Per Acre		
Summer Squash * Including: Crookneck squash Straightneck squash Scallop squash Vegetable marrow Spaghetti squash Hyotan Cucuzza Hechima Chinese okra Bitter melon Balsam pear Balsam apple Chinese 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 day over 1 1/2 pt. - 3 days	48 hrs
	Do not apply more than 5.4 lbs a.i./acre/crop. Do not make more than 12 applications/crop. * 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 2.7 lbs a.i./acre/crop. Do not make more than 4 applications/crop.			
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 2.25 lbs a.i./acre/crop. Do not make more than 5 applications/crop.			
Tomato (Including Tomatillos *)	Tomato Fruitworm Aphids Hornworm Loopers Beet Armyworm Southern Armyworm Pinworm	1 1/2 - 3	1	48 hrs
	Fall Armyworm Variegated Cutworm	1 1/2		
	Armyworm	3/4 - 1 1/2		
	Do not apply more than 6.3 lbs a.i./acre/crop. Do not make more than 16 applications/crop. * Do not apply more than 4.5 lbs a.i./acre/crop. Do not make more than 5 applications/crop.			
Turf (For use on sod farms only)	Sod Webworm (after application, sprinkle irrigate for 15 minutes)	3 (1.1 fl. ozs. per 1000 sq. ft.)		48 hrs
	Do not apply more than 3.6 lbs a.i./acre/crop. Do not make more than 4 applications/crop. Do not graze or feed.			
Wheat	Armyworms Cereal Leaf Beetle Aphids	3/4 - 1 1/2	7	48 hrs
	Do not apply more than 1.8 lbs a.i./acre/crop. Do not make more than 4 applications/crop.			

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STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not subject to temperatures below 32 Deg. F. Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not for use or storage in or around the home.

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

CONTAINER DISPOSAL: For Metal Containers (non aerosol): Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. **For Plastic Containers:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

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LIMITATION OF

WARRANTY AND LIABILITY

NOTICE: Read This Limitation of Warranty and Liability Before Buying or Using This Product. If the Terms Are Not Acceptable, Return the Product at Once, Unopened, and the Purchase Price Will Be Refunded.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of DuPont. These risks can cause: ineffectiveness of the product; crop injury, or; injury to non-target crops or plants.

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DuPont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

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For product information call: 1-888-6-DUPONT

Internet address: <http://cropprotection.dupont.com/>

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SUPPLEMENTAL LABELING

**DuPont Crop
Protection**

**DUPONT™ LANNATE® LV
INSECTICIDE
GREEN AND DRY BULB ONIONS**

DUPONT™ LANNATE® LV INSECTICIDE

EPA Reg. No. 352-384

FOR USE ON GREEN AND DRY BULB ONIONS VIA OVERHEAD SPRINKLER IRRIGATION IN THE STATES OF WASHINGTON, OREGON, AND IDAHO

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.

DIRECTIONS FOR USE

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

IMPORTANT

BEFORE USING LANNATE® LV, READ AND FOLLOW ALL APPLICABLE DIRECTIONS; RESTRICTIONS; AND PRECAUTIONS ON THE EPA-REGISTERED LABEL.

This bulletin contains new or supplemental instructions for use of these products in combination which does not appear on the package label. Follow the instructions carefully.

This labeling must be in the possession of the user at the time of pesticide application.

General 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.

Application Information, Rates and Timing

DuPont™ LANNATE® LV is recommended for control of thrips in green and dry bulb onions at the rate of 3 pints of product per acre applied through overhead sprinkler irrigation systems. Apply LANNATE® LV in 0.1 to 0.2 inches of water per acre.

Use of a wetting agent may improve performance. Make sequential applications at 5 to 7 day intervals or until thrips populations are brought below threshold. Do not apply more than 12 pints (3.6 lbs a.i.) LANNATE® LV per crop to dry bulb onions. Do not apply more than 18 pints (5.4 lbs a.i.) LANNATE® LV per crop to green onions. Make the last application of LANNATE® LV at least 7 days before harvest.

Instructions for the Use of LANNATE® LV in Overhead Sprinkler Chemigation Systems.

Types of Irrigation Systems:

LANNATE® LV may be applied through overhead sprinkler

irrigation systems for control of thrips in green and dry bulb onions. The irrigation system used must provide uniform water distribution. Do not use filter screens smaller than 50 mesh throughout the system, due to possible build up of material on 100 mesh or smaller screens. Do not apply LANNATE® LV through any other type of irrigation systems.

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

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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 insure 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 spray solution is in the range of neutral to slightly acidic.

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.

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 variable residues in or on the crop being treated. Ensure the irrigation system is calibrated to uniformly distribute the chemigation application to the crop. Contact the equipment manufacturer, the local University Extension agent or other experts if you have questions about achieving uniform distribution of the application.

Equipment calibration

Calibrate the irrigation system and injector before applying LANNATE® 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

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symbol at least 8 inches in diameter containing the word "STOP". Below the symbol shall be the words "PESTICIDE IN IRRIGATED WATER".

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

Operation

Start the water pump and sprinkler, and let the system achieve the desired pressure and speed before starting the injector. Start the injector and calibrate the injection system according to the directions above. This procedure is necessary to deliver the desired rate per acre in a uniform manner. 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 and system safety devices be plugged to prevent contamination of these areas.

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

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

Cleaning the System

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

Read the Limitation of Warranty and Liability on the Section 3 Federal product label before buying or using LANNATE® LV Insecticide. If terms are not acceptable, return the unopened package at once to Seller for full refund of purchase price paid. Otherwise, use by Buyer or any other User constitutes acceptance of the terms of the limitation of Warranty and Liability on the Section 3 Federal product label.

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