

FEB 16 1993

Dr. Charles S. Baer
 E. I. du Pont de Nemours & Co.
 Barley Mill Plaza, Walker's Mill Building
 P. O. Box 80038
 Wilmington, DE 19880-0038

Dear Dr. Baer:

**Subject: Final Printed Label and Data Citations for Acute Testing
 Du Pont Lannate Insecticide Water Soluble Powder
 EPA Reg. No. 352-342
 Your submission dated October 23, 1992**

We have completed review of the subject submission and our comments are listed below:

1. We have reviewed the battery of acute studies cited by you to support registration of this product. The acute toxicity profile for this product is currently as follows:

| <u>Study</u> | <u>Toxicity Category</u> |
|---------------------------|--------------------------|
| Acute Oral Toxicity | I |
| Acute Dermal Toxicity | III |
| Acute Inhalation Toxicity | II |
| Primary Eye Irritation | I |
| Primary Dermal Irritation | IV |
| Dermal Sensitization | Not a sensitizer |

2. Refer to enclosed review from our Precautionary Review Section for details. Based on reviewed data, the following changes should be made in precautionary labeling:

a. Change "Wash thoroughly after....." to "Wash thoroughly after handling and before eating, drinking, or smoking. Remove contaminated clothing and wash before reuse."

b. Since this product is placed in toxicity category I for eye irritation, the Statement of Practical Treatment for this exposure route should be more prominent, in a separate paragraph, and not appended to the skin irritation Statement.

c. Change "unconscious person" to "unconscious or convulsing person" in Statement of Practical Treatment for acute oral exposure.

d. Last sentence in the Statement of Practical Treatment for inhalation exposure should be changed to "Get medical attention".

These changes may be made at the time of next label printing.

3. Revision in the reentry interval statement as proposed by you is acceptable. Please be advised that further label amendments may be necessary as required by the Worker Protection Standard.

A stamped copy of the label is enclosed for your records.

Sincerely,

DHE

Dennis H. Edwards, Jr.
Product Manager 19
Insecticide & Rodenticide Branch
Registration Division (H7505C)

RESTRICTED USE PESTICIDE

Due to High Acute Toxicity to Humans. For retail sale to and use only by certified applicator or persons under their direct supervision and only for those uses covered by the certified applicator's certification. Direct supervision for this product is defined as the certified applicator being physically present during application, mixing, loading, repair and cleaning of application equipment. Commercial certified applicators must also ensure that all persons involved in these activities are informed of the precautionary statements.

REGISTRATION CODE 0792-000

PACKAGE SIZE
24 - 6 OUNCE POUCHES/CARTON
6 - 2 POUND POUCHES/CARTON
2 - 10 POUND BAGS/CARTON



LANNATE®

INSECTICIDE

WATER SOLUBLE POWDER

INGREDIENT STATEMENT:
ACTIVE INGREDIENTS

Methomyl(S-methyl-N-[(methylcarbamoyloxy]thioacetimidate).....90%

INERT INGREDIENTS.....10%

TOTAL ACCEPTED
100%
with COMMENTS
to EPA Letter Dated

EPA Reg. No. 352-342

KEEP OUT OF REACH OF CHILDREN

DANGER  POISON

FEB 16 1993

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

352-342

PELIGRO PRECAUCION AL USUARIO: Si usted no lee ingles, no use este producto hasta que la etiqueta haya sido explicada en su idioma.

STATEMENT OF PRACTICAL TREATMENT

If swallowed: Call a physician or Poison Control Center. 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 inhaled: Remove from exposure and have patient lie down and keep quiet. If patient is not breathing, start artificial respiration immediately. Never give anything by mouth to an unconscious person. Call a physician if necessary.

In case of contact, wash skin with plenty of soap and water for eyes, flush with water for 15 minutes and call a physician or poison control center immediately; remove and wash contaminated clothing before re-use.

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

If warning symptoms appear (see WARNING SYMPTOMS), get medical attention.

For medical emergencies involving this product, call toll free 1-800-441-3637.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER  POISON

DANGER - FATAL IF SWALLOWED. MAY BE FATAL IF INHALED OR ABSORBED THROUGH EYES. ✓

Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. When mixing spray, loading, applying, or otherwise handling, wear protective clothing, goggles, and a mask or respirator jointly approved by the Mine Safety and Health Administration (formerly the U.S. Bureau of Mines) and by the National Institute for Occupational Safety and Health. Wear clean clothes daily. Wash thoroughly after handling and before eating or smoking. Pilot should not assist in the mixing and loading operation. *contains clothing*

Do not apply this product in such a manner as to directly or through drift expose workers, other persons or animals. The area being treated must be vacated by unprotected persons. *drinking*

(continued on next page)

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PRECAUTIONARY STATEMENTS (continued)

WARNING 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.

NOTE TO PHYSICIAN

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" alone. However, for exposure to combinations of "Lannate" 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.

ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish and wildlife. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

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.

PHYSICAL AND CHEMICAL HAZARDS

Keep container closed. Use with adequate ventilation.

GENERAL INFORMATION

Scouting — Monitoring insect populations to determine whether or not there is a need for application of "Lannate" is recommended. More than one treatment of "Lannate" may be required to control a population of pests.

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

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" 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.

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

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

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

DIRECTIONS FOR USE

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

Du Pont "Lannate" Insecticide should be used only in accordance with recommendations on this label, or in separate published Du Pont recommendations available through local dealers.

Du Pont will not be responsible for losses or damages resulting from use of this product in any manner not specifically recommended by Du Pont. User assumes all risks associated with such non-recommended use. "Lannate" is a dry powder to be dissolved in water for application by ground or air equipment. Use only in commercial and farm plantings; do not use in home plantings.

Reentry into treated areas is prohibited for the following time periods after the end of application, unless personal protective clothing and equipment specified on this label for early reentry are worn; because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information: seven days for grapes; four days for peaches; three days for cotton, nectarines, citrus and apples; two days for corn; and one day for all other crops and use sites. For early reentry before sprays have dried or dusts have settled, wear a long-sleeved shirt, long-legged pants, shoes and socks, chemical resistant gloves, face shield or goggles, and NIOSH or MSHA approved respirator. For early reentry after sprays have dried or dusts have settled, all the above except the respirator must be worn.

Refer also to use rate table for specific reentry interval (REI) for each crop.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by workers. Written (or

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oral) warnings must include the following information: "DANGER—POISON. Area treated with "Lannate" on (date of application). Do not enter treated areas without appropriate protective clothing until after specified reentry period expires. If warnings symptoms appear, refer to Statement of Practical Treatment on front of "Lannate" label and seek medical attention at once."

PERSONAL PROTECTIVE EQUIPMENT

USE ONLY WHEN WEARING THE FOLLOWING PERSONAL PROTECTIVE EQUIPMENT DURING MIXING/LOADING, APPLICATION, REPAIRING AND CLEANING OF MIXING, LOADING, AND APPLICATION EQUIPMENT, AND DISPOSAL OF THE PESTICIDE: long-sleeve shirt; long-legged pants; shoes and socks, chemical resistant gloves; face shield or goggles; NIOSH or MSHA approved respirator. During equipment repair and cleaning, the respirator need not be worn.

IF APPLICATION IS PERFORMED USING AN ENCLOSED CAB OR COCKPIT, THE FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT MAY BE WORN AS AN ALTERNATIVE; long-sleeve shirt and long-legged pants; shoes and socks. All other protective clothing and equipment required for use during application must be available in the cab and must be worn when exiting the cab into treated area. When used for this purpose, contaminated clothing may not be brought back into the cab unless in an enclosure such as a plastic bag.

IMPORTANT! If pesticide comes in contact with skin, wash off with soap and water and contact a physician immediately. ALWAYS WASH HANDS, FACE, AND ARMS WITH SOAP AND WATER BEFORE USING TOBACCO PRODUCTS, EATING, DRINKING, OR TOILETING.

AFTER WORK: Before removing gloves, wash them with soap and water. Take off all work clothes and shoes. Shower using soap and water. Wear only clean clothes when leaving job—do not wear contaminated clothing. Personal clothing worn during work must be stored and laundered separately from protective clothing and household articles. Store protective clothing separately from personal clothing. Clean or launder protective clothing after each use. Respirators must be cleaned and filters replaced according to instructions included with the respirators. Protective clothing and protective equipment heavily contaminated or drenched with methomyl must be destroyed according to state and local regulations. HEAVILY CONTAMINATED OR DRENCHED CLOTHING CANNOT BE ADEQUATELY DECONTAMINATED.

DURING AERIAL APPLICATION, HUMAN FLAGGERS ARE PROHIBITED, EXCEPT WHEN IN AN ENCLOSED VEHICLE OR WEARING THE PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT REQUIRED FOR THE APPLICATOR. PILOT SHOULD NOT ASSIST IN THE MIXING AND LOADING OPERATION.

SPRAY PREPARATION

Fill spray tank 1/4 to 1/2 full of water. Add "Lannate" directly to spray tank. Mix thoroughly to fully dissolve the insecticide; once dissolved continued agitation is not required. Use mechanical or hydraulic means; do not use air agitation. Be sure the soluble packet is completely dissolved before adding any other ingredients. Spray mix should not be stored overnight in spray tank.

Do not apply this product through any type of irrigation system.

APPLICATION

Apply at the recommended rates when insects first appear. Unless otherwise noted, continue application at 5- to 7-day intervals or as needed. Use sufficient water to obtain thorough coverage. Since "Lannate" is a fast acting contact insecticide, best results follow direct spraying of the target insect. This can be accomplished with fine spray droplets at low volume.

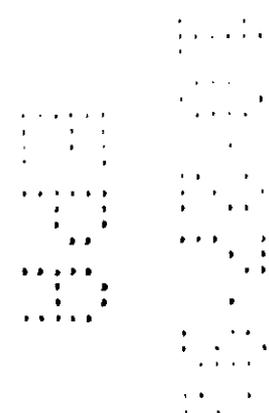
For aerial, use a minimum of 2 gals. per acre (gpa) except 10 gpa for grapes, nectarines and strawberries; 15 gpa for oranges, lemons, grapefruit, tangelos and tangerines.

For certain crops a minimum of 1 gallon per acre may be used providing the following conditions are met:

- equipment is capable of delivering small spray droplets to insure thorough coverage,
- 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:

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

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.



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| Crops | Insects | RATES "Lannate" LBS. Per Acre | LAST APPLICATION-DAYS | | |
|---|---|---|---|-------------------------------------|---------------|
| | | | To Harvest | To Livestock Grazing/ Feeding | REI (DAYS) |
| Alfalfa (Do not apply to dormant or semi-dormant alfalfa when min. daily temp. is 50 ° F. or lower.) | Pee Aphid, Lygus Bugs, Blotch Leafminer, Aphids, Egyptian Alfalfa Weevil Larvae | 1/2 -1 | | 7 | 1 |
| | Fall Armyworm | 1/2 | | | |
| | Alfalfa Weevil Larvae | 1 | | | |
| | Loopers, Yellowstriped Armyworm, Western Yellowstriped Armyworm, Armyworm | 1/4-1/2 | | | |
| | Variagated Cutworm, Beet Armyworm | 1/4-1 | | | |
| | Alfalfa Caterpillar | 1/4-1/2 | | | |
| Anise (Fennel) | Cabbage Looper | 1 | 7 | | 1 |
| | Beet Armyworm | 1/2-1 | | | |
| Apple (Do not use on Early Macintosh & Wealthy varieties) **G Do not apply more than 7 1/2 lbs product per year, nor make more than 5 applications per season. | Apple Aphid, Rosy Apple Aphid, Tufted Apple Budmoth, Green Fruitworm, Tarnished Plant Bug, | 1/2- 1 1/2 (Apply minimum of 50 gal water/A) | 8 | 10 | 3 |
| | Codling Moth (10-12 day intervals) | | | | |
| | Leafrollers (Fruitree, Obliquebanded, Redbanded, Variagated), Lesser Appleworm, White Apple Leafhopper, Tentiform Leafminer, Cutworm | 1 1/2 (Apply minimum of 50 gal water/A) | | | |
| Asparagus | Beet Armyworm, Western Yellowstriped Armyworm, Asparagus Beetle, Spotted Asparagus Beetle, White Cutworm, Redbacked Cutworm | 1/2-1 | 1 | | 1 |
| | Variagated Cutworm | 1/2 | | | |
| Avocado | Avocado Looper, Avocado Leafroller, Omniverous Leafroller | 1/2-1 | 1 | 10 | 1 |
| Barley | Armyworms, Cereal Leaf Beetle, Aphids | 1/4-1/2 | 7 | 10 | 1 |
| Beans (Includes Blackeyed Peas & Cowpeas) | Leafhopper, Mexican Bean Beetle | 1/4-1 | Succulent Beans 1/4-1/2 lb. -1, over 1/2 lb. -3; Dry Beans-25 | 3 Vines | 1 |
| | Fall Armyworm, Variagated Cutworm | 1/2 | | 7 Hay | |
| | Beet Armyworm, Loopers, Corn Earworm, Saltmarsh Caterpillar, Yellowstriped Armyworm, Western Yellowstriped Armyworm, Lygus Bugs, Thrips, Aphids | 1/2-1 | | | |
| | European Corn Borer*** - initiate when moth flights first appear and continue preventive treatments at 3-4 day intervals to control eggs and larvae | | | | |
| | Spotted Cucumber Beetle | 1/4-1/2 | | | |
| Beets (Table) | Imported Cabbageworm, Beet Armyworm, Cabbage Looper, Diamondback Moth | 1/4-1 | 0 - roots | | 1 |
| | Cucumber Beetle, Variagated Cutworm | 1/2 | 14 - tops | | |
| Bermudagrass pasture | Fall Armyworm, Armyworm | 1/4-1 | | 7 Forage 3 Dehydrated Hay | 1 |

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| Crops | Insects | RATES "Lannate" LBS. Per Acre | LAST APPLICATION-DAYS | | |
|---|--|--|-----------------------|-------------------------------------|---------------|
| | | | To Harvest | To Livestock Grazing/ Feeding | REI (DAYS) |
| Blueberries **** | Blueberry Leafhopper, Aphids, Tussock Moth, Weevil, Sharp-Nosed Leafhopper | 1/2 | 3 | | 1 |
| | Cranberry Fruitworm, Cherry Fruitworm **G | 1/2-1 | | | |
| | Flea Beetle (larvae), Sawfly (larvae), Blueberry Leafroller | 1 | | | |
| | Blueberry Maggot | 1/4-1/2 | | | |
| Broccoli | Loopers, Imp. Cabbageworm, Diamondback Moth | 1/4-1 * | 3 | | 1 |
| Brussels Sprouts | Loopers, Imp. Cabbageworm, Diamondback Moth | 1/2-1 * | 3 | | 1 |
| | Variegated Cutworm | 1/2 * | | | |
| Cabbage | Loopers, Imp. Cabbageworm, Diamondback Moth | 1/4-1 * | 1 | | 1 |
| | Fall Armyworm, Variegated Cutworm | 1/2 * | | | |
| Carrot | Beet Armyworm | 1/3-1 | 1 | | 1 |
| | Aster Leafhopper | 1/2-1 | | | |
| | Armyworms | 1/4-1/2 | | | |
| | Variegated Cutworm | 1/4-1/2 | | | |
| Cauliflower | Imp. Cabbageworm, Loopers, Diamondback Moth | 1/4-1 * | 3 | | 1 |
| | Variegated Cutworm | 1/2 * | | | |
| Celery | Beet Armyworm, Aster Leafhopper | 1/2-1 | 7 | | 1 |
| | Loopers | 1 | | | |
| | Variegated Cutworm | 1/2 | | | |
| | Armyworms | 1/4-1/2 | | | |
| Chicory | Beet Armyworm, Variegated Cutworm, Leafhoppers | 1/2-1 | 30 | | 1 |
| Chinese Cabbage **G | Loopers, Beet Armyworm | 1/2-1 | 10 | | 1 |
| Collards (Fresh market only—do not apply when temp. is less than 50o F. Do not apply when crop is less than 10" tall.) | Loopers, Diamondback Moth, Variegated Cutworm | 1/2 | 10 | | 1 |
| | Imported Cabbageworm, Beet Armyworm | 1/2-1 | | | |

| Crops | Insects | RATES "Lannate" LBS. Per Acre | LAST APPLICATION—DAYS | | |
|--|---|--|-------------------------------|-------------------------------------|---------------|
| | | | To Harvest | To Livestock Grazing/ Feeding | REI (DAYS) |
| Corn (Sweet) Note: Certain hybrid varieties of sweet corn are susceptible to methomyl injury. Treat a small area to determine crop safety before full scale spraying | Earworm—Whorl as needed | 1/3-1/2 | 0 Ears | 3 Forage | 2 |
| | 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 | 1/4-1/2 | | | |
| | Variogated Cutworm, Beet Armyworm | 1/2 | | | |
| Corn (Field & Popcorn) | Earworm, Armyworm, Fall Armyworm, Corn Rootworm (adult beetles), Flea Beetles, Picnic Beetles, Aphids | 1/4-1/2 | 0 Ears | 3 Forage | 2 |
| | Variogated Cutworm, Beet Armyworm | 1/2 | | | |
| Cotton (Use may redder cotton—if excessive, stop or alternate with other insecticides.) U.S. East of Rockies only West of Rockies only Southwest only | Ovicide/Larvicide Bollworm, Tobacco Budworm (Initiate schedule when significant numbers of eggs are present. Continue at 5- to 7-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. | 1/8-1/4 (see Predators) | 15 | Do not graze or feed | 3 |
| | Cotton Leafworm | 1/4-1/2 | | | |
| | Aphids, Thrips | 1/4 | | | |
| | Cotton Fleahopper (as needed) | 1/8-1/4 | | | |
| | Larvicide for worms 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. | 1/2 | | | |
| | 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. | 1/2-3/4 | | | |
| | Larvicide for worms Bollworm, Fall Armyworm, Tobacco Budworm, Lygus Bugs | 1/2-3/4 | | | |
| | Beet Armyworm | 1/3-1/2 | | | |
| | Cotton Leafperforator | 1/3-3/4 | | | |
| | Cotton Fleahopper (as needed) | 1/8-1/4 | | | |
| Cucumber | Loopers, Tobacco Budworm, Beet Armyworm, Yellowstriped Armyworm, Granulate Cutworm, Flea Beetles, Cucumber Beetles, Melon Aphid, Melonworm, Pickleworm | 1/2-1 | 1/2 lb. -1 Over 1/2 lb. -3 | | 1 |
| | Fall Armyworm, Variogated Cutworm | 1/2 | | | |

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| Crops | Insects | RATES "Lannate" LBS. Per Acre | LAST APPLICATION-DAYS | | |
|--|--|--|-----------------------|-------------------------------------|---------------|
| | | | To Harvest | To Livestock Grazing/ Feeding | REI (DAYS) |
| Eggplant | Green Peach Aphid | 1/4-1 | 5 | | 1 |
| | Tomato Pinworm **G, Beet Armyworm | 1/2-1 | | | |
| Endive, Escarole | Beet Armyworm | 1/2-1 | 10 | | 1 |
| Garlic | Beet Armyworm | 1/2 * | 7 | | 1 |
| Grapefruit CA & AZ only U.S. FL only CA, AZ & FL only | Thrips, Fruitree Leafroller, Orange Tortrix, Western Tussock Moth | 1/2-1 | 1 | 10 | 3 |
| | Beet Armyworm | | | | |
| | Spirea Aphid | | | | |
| | Whiteflies | 1 | | | |
| | Yellow Scale, Chaff Scale, Purple Scale, Soft Brown Scale, Glover Scale | 1/2 per 100 gal up to 800 gal/acre | | | |
| Grapes East of Rockies only U.S. West of Rockies only CA only | Grape Berry Moth (apply pre- & post-bloom & repeat at 10-14 day intervals or as needed), Leafhoppers **G | 1/2-1 | 1 Fresh & Raisin | | 7 |
| | Omnivorous Leafroller, Grape Leafroller, Orange Tortrix | | | | |
| | Saltmarsh Caterpillar | | | | |
| | Leafhoppers **G | | | | |
| | Climbing Cutworm (Treat infestation and repeat at 7-14 day intervals as needed) | 1 | | | |
| | Grape Leaf Skeletonizer **G | 1/2-1 | | | |
| | Thrips | 1/8-1/4 | | | |
| 14 Wine Grapes | | | | | |
| Horseradish **G | Aphids, Thrips | 1/2 | 65 | | 1 |
| Leafy Green Vegetables: Beet (Tops), Dandelions, Kale, Mustard Greens, Parsley, Swiss Chard, Turnip Greens | Beet Armyworm, Cabbage Looper, Diamondback Moth, Imported Cabbageworm | 1/2-1 | 10 | | 1 |
| Lemon CA & AZ only U.S. FL only CA, AZ & FL only | Thrips, Western Tussock Moth, Orange Tortrix | 1/2-1 | 1 | 10 | 3 |
| | Beet Armyworm | | | | |
| | Spirea Aphid | | | | |
| | Whiteflies | 1 | | | |
| | Yellow Scale, Chaff Scale, Purple Scale, Soft Brown Scale, Glover Scale | 1/2 per 100 gal up to 800 gal per acre | | | |
| Lentils | Western Yellowstriped Armyworm | 1/2-1 | 21 | 3 - Forage 7 - Hay | 1 |

| Crops | Insects | RATES "Lannate" LBS. Per Acre | LAST APPLICATION—DAYS | | |
|---|---|--|---|-------------------------------------|---------------|
| | | | To Harvest | To Livestock Grazing/ Feeding | REI (DAYS) |
| Lettuce, (head varieties in U.S. and Leaf varieties in CA and AZ) | Beet Armyworm, Loopers | 1/4-1 | 1/4-1/2 lb. -7 over 1/2 lb. -10 | | 1 |
| | Thrips, Aphids, Corn Earworm, Aster Leafhopper | 1/2-1 | | | |
| | Variogated Cutworm | 1/2 | | | |
| Melons | Loopers, Tobacco Budworm, Beet Armyworm, Yellowstriped Armyworm, Granulate Cutworm, Flea Beetles, Cucumber Beetles, Melon Aphid, Melonworm, Pickleworm | 1/2-1 | 1/2 lb. -1 day over 1/2 lb. -3 days | | 1 |
| | Fall Armyworm, Variogated Cutworm | 1/2 | | | |
| Mint | Variogated Cutworm, Alfalfa Looper | 1 | 14 | | 1 |
| | Flea Beetles | 3/4-1 | | | |
| Nectarine CA & AZ only | Thrips (up to 3 applications) | 1/2-1 | 1 | 10 | 3 |
| Oats | Armyworms, Cereal Leaf Beetle, Aphids | 1/4-1/2 | 7 | 10 | 1 |
| Onions | Beet Armyworm | 1/2-1 * | 7 Green and Dry Onions | | 1 |
| | Thrips, Variogated Cutworm | 1 | | | |
| Oranges CA & AZ only U.S. FL only CA, AZ & FL only | Thrips, Western Tussock Moth, Orange Tortrix, Fruitree Leafroller, Citrus Cutworm | 1/2-1 | 1 | 10 | 3 |
| | Beet Armyworm | | | | |
| | Spirea Aphid | | | | |
| | Whiteflies | 1 | | | |
| | Yellow Scale, Chaff Scale, Purple Scale, Soft Brown Scale, Glover Scale | 1/2 per 100 gal up to 800 gal per acre | | | |
| Ornamentals **G (refer to Suppl. Labeling) | | 1/4-1/2 per 100 gal | | | |
| Peaches | Catclacing Insects (Plant Bugs and Stink Bugs)—begin at petal fall and continue in cover sprays at 7-to 10-day intervals | 1-2 lb (or 1/4-1/2 lb per 100 gal up to 400 gal per acre) | 4 | 10 | 4 |
| | Oriental Fruit Moth—begin at petalfall; use trapping devices and frequent field inspection to determine need for treatment. Continue treatment in cover sprays and alternate with residual-type insecticides registered for this use. **G | | | | |
| | Green Peach Aphid | | | | |
| Peanuts | Corn Earworm***, Beet Armyworm, Potato Leafhopper—Up to 3 applications | 1/4-1 | 21 | Do not feed treated vines | 1 |
| | Loopers, Green Cloverworm, Velvetbean Caterpillar, Thrips, Granulate Cutworm— Up to 3 applications. | 1/2-1 | | | |
| | Fall Armyworm | 1/4-1/2 | | | |

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| Crops | Insects | RATES "Lannate" LBS. Per Acre | LAST APPLICATION—DAYS | | |
|---|---|--|-----------------------|--------------------------------------|---------------|
| | | | To Harvest | To Livestock Grazing/ Feeding | REI (DAYS) |
| Pears, Northeast only | Green Fruitworm, Obliquebanded Leafroller— One application only | 1/2 per 100 gal. up to 400 gal. per acre | 7 | 10 | 1 |
| Peas (Succulent) | Armyworm, Green Cloverworm | 1/4-1/2 | 1 | 5 Forage 14 Hay | 1 |
| | Loopers, Pea Aphid, Beet Armyworm, Saltmarsh Caterpillar, Variegated Cutworm | 1/2-1 | | | |
| | Alfalfa Caterpillar | 1/4-1 | | | |
| Pecans Southeast only | Aphids | 1/2-1 | 30 | 10 | 1 |
| Peppers | Green Peach Aphid, Fall Armyworm, Loopers, Beet Armyworm | 1/2 | 3 | | 1 |
| | Armyworm, Variegated Cutworm | 1/4-1/2 | | | |
| Pomegranates | Omnivorous Leafroller | 1 | 14 | | 1 |
| Potato | Tuberworm, Loopers, Aphids, Beet Armyworm Leafhoppers | 1/2-1 | 6 | | 1 |
| | Variegated Cutworm, Fall Armyworm, Flea Beetles | 1/2 | | | |
| Rye | Armyworms, Cereal Leaf Beetle, Aphids | 1/4-1/2 | 7 | 10 | 1 |
| Sorghum | Sorghum Webworm | 1/2 | 14 | 14 | 1 |
| | Sorghum Midge—Apply when 50% bloom and 3-5 days later if needed Fall Armyworm (Budworm), Beet Armyworm, Corn Earworm, Armyworm | 1/4-1/2 | | | |
| Soybeans U.S. AR, AL, LA, MS TN, TX only | Green Cloverworm, Velvet-bean Caterpillar, Mexican Bean Beetle | 1/8-1/4(see Predators) | 14 | Under 1/2 lb. — 3 Forage 7 Hay | 1 |
| | Light to moderate infestations | | | | |
| | Moderate to severe infestations | 1/4-1/2 | | | |
| | Corn Earworm | 1/8-1/4(see Predators) | | | |
| | Light to moderate infestations | | | | |
| | Moderate to severe infestations | 1/4-1/2 | | | |
| | Beet Armyworm, Salt Marsh Caterpillar, Bean Leaf Beetle, Fall Armyworm Thrips, Silver Spotted Skipper | 1/4-3/8 | | | |
| Light to moderate infestations | | | | | |
| Moderate to severe infestations | 3/8-1/2 | | | | |
| | Soybean Looper (worms up to 1/2" long) Use higher rate for severe infestations | 1/2-1 | | | |

12013

| Crops | Insects | RATES "Lanrate" LBS. Per Acre | LAST APPLICATION-DAYS | | |
|--|---|---|---|-------------------------------------|---------------|
| | | | To Harvest | To Livestock Grazing/ Feeding | REI (DAYS) |
| Spinach (Do not apply when min. daily temp. is 32°F. or lower. Do not apply to seedlings less than 3" diameter.) | Loopers, Beet Armyworm | 1/2-1 | 7 | | 1 |
| | Fall Armyworm, Variegated Cutworm | 1/2 | | | |
| Strawberry | Beet Armyworm, Thrips, Aphids | 1/2-1 | 3-Fresh | | 1 |
| | Lygus Bugs, Omniverous Leaf Tiers | 1 | 10-Processing | | |
| | Armyworms | 3/4-1 | Fruit | | |
| Sugar Beet | Beet Webworm, Flea Beetles, Carrion Beetles, Beet Armyworm, Aphids, Western Yellowstriped Armyworm- -Up to 4 applications | 1/4-1 | 7 | 30 Tops | 1 |
| | Variegated Cutworm | 1/2 | | | |
| Summer Squash | Loopers, Tobacco Budworm, Beet Armyworm, Yellowstriped Armyworm, Granulate Cutworm, Flea Beetles, Cucumber Beetles, Melon Aphid, Melonworm, Pickleworm, Fall Armyworm | 1/2-1 | 1/2 lb. -1 day over 1/2 lb.-3 days | | 1 |
| Tangelo CA & AZ only U.S. FL only CA, AZ & FL only | Thrips, Western Tussock Moth, Orange Tortrix | 1/2-1 | 1 | 10 | 3 |
| | Beet Armyworm | | | | |
| | Spirea Aphid | | | | |
| | Whiteflies | 1 | | | |
| | Yellow Scale, Chaff Scale, Purple Scale, Soft Brown Scale, Glover Scale | 1/2 per 100 gal up to 800 gal/acre | | | |
| Tangerine CA & AZ only U.S. FL only CA, AZ & FL only | Thrips, Western Tussock Moth, Orange Tortrix | 1/2-1 | 1 | 10 | 3 |
| | Beet Armyworm | | | | |
| | Spirea Aphid | | | | |
| | Whiteflies | 1 | | | |
| | Yellow Scale, Chaff Scale, Purple Scale, Soft Brown Scale, Glover Scale | 1/2 per 100 gal up to 800 gal/acre | | | |
| Tobacco (Except shade) | Flea Beetle, Hornworm | 1/4-1/2 | 5 Flue cured | | 1 |
| | Loopers, Aphids, Tobacco Budworm, Fall Armyworm | 1/2 | 14 Air or fire cured | | |

BEST AVAILABLE COPY