



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

R. Franklin Handy  
Drexel Chemical Company  
P.O. Box 13327  
Memphis, TN 38113-0327

NOV 13 1997

Subject: Drexel Carbaryl 4L Insecticide  
EPA Registration No. 19713-49  
Notifications of Corrections to Label Text  
Amendments dated October 1 (Reference RFH 97-289) and  
October 20 (Reference RFH 97-326), 1997.

Dear Mr. Handy:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable provided that you make the labeling changes indicated below before you release the product bearing the amended labeling:

1. On page 15 of the submitted label in the Table titled "Lawns and Recreational Areas", change the word "Insects" to "Pests".
2. On page 17 of the submitted label under "ADULT MOSQUITO CONTROL" in the Specific Directions Section for "Pastures, Rangelands, Yards, Parks, Recreational Areas, Logging Camps, Military Posts and Adjacent Forested Lands or Wastelands", add the words "(25 tablespoons/gallon)" below the number "25" to be consistent with the rest of the label.
3. On page 17 of the submitted label in the same Section as number 2 above, and in response to number 31 in the October 1, 1997 amendment request, the phrase "Observe Bee Caution" should be capitalized on the label as it was in the requested amendment section.
4. On page 18 of the submitted label in response to number 34 on the October 1, 1997 amendment request, change the heading back to the original heading so that it reads "IMPORTED FIRE ANT CONTROL".

Submit three copies of your final printed labeling for the above product before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

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

Sincerely,

*George Tompkins*

George Tompkins, Ph.D., Entomologist  
Insecticide-Rodenticide Branch  
Registration Division (7505C)

NOV 13 1987

Product of Drexel Chemical Company, Memphis, Tennessee. Not for sale in California. For sale in California, contact Drexel Chemical Company, 19713-49, Memphis, Tennessee.

19713-49



# Carbaryl 4L

## Insecticide

<b>ACTIVE INGREDIENT:</b>	
Carbaryl (1-Naphthyl N-methylcarbamate) ...	43.4%
<b>INERT INGREDIENTS:</b> .....	56.6%
<b>TOTAL:</b> .....	100.0%

Product contains 4 pounds carbaryl as active ingredient.

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

See Page 2 for Statement of Practical Treatment  
**SHAKE WELL BEFORE USING**

EPA Reg. No. 19713-49  
EPA Est. No. 19713-GA-1

• 49BKCA-1097

Manufactured By:  
**Drexel Chemical Company**  
P.O. BOX 13327, MEMPHIS, TN 38113-0327  
**SINCE 1972**

### STATEMENT OF PRACTICAL TREATMENT

**IF SWALLOWED:** Induce vomiting by placing finger on back of throat. Call a physician. Never give anything by mouth to an unconscious person.

**IF ON SKIN:** Remove contaminated clothing and wash skin with soap and plenty of water. If irritation develops, get medical attention.

**IF IN EYES:** Immediately flush eyes with plenty of water for at least 15 minutes. If irritation develops, get medical attention.

**NOTE TO PHYSICIAN:** Carbaryl is an N-methyl carbamate insecticide, which is a cholinesterase inhibitor. Overexposure to this substance may cause toxic signs and symptoms due to stimulation of the cholinergic nervous system. These effects of overexposure are spontaneously and rapidly reversible. Gastric lavage may be used if this product has been swallowed. Carbaryl poisoning may occur rapidly after ingestion and prompt removal of stomach contents is indicated. Specific treatment consists of parenteral atropine sulfate. Caution should be maintained to prevent over-atropinization. Mild cases may be given 1 to 2 mg intramuscularly every 10 minutes until full atropinization has been achieved and repeated thereafter whenever symptoms reappear. Severe cases should be given 2 to 4 mg intravenously every 10 minutes until fully atropinized, then intramuscularly every 30 to 60 minutes as needed to maintain the effect for at least 12 hours. Dosages for children should be appropriately reduced. Complete recovery from overexposure is to be expected within 24 hours. Narcotics and other sedatives should not be used. Further, drugs like 2-PAM (pyridine-2-aldoxime methiodide) are NOT recommended. To aid in confirmation of diagnosis, urine samples should be obtained within 24 hours of exposure and immediately frozen.

### PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

**CAUTION:** Harmful if swallowed, absorbed through the skin, inhaled, or if in eyes. Avoid breathing spray mist. Avoid contact with eyes, skin or clothing. **OVEREXPOSURE MAY CAUSE:** Salivation, watery eyes, pinpoint eye pupils, blurred vision, muscle tremors, difficult breathing, excessive sweating, abdominal cramps, nausea, vomiting, diarrhea, weakness, headache. In severe cases convulsion, unconsciousness and respiratory failure may occur. Signs and symptoms occur rapidly following overexposure to this product.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**  
Applicators and other handlers must wear: long sleeved shirt and long pants, waterproof gloves and shoes plus socks. 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.

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### 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 PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

This product is extremely toxic to aquatic and estuarine invertebrates. For terrestrial uses, do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark, except under the forest canopy and in use on rice. Discharge from rice fields may kill aquatic and estuarine invertebrates. Do not contaminate water by cleaning of equipment or disposal of wastes.

**BEE CAUTION:** This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. This product is less hazardous to honey bees when direct application is avoided and the spray residues have dried. For maximum honey bee hazard reduction, apply from late evening to early morning or when bees are not foraging. Do not apply this product or allow it to drift to blooming crops or weeds if bees are foraging in the treatment area. However, applications may be made during foraging periods if the beekeeper takes one of the following precautionary measures prior to bee flight activity on the day of treatment: (1) Confine the honey bees to the hives by covering the colony or screening the entrance; (2) locate hives beyond bee flight range from the treated area. Precautionary measures may be discontinued after spray residues have dried. Contact your Cooperative Agricultural Extension Service for further information.

### GENERAL INFORMATION

CARBARYL 4L is a suspension of microfine carbaryl insecticide in an aqueous medium. It readily disperses in water to form a spray which, when applied by air or ground equipment, resists erosion by rainfall or overhead irrigation. The directions on this label are based on tests and field experience relating to: (a) effectiveness, (b) possible injury to plants, and (c) residues in food, feed and milk. **READ LABEL BEFORE USE. STRICTLY OBSERVE LABEL DIRECTIONS, CAUTIONS AND APPLICABLE FEDERAL AND STATE REGULATIONS.**

### PRE-HARVEST AND GRAZING USE INFORMATION AND LIMITATIONS

Tolerances established under the Federal Food, Drug and Cosmetic Act permit the sale of crops bearing probable carbaryl residues when this product is used in accordance with label directions. If used as directed, treated forage may be grazed or used as feed for dairy and meat animals without causing illegal residues in meat or milk. This product may be applied up to and including the day of grazing of forage crops. Application may be made without removing livestock from area being treated. Subsequent planting of food and feed crops in treated soil must be made with crops on this or other carbaryl labels.

### 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.

### 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, greenhouses and habitations 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) of 12 hours.

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, waterproof gloves and shoes plus socks.

### NON AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

The area being treated must be vacated by unprotected persons. Keep unprotected persons out of treated areas until sprays have dried.

### SPRINKLER CHEMIGATION

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

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

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

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

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

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Public water system means a system for the provision of the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Chemigation systems connected to public water systems must contain a functional reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the 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. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.

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. Do not apply when wind speed favors drift beyond the area intended for treatment. Maintain sufficient agitation in the pesticide supply tank to keep the pesticide in suspension. Meter the pesticide into the irrigation water continuously for the duration of the water application. Mix pesticide in a sufficient amount of water to maintain a uniform suspension. Read entire label. Use strictly according to label directions and cautions. Do not use application methods, dosages, concentrations or frequencies not listed on labeling. Do not apply against target pests or crops not listed on labeling. Do not mix fertilizers or micronutrients if the resulting spray mixture is incompatible or alkaline.

#### PLANT RESPONSE PRECAUTIONS

To avoid possible injury to tender foliage, do not apply to wet foliage or when rain or high humidity is expected during the next two days. Carbaryl injures Boston Ivy, Virginia Creeper and Maidenhair Fern. During early season, it may also injure Virginia and Sand pines. Observe label instructions on Apple thinning and on combinations with certain herbicides on Rice and Soybeans.

#### SPRAY PREPARATION

TO ASSURE A UNIFORM PRODUCT, AGITATE, STIR OR RECIRCULATE ALL CARBARYL 4L CONTAINERS PRIOR TO USE.

Remove oil, rust, scale, pesticide residues and other foreign matter from mix tanks and entire spray system. Flush with clean water. Fill spray or mix tank with  $\frac{1}{2}$  to  $\frac{3}{4}$  the desired amount of water. Start

mechanical or hydraulic agitation. Slowly add the required amount of CARBARYL 4L and then the remaining volume of water. Include rinse water from container. Dilution of 1 volume of CARBARYL 4L with 1 volume of water will allow maximum resistance to wash off by rainfall or overhead irrigation. Dilutions higher than 1:11 are not recommended where residual insect control from wash off resistance is desired. Prepare only as much spray mixture as can be applied on the day of mixing. MAINTAIN CONTINUOUS AGITATION DURING MIXING AND APPLICATION TO ASSURE A UNIFORM SUSPENSION. DO NOT STORE SPRAY MIXTURES FOR PROLONGED PERIODS. CARBARYL 4L spray must be diluted as stated above and droplets must dry on the foliage before they become washoff resistant. When atmospheric humidity is low, a drying time of at least one hour is generally adequate. Under high humidity a longer drying time may be required. Washoff resistance cannot be expected if CARBARYL 4L is applied to wet foliage which does not dry adequately prior to rainfall or overhead irrigation. On all crops use sufficient spray volume to obtain thorough coverage. Optimum pest control under certain crops, pest or climatic conditions may require spray gallonage higher than 1:11 dilution. For example, in hot, dry weather or when humidity is low, higher spray gallonage per acre may be required to minimize loss from evaporation and ensure thorough coverage. The total spray volume required for effective pest control can be determined by previous experience, pest and crop conditions and local recommendations.

#### COMPATIBILITY

CARBARYL 4L when diluted with an equal volume of water, is compatible with a wide range of pesticides. It is not compatible with diesel fuel, kerosene, fuel oil or aromatic solvents. If compatibility of CARBARYL 4L with another product and the resulting crop response is unknown, it should be tested on a small scale. Curdling, precipitation, greasing, layer formation or increased viscosity are symptoms of incompatibility. WHEN PREPARING COMBINATION SPRAYS, FIRST ADD CARBARYL 4L TO AT LEAST AN EQUAL VOLUME OF WATER, MIX THOROUGHLY AND THEN ADD COMBINATION PRODUCTS TO THE MIXTURE. DO NOT APPLY TANK MIX COMBINATIONS UNLESS YOUR PREVIOUS EXPERIENCE INDICATES THE MIXTURE IS EFFECTIVE AND WILL NOT RESULT IN APPLICATION PROBLEMS, EXCESSIVE RESIDUES OR PLANT INJURY.

Carbaryl is unstable under highly alkaline conditions and mixtures with strong bases, such as Bordeaux, lime-sulfur and casein-lime spreaders; will result in chemical degradation of the insecticide. Do not use this product in water with pH values above 8.0 unless a buffer is added. If necessary, water should be buffered to neutral (pH = 7.0) before adding this product to the spray tank. Overhead irrigation with alkaline or muddy water after application will also accelerate chemical degradation and may result in reduced insect control.

#### APPLICATION

On all crops, use sufficient gallonage to obtain thorough and uniform coverage. Calibrate spray equipment to deliver the required amount. The flow rate of CARBARYL 4L diluted 1:1 with water is similar to the flow rate of water. Use 50 mesh slotted strainers in spray system and 25 mesh slotted strainers behind nozzles. To clean spray system after use, drain and flush with water.

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**INSECT CONTROL**

Apply when insects or their damage appears. To maintain control repeat at 7 to 14 day intervals or as necessary unless a shorter interval is specified below. Where a dosage range is indicated, use lower rate on light to moderate infestations, young plants and early instars and higher rate on heavy infestation, mature plants, advanced instars and adults. Thorough and uniform spray coverage is essential for effective control. CARBARYL 4L does not control spider mites. If spider mites are a problem, use a registered miticide. Regional differences have been noted in the susceptibility of certain strains of fall armyworm to CARBARYL 4L. If local experience indicates inadequate control, use an alternative pesticide.

**FORAGE, FIELD AND VEGETABLE CROPS**

Apply in sufficient spray volume to obtain thorough coverage. Where maximum wash off resistance is needed, use up to 1:1 (vol/vol) dilution with water. Do not dilute greater than 1:11 where wash off resistance is desired. To prepare small volumes of spray, use 1 tablespoonful (½ fluid ounce) of CARBARYL 4L per gallon of water where rates of 1 quart per acre or 1 quart per 100 gallons are indicated in the table below. Rates given below are quarts of CARBARYL 4L per acre unless otherwise noted.

Crops	Insects	Qts. / A	PHI (Days)
All Forage, Field and Vegetable Crops on this label.	Grasshoppers	½ to 1½	See specific Forage, Field or Vegetable Crop.
	SPECIFIC DIRECTIONS Use ½ to 1 qt. for Nymphs on small plants or sparse vegetation in wastelands, rangelands, ditch banks and borders. Use 1 to 1½ qts. for adult Grasshoppers or application to dense vegetation.		

Crops	Insects	Qts. / A	PHI (Days)
Alfalfa, Clovers, Birdsfoot Trefoil (Do not use on Birdsfoot Trefoil in CA)	Blister beetles, Mexican bean beetles	½ to 1	0 (Clovers, Birdsfoot Trefoil)
	Alfalfa caterpillars, Bean leaf beetles, Cucumber beetles, Green cloverworms, Japanese beetles, Leafhoppers, Potato leafhoppers, Three cornered alfalfa hoppers, Thrips, Velvetbean caterpillars	1	7 (Alfalfa)
	Alfalfa weevil larvae, Alfalfa blotch leafminers, Armyworms, Cloverhead weevils, Corn earworms, Cutworms, Egyptian alfalfa weevil larvae, Essex skippers, European alfalfa beetles, Fall armyworms, Lygus bugs, Stink bugs, Webworms, Yellow striped armyworms	1 to 1½	

Crops	Insects	Qts. / A	PHI (Days)
(continued) Alfalfa, Clovers, Birdsfoot Trefoil (Do not use on Birdsfoot Trefoil in CA)	SPECIFIC DIRECTIONS Observe Bee Caution. Observe plant response precautions. Carbaryl may cause a temporary bleaching of tender alfalfa foliage. For Alfalfa weevil larvae, if pre-treatment damage is extensive, cut alfalfa and treat the stubble. Use higher rate in areas east of the Rocky Mountains. On dense growth use up to 25 to 40 gallons per acre with ground equipment to ensure adequate coverage.		
Asparagus	Asparagus beetles	1 to 2	1
	Apache cicadas, Asparagus beetles	2 to 4	Post-harvest application only.
SPECIFIC DIRECTIONS: Treat ferns or brush growth. Do not treat more than once every 3 days.			
Beans (including blackeyed peas, cowpeas, crowder or southern peas, dry beans, lima beans, navy beans, snap beans), Lentils	Blister beetles, Mexican bean beetles	½ to 1	0 (except for Cowpeas which are 3 days)
	Alfalfa caterpillars, Bean leaf beetles, Cucumber beetles, Flea beetles, Green cloverworms, Japanese beetles, Leafhoppers, Three cornered alfalfa hoppers, Thrips, Velvetbean caterpillars, Western bean cutworms	1	
	Amyworms, Corn earworms, Cutworms, European corn borers, Fall armyworms, Stink bugs, Tarnished plant bugs, Webworms	1 to 1½	
	Alfalfa loopers	1½	
	Cowpea curculio	2	
SPECIFIC DIRECTIONS. Observe plant response precautions.			
Cabbage, Broccoli, Brussels Sprouts, Cauliflower, Kohlrabi	Flea beetles, Harlequin bugs	½ to 1	3
	Armyworms, Corn earworms, Fall armyworms, Imported cabbageworms	1 to 2	

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Crops	Insects	Rate / A	PHI (Days)
Chinese Cabbage, Collards, Hanover Salads, Horseradish, Kale, Mustard Greens, Radishes, Rutabagas, Turnips	Flea beetles, Harlequin bugs, Leafhoppers	½ to 1	3 (Horseradish, Radishes, Rutabagas, Turnip Roots)
	Aster leafhoppers	1 to 1½	14 (Kale, Chinese Cabbage, Collards, Hanover Salads, Mustard Greens, Turnip Tops)
	Armyworms, Corn earworms, Fall armyworms, Imported cabbageworms, Slink bugs, Tarnished plant bugs	1 to 2	
Carrots, Celery, Parsnips, Parsley	Flea beetles, Leafhoppers	½ to 1	0 (Carrots)
	Aster leafhoppers, Lygus bugs, Spittlebugs	1 to 1½	3 (Parsnips)
	Armyworms, Corn earworms, Fall armyworms, Slink bugs, Tarnished plant bugs	1 to 2	14 (Celery, Parsley)
SPECIFIC DIRECTIONS: Treat on a 5 to 7 day schedule.			
Corn (field, sweet, pop)	Armyworms, Chinch bugs, Corn earworms, Corn rootworm adults, European corn borers, Fall armyworms, Flea beetles, Japanese beetles, Leafhoppers, Sap beetles, Southwestern corn borers	1 to 2	0
	SPECIFIC DIRECTIONS: Observe Bee Caution. For insects attacking silks and ears apply at 1 to 6 day intervals starting when first silks appear and continuing until silks begin to dry. For larvae in whorl and foliage feeders, apply as necessary. Optimum timing and good coverage are essential for effective control. For optimum Chinch bug control, apply 20 gallons of water per acre by ground and direct spray toward stalk to provide thorough coverage. Treat when infestation averages 15% and at 90% to 100% tassel emergence. Treatment after 100% silk emergence will reduce effectiveness.		
	Western bean cutworms	2	0
	Cutworms	2 to 3	
SPECIFIC DIRECTIONS: Apply in a 12 inch band, using sufficient volume of water to obtain thorough coverage. For broadcast application use at least 20 gallons (ground) or 5 gallons (air) of water per acre.			

Crops	Insects	Rate / A	PHI (Days)
Cotton	Cotton fleahoppers, Cotton leafworms, Flea beetles, Striped blister beetles, Thrips	½ to 1	7
	SPECIFIC DIRECTIONS: Early season insect control.		
	Boll weevils, Bollworms, Cotton leafperforators, Fall armyworms, Leafhoppers, Leafhoppers, Tarnished plant bugs, Yellow striped armyworms (Cotton cutworms)	1 to 2	7
	SPECIFIC DIRECTIONS: Treat on a 5 to 7 day schedule for as long as control is necessary. Mid to late season insect control may be applied after bolls open.		
	Lygus bugs	1 to 2	7
SPECIFIC DIRECTIONS: For light to moderate population in Western irrigated cotton.			
	Pink bollworms	1½ to 2½	7
SPECIFIC DIRECTIONS: Aphid populations will be suppressed by repeated applications of the insecticide.			
Cucumbers, Melons, Pumpkins, Squash	Melonworms, Pickleworms	½ to 1	0
	Cucumber beetles, Flea beetles, Leafhoppers, Squash bugs	1	
	SPECIFIC DIRECTIONS: Observe plant response precautions. Avoid excessive applications.		
Dandelions, Endive (Escarole), Lettuce, Salsify	Flea beetles, Harlequin bugs, Leafhoppers	½ to 1	3 (Head Lettuce, Salsify roots)
	Aster leafhoppers, Lygus bugs, Spittlebugs	1 to 1½	14 (Dandelions, Endive, [Escarole], Leaf Lettuce, Salsify tops)
	Armyworms, Corn earworms, Fall armyworms, Imported cabbageworms, Slink bugs, Tarnished plant bugs	1 to 2	
SPECIFIC DIRECTIONS: Observe plant response precautions. Treat on a 5 to 7 day schedule after heads begin to form.			
Forage Grasses, Pastures, Rangelands (continued)	Armyworms, Black grass bugs, Chinch bugs, Essex skipper, Fall armyworms, Mormon crickets, Range caterpillars, Range crane flies, Striped grass hoppers, Thrips	1 to 1½	0

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Crops	Insects	Ots. / A	PHI (Days)
(continued) Forage Grasses, Pastures, Rangelands	White grubs (Green June beetles)	1 1/2 to 2	0
	SPECIFIC DIRECTIONS: To control Thrips in grasses grown for seed use high spray pressure to improve penetration into boot.		
Garden Beets, Spinach, Swiss Chard	Flea beetles, Harlequin bugs, Leafhoppers	1/2 to 1	3 (Garden Beet Roots)
	Aster leafhoppers	1 to 1 1/4	14 (Garden Beet Tops, Spinach, Swiss Chard)
	Armyworms, Corn earworms, Fall armyworms, Sunk bugs, Tarnished plant bugs	1 to 2	
	SPECIFIC DIRECTIONS: Treat on a 5 to 7 day schedule.		
Okra	Corn earworms, Sunk bugs	1 to 2	0
SPECIFIC DIRECTIONS: Treat on a 5 to 7 day schedule.			
Peanuts	Blister beetles, Mexican bean beetles	1/2 to 1	0
	Alabama caterpillars, Black belt beetles, Citrus thicket beetles, Cotton rootworms, Egg-eater beetles, Leafhoppers, Red necked grasshoppers, Blue cutworm alfalfa beetles, Ticks, Velvetbean caterpillars	1	
	Armyworms, Corn earworms, Fall armyworms, Sunk bugs, Worms	1 to 1 1/4	
	Whiteflinged beetle adults, Cutworms	2	
	SPECIAL DIRECTIONS: Observe plant response precautions.		
	Peas	Colorado potato beetle, Leafhoppers	1
Armyworms		1 to 1 1/4	
Alabama caterpillars, Cutworms, Pea leaf weevils, Pea weevils, Yellow striped armyworms		1 1/2	
Alabama hopper (WA state only)		2 1/4	0

Crops	Insects	Ots. / A	PHI (Days)
Potatoes, Tomatoes, Eggplants, Peppers	Colorado potato beetles, Flea beetles, Leafhoppers	1/2 to 1	0
	European corn borers, Fall armyworms, Lace bugs, Sunk bugs, Tarnished plant bugs, Tomato fruitworms, Tomato pinworms	1 to 2	
	Cutworms	2	
SPECIFIC DIRECTIONS: Thorough coverage is essential to effectively suppress Sunk bugs. When disease transmission is suspected, monitor fields following application and retreat if reinfestation occurs.			
Prickly Pear Cactus	Cochineal scales (Crawlers)	2	1
	SPECIFIC DIRECTIONS: Apply as needed at 7 to 10 day intervals. Do not make more than 7 applications per season.		
Rangelands	Black grass bugs, Mormon crickets, Range caterpillars, Range crane flies	1/2 to 1/4	0
	SPECIFIC DIRECTIONS: For Aerial Application Only. Apply a maximum of 2 applications per year. Allow at least 17 days between applications. Carefully check weather conditions for application.		
Rice	Armyworms, Chinch bugs, Fall armyworms, Sunk bugs	1 to 1 1/4	14
	SPECIAL DIRECTIONS: MR Delta and TX. Do not apply Propanil herbicide within 15 days before or after CARBARYL 4L application or plant injury will result. Do not use on rice fields in which crayfish and/or catfish farming is included in the cultural practice. NOTICE: May kill shrimp and crabs. Do not use in areas where these are important resources.		
	Armyworms, Leafhoppers, Tadpole shrimp	2	14
	SPECIFIC INSTRUCTIONS: CA Only. For optimum Tadpole Shrimp control, apply to water when pest first appears. Do not use on rice fields in which crayfish and/or catfish farming is included in the cultural practice.		
Sorghum (milo, gran, sweet and hybrid)	Sorghum midges	1/2 to 1	0 (1 image)
	Armyworms, Chinch bugs, Corn earworms, Fall army- worms, Stink bugs, Worms	1 to 2	21 (Orana)
(continued)			

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Crops	Insects	Qts. / A	PHI (Days)
(continued) Sorghum (in- grain, sweet, hybrid)	Southwestern corn borers	1 1/2	0 (Forage)
	Cutworms	2	21 (Grain)
SPECIFIC DIRECTIONS: Direct spray into forming heads for optimum insect control. Treat for Sorghum midges when 25% to 30% of leaves have emerged from head and are in bloom. Repeat application 3 to 5 days later if adults are still active. A third application may be necessary in late planted sorghum or if midge are abundant. For Chinch bugs, use high gallonage ground application directed at the base of plants. This product will not effectively control the Southern green stink bug.			
Soybeans	Bean leaf beetles, Cucumber beetles, Green cloverworms, Mexican bean beetles, Velvetbean caterpillars	1/2 to 1	0
	Blister beetles, Grape colaspas, Mexican bean beetles	1/2 to 1	
	Alfalfa caterpillars, Japanese beetles, Leafhoppers, Three cornered alfalfa hoppers, Thrips	1	
	Corn earworms	1/2 to 1 1/2	
	Armyworms, Cutworms, Fall armyworms, Sunk bugs, Webworms	1 to 1 1/2	
	Painted ladies (Thistle caterpillars), Saltmarsh caterpillars, Woolly bear caterpillars, Yellow striped armyworms	1 1/2 to 2	
SPECIFIC DIRECTIONS: Do not apply a combination of CARBARYL 4L and 2,4-DB Herbicides to soybeans. For light to moderate populations use lower rate. For heavy infestations use higher rate.			
Sugar Beets	Armyworms, Beet leaf beetles, Fall armyworms, Flea beetles, Leafhoppers, Webworms	1 to 1 1/2	14
	Cutworms	1 1/2	
Sunflowers	Cutworms	1 1/2	60
	Armyworms, Fall armyworms	1 1/2 to 2	
	Stem weevils, Sunflower beetles	1 to 2	
Sweet Potatoes	Corn earworms, Cucumber beetles, Flea beetles, Sweet potato hornworms, Tortoise beetles	1 to 2	0
(continued)			

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Crops	Insects	Qts. / A	PHI (Days)
(continued) Sweet Potatoes	Yellow striped armyworms	2	0
	Sweet potato weevils	1 to 2	
SPECIFIC DIRECTIONS: Apply as a foliar spray as needed. FOLIAR APPLICATION: Full coverage of plants is essential. Use lower rate on young plants and higher rate on mature plants.			
Insects in (in Plant Beds)	Insects in flower beetles	2 lbs. / gal. or 1 qt. / 50 gals. and apply 5 gals. / 100 sq. yards	0
SPECIFIC DIRECTIONS: To prevent injury, avoid excessive applications.			
	Green June beetle grubs	1/2 qt. / 100 gals.	0
SPECIFIC DIRECTIONS: Apply only to areas that larvae have uprooted by sprinkling mixture as a drench treatment with 50 to 100 gallons per 100 square yards.			
Tobacco (in Fields)	Budworms, Fall armyworms, Flea beetles, Hornworms, Japanese beetles, June beetles, Sucklies	1 to 2	0
	SPECIFIC DIRECTIONS: Use lower rate on young plants (up to knee height). Use at least 10 gallons of prepared spray per acre. Begin treatments when worms are small. If late season applications are necessary, allow three days before pruning or cutting.		
Wastelands, Rights-of-Ways, Hedgerows, Ditchbanks, Roadsides	Black grass bugs, Mormon crickets, Range caterpillars, Range crane flies	1/2 to 1	0 (Aerial Application) 14 (Ground Application)
SPECIFIC DIRECTIONS: Apply a maximum of 2 applications per year. Allow at least 14 days between applications. Do not allow foraging or cut for hay within 14 days of last application by ground. Aerially treated areas may be grazed or cut for hay on day of treatment. Carefully mark swaths to avoid over-application.			
Wheat	Armyworms, Fall armyworms	1 to 1 1/2	0 (Forage)
	Cereal leaf beetles	1	21 (Grain)
	Flea beetles	1/2 to 1	
SPECIFIC DIRECTIONS: Application is effective against eggs, larvae and adults of the Cereal leaf beetles.			

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**TREES AND ORNAMENTALS**

For dilute spray ground applications to trees (including shade trees, shelter belts, forests, plantations, parks and recreational areas), ornamentals, woody plants and shrubs, apply the specified dosage per 100 gallons of water. For concentrate spray ground applications, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. To prepare small volumes of spray, use 1 tablespoon (1/2 fluid ounce) of CARBARYL 4L per gallon of water, where rates of 1 quart are indicated. For aerial applications to forest trees (including shade trees, shelter belts, plantations, parks and recreational areas) and commercially grown ornamentals, woody plants and shrubs, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. Avoid direct application to lakes, streams and ponds.

Sites	Insects	Rate
AERIAL/GROUND APPLICATION: Forest Trees (including shade trees, shelter belts, forests, plantations, parks, recreational areas), Commercially Grown Ornamentals, (including roses, flowers and other herbaceous plants), Woody Plants and Shrubs	Elm bark beetles, Ips engraver beetles, Mountain pine beetles, Houndred pine beetles, Western pine beetles	2% Solution (5 Fluid ounces per gallon)
	<p><b>SPECIFIC DIRECTIONS:</b> Direct Trunk Treatment - Effective as a preventative treatment only. Repeat annually as required to prevent beetle attack. Apply 1 gallon of spray per 50 square feet of bark prior to beetle flight or host tree attack. Treat tree trunk from ground level up, until trunk diameter is less than 5 inches. For Elm bark beetle, Apply approximately 20 to 30 gallons of spray mixture for each 50 feet of elm tree for thorough coverage of all bark surfaces on trunks, limbs and twigs. Do not make more than 2 applications per year or repeat applications more often than once every six months.</p>	

Sites	Insects
Lawns and Recreational Areas (including turf, golf courses, parks)	Ants, Armyworms, Buggrass cutworms, Centipedes, Chiggers, Cutworms, Earwigs, Essex skippers, European chafers, Fall armyworms, Firey skippers, Fleas, Grasshoppers, June beetle, Leafhoppers, Lucerne moths, Millipedes, Mosquitoes, Sod webworms (Lawn moths), Sowbugs, Springtails, Ticks, Yellow striped armyworms
	<p><b>SPECIFIC DIRECTIONS:</b> Use 1 pint of CARBARYL 4L per 5,000 square feet in sufficient spray volume for thorough coverage and thatch penetration. For best results, mow lawn and apply after wetting or rain to ensure good penetration of turf. Garden hose or pressure applications may be used. Repeat 2 or 3 weeks later if necessary.</p>
	Chirch bugs, White grubs
	<p><b>SPECIFIC DIRECTIONS:</b> Use 1 quart of CARBARYL 4L per 5,000 square feet in sufficient spray volume for thorough coverage and thatch penetration</p>

Sites	Insects	Rate / 100 Gals	
AERIAL/GROUND APPLICATION: Trees (including shade trees, shelter belts, forest, plantations, parks and recreational areas) Ornamentals (including roses, flowers and other herbaceous plants), Woody Plants and Shrubs	<p>Ants, Apple aphids, Armyworms, Azalea leafminers, Bagworms, Birch leafminers, Blister beetles, Boxelder bugs, Boxwood leafminers, Brown tail moths, Cankerworms, Catalpa aphid, Chiggers, Cooley spruce gall aphids, Cutworms, Cypress tip moths, Douglas-fir tussock moths, Eastern spruce gall aphids, Elm leaf aphids, Elm leaf beetles, Elm spanworms, Erpophid mites, European pine shoot moths, Fall armyworms, Flea beetles, Fuller rose beetles, Gall midges, Gall wasps, Green striped Mapleworms, Grasshoppers, Gypsy moths, Hackberry nipple gall makers, Holly bud moths, Holly leafminers, Jackpine budworms, Japanese beetles, Jeffrey pine needleminers, June beetles, Lace bugs, Leafhoppers, Leafrollers, Locust borers,</p>	<p>Mealy bugs, Mimosa webworms, Nantucket pinetip moths, Oak leaf-miners, Oak leaf skeletonizers, Oak-worm complexes, Clearer color-pillers, Olive ash borers, Orange striped oakworms, Orange tortrix, Periodical cicada, Pine sawflies, Pine spruce hoppers, Pich pine tip moths, Plant bugs, Poinsettia hornworms, Psyllids, Puss caterpillars, Red-humped oakworms, Rose aphids, Rose chafers, Rosehugs, Saddled prom nem caterpillars, Sawflies (exposed), Scale insects, Snowbugs, Spiny elm caterpillars, Springtails, Spruce budworms, Spruce needleminers, Subtropical pine tip moths, Tent caterpillars, Thorn bugs, Thrips (exposed), Ticks, Walnut caterpillars, Webworms, Western hickock looper, Western spruce budworms, Willow leaf beetles, Yellow poplar weevils</p>	1
	<p><b>SPECIFIC DIRECTIONS:</b> Observe plant response precautions. Apply dilute sprays to obtain thorough coverage of upper and lower leaf surfaces. To control scale insects, treat trunks, stems and twigs in addition to plant foliage. For optimum worm control, treat when in early instars. Addition of a sticker may improve residual control.</p>		

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**ADULT MOSQUITO CONTROL:**

For dilute spray ground applications to trees (including shade trees, shelter belts, plantations, parks and recreational areas), ornamentals, woody plants and shrubs, apply the specified dosage per 100 gallons of water. For concentrate spray ground application, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. To prepare small volumes of spray, use 1 tablespoon (½ fluid ounce) of CARBARYL 4L per gallon of water, where rates of 1 quart are indicated. For aerial applications to forest trees (including shade trees, shelter belts, plantations, parks and recreational areas) and commercially grown ornamentals, woody plants and shrubs, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. Avoid direct application to lakes, streams and ponds.

Sites	Qts. / 100 Gals.
Pastures, Rangelands, Yards, Parks (Recreational Areas, Logging Camps, Military Posts and Adjacent Forested Lands or Wastelands)	¼ to 1 (½ to 1 tablespoon / gallon)
	<b>SPECIFIC DIRECTIONS:</b> NOTICE. May kill shrimp and crabs. Do not use in areas where these are important resources. Observe bee caution. Treat shrubbery and areas where Adult mosquitoes congregate. Treat when Adult mosquitoes are active in early morning or late evening. Repeat at 7 to 10 day intervals. Use ¼ to ½ quart per 100 gallons in meshblowers. ¼ to 1 quart per acre in aerial sprays and 1 quart per acre in low pressure ground sprayers.
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	<b>SPECIFIC DIRECTIONS:</b> For residual control in sub-tropical regions apply 4 gallons of prepared spray per 2000 square feet of surface areas. Repeat in 3 to 6 months or when necessary.

**PEST CONTROL AROUND BUILDINGS**

Pests	Qts. / 100 Gals.
Ants, Cockroaches	20 (20 tablespoons / gallon)
Brown dog ticks, Earwigs, Fleas, Millipedes, Silver fish, Spiders	10 (10 tablespoons / gallon)
	<b>SPECIFIC DIRECTIONS:</b> Do not treat animals. Apply as a coarse wet spray or with a paint brush to outdoor sleeping quarters of pets, outside perimeter of dwelling and other areas where insects tend to congregate. Do not use where edible products are exposed, being prepared, processed or served. Avoid application to surfaces where viable spray residues are objectionable.

**FIRE ANT CONTROL**

Sites	Qts. / 100 Gals.
Lawns, Cemeteries, Recreational Areas (including turf, golf courses, pastures, plantations, Forested Lands, Wastelands)	1½ (1½ tablespoons / gallon)
	<b>SPECIFIC DIRECTIONS:</b> Apply a total of 2 gallons of the diluted solution over the surface of each mound or at least 1 quart per 6 inches of mound diameter using a bucket, can or other appropriate equipment. Thoroughly wet mound and surrounding area to a 4 ft. diameter (12 sq. ft.). Do not disturb mounds prior to treatment. Pour solution from a height of about 18 inches to give sufficient force to break mounds apart and flow into ant tunnels. If or best results apply in cool weather, 65° to 69° F. or in early morning or late evening hours. Repeat application if mound activity resumes after 10 days. Treat new mounds as they appear. Pressurized sprays may disturb the ants and cause migration, reducing product effectiveness.
Nursery Stock, Vegetable Transplants, Foliage Plants, Bedding Plants	1½
	<b>SPECIFIC DIRECTIONS:</b> Do not use on any food crop not listed on label. Do not make more than one application, either as a root-dip or a drench treatment (applied to the point of saturation). Avoid contact with foliage and treat only the growing media when using on bedding plants.

**TREE FRUIT AND NUT CROPS**

For dilute sprays apply the specified dosage of 100 gallons of water. For concentrate and aerial sprays increase the concentration of CARBARYL 4L in the spray mixture to apply an amount per acre equivalent to that in a dilute spray. The optimum spray gallonage will depend on tree size, density and stage of growth. Typical spray gallonage per acre ranges from 200 to 300 gallons for dilute sprays, 30 to 100 gallons for concentrate sprays and 10 to 25 gallons for aerial sprays. Do not exceed maximum label rate per acre per application.

Crop	Qts. / 100 Gals.	PHI (Days)
Apples	¼ to ½ Thinning - Easy Thinning - Difficult	1 1
	<b>SPECIFIC DIRECTIONS:</b> Observe Bee Caution. Apply 1 full coverage dilute spray between 10 and 25 days after full bloom. If factors such as tree age, variety, nutrition, previous crop, pruning, bloom and degree of soil favor excessive fruit thinning with CARBARYL 4L, exercise caution to avoid possible yield reduction. Rates may vary depending on variety and local orchard conditions. Consult with your County Extension Service or other experts for advice on the proper use of this product. In Eastern apple growing areas, tank mix combinations of Carbaryl and Naphthaleneacetic acid (NAA) or Naphthaleneaceticamide (NAD) have successfully thinned several early-maturing, heavy-setting varieties, as well as hard-to-thin varieties such as Golden Delicious and Rhode Island Greening. The higher rate of Carbaryl and reduced rates of NAA or NAD followed 7 to 10 days later by an application of Carbaryl has employed thinning on these varieties. For easily thinned varieties including	

(continued) Apples	Cortland, Grimes, Jonathan, McIntosh, Orleans, Rome Beauty, Puritan, Red Delicious, Winesap and Yellow Newton. For difficult to thin varieties including Baldwin, Ben Davis, Duchess, Early McIntosh, Golden Delicious, Lady Apple, Northern Spy, Rhode Island Greening, Gloster Red, Turley, Wealthy, Yellow Transparent and York Imperator
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Crops	Insects	Qts. / 100 Gals.	PHI (Days)
Almonds	Peach twig borers, San Jose scales, Fruitree leafrollers	1	28
	SPECIFIC DIRECTIONS: Observe Bee Caution. Apply in popcorn or petal fall stages and again when the May brood of the Peach twig borer begins to hatch or thereafter as needed. For dormant or delayed dormant timing, apply in combination with a recommended dormant oil. Refer to the dormant oil label for additional use directions and restrictions.		
	Navel orangeworms	1	28
SPECIFIC DIRECTIONS: Time early and mid-season application to correspond to moth flight peaks. Make a late season application at initiation of hull split or up to 10% hull split. Do not apply more than 5 quarts per acre.			
Apples, Pears	Apple aphids, Apple maggots, Apple rust mites, Applesuckers, Bagworms, California pearstugs (Pear sawflies), Codling moths, Eastern tent caterpillars, European apple sawflies, Eyespotted bud moths, Forthos scales, Fruitree leafrollers, Green fruitworms, Gypsy moths, Japanese beetles, Locanium scales, Lesser appleworms, Lygus bugs, Orange tortrix, Oystershell scales, Pear leaf blister mites, Pear psylla, Pear rust mites, Periodical cicadas, Plum curculios, Redbanded leafrollers, Rosy apple aphids, San Jose scales, Tarnished plant bugs, Tentiform leafminers, Woolly apple aphids, Yellowheaded fireworms	1/2 to 1	1
	Apple mealybugs, White apple leafhoppers	1/2	
SPECIFIC DIRECTIONS: Observe Bee Caution. To avoid undesired apple thinning, delay use at least 30 days after full bloom. For Psylla control apply when eggs hatch or young nymphs are present. For optimum scale control, apply when crawlers are present.			

Crops	Insects	Qts. / 100 Gals.	PHI (Days)
Chestnuts	Chestnut weevil	2 to 3	0
	SPECIFIC DIRECTIONS: Observe Bee Caution. Make 4 applications at weekly intervals beginning in late July for adult Chestnut weevil control. Last application should be made prior to shuck split.		
Citrus Fruit (such as grapefruits, lemons, oranges, tangelos, tangerines, citrus citrons, kumquats and hybrids)	Avocado leafrollers, California orange dogs, Citrus cutworms, Citrus root weevils, Fruitree leafrollers, Orange tortrix, Western tussock moths, West Indian sugarcane borers (adult)	1	5
	Black scales, Brown soft scales, California red scales, Citricola scales, Citrus snow scales, Yellow scales	1/2 to 1	
	SPECIFIC DIRECTIONS: Observe Bee Caution. To ensure thorough coverage, do not apply less than 10 gallons of dilute spray mixture per mature tree. May be mixed with petroleum oils commonly used on citrus.		
Fibers	Fibert aphids, Fibert leafrollers, Fibert worms	1	0
	SPECIFIC DIRECTIONS: Apply when leafroller eggs are hatching. Repeat on first appearance of adult Fibert moths and again 3 to 4 weeks later. Apply dilute sprays in 300 to 400 gallons per acre.		
Olives	Olive Scales	1/2 to 1	0
	SPECIFIC DIRECTIONS: For optimum scale control add 1 1/2 gallons of summer oil and apply mixture when crawlers are present. Do not exceed 2 applications per year.		
Peaches, Apricots, Nectarines	Apple pandemis, Codling moths, Cucumber beetles, European earwigs, Fruitree leafrollers, Gypsy moths, Japanese beetles, June beetles, Locanium scales, Lesser peachtree borers, Olive scales, Orange tortrix, Oriental fruit moths, Peach twig borers, Periodical cicadas, Plum curculios, Redbanded leafrollers, San Jose scales, Tarnished plant bugs, Tussock moths, Variegated leafrollers	1	1 (Peaches) 3 (Apricots Nectarines)
	SPECIFIC DIRECTIONS: For optimum scale control, apply when crawlers are present. For Lesser peachtree borer control, spray limbs and trunk thoroughly at weekly intervals during moth flight.		

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Crops	Insects	Qts. / 100 Gals.	PHI (Days)
Pecans	Black margined aphids, Fall webworms, Hickory shuckworms, Lesser webworms, Pecan stem phylloxera, Pecan leaf phylloxera, Pecan nut casebearers, Pecan spittle bugs, Pecan weevils, Twig girdlers, Walnut caterpillars	1 to 2 1/2	0
	SPECIFIC DIRECTIONS: Do not apply more than 7.2 quarts of CARBARYL 4L per acre per application.		
Pistachios	Navel orangeworms	1/2 to 2	14
	SPECIFIC DIRECTIONS: Apply dilute volumes of 150 to 300 gallons of mixed spray per acre for full coverage at onset of hull split		
Prunes, Plums, Cherries	Black cherry aphids, Brown soft scales, Cherry fruitworms, Cherry mealybugs, European sawflies, Eye spotted box moth, Forbes scales, Fruitree leafrollers, Green hutchworms, Gypsy moths, Japanese beetle, Lecanium scale, Lesser peachtree borers, Mealy plum aphids, Oystershell scale, Peach twig borers, Plum curculios, Prune leafhoppers, Redbanded leafrollers, Rose chafers, San Jose scales, Variegated leafrollers	1	1
	Codling moths, Eastern tent caterpillars, Orange tortrix, Tussock moths	1/2	1
	SPECIFIC DIRECTIONS: Do not apply more than 6 quarts of CARBARYL 4L per acre per application. For optimum scale control apply when crawlers are present. For Lesser peachtree borer control, spray limbs and tree trunks thoroughly weekly during moth flight.		
Walnuts	Calico scales, European fruit lecaniums, Filbert worms, Fruitree leafrollers, Frosted scales	1/2	0
	Codling moths	1/2	
(continued)	SPECIFIC DIRECTIONS. For Codling moth, apply first spray when average cross-sectional diameters of developing nuts are 1/2 to 3/4 inch. Repeat during middle or late June as needed.		

Crops	Insects	Qts. / 100 Gals.	PHI (Days)
(continued)	Navel orange worms	1	0
Walnuts	SPECIFIC DIRECTIONS: For Navel orangeworms, time application to coincide with peak egg laying activity at time of or following hull split.		
	European earwigs	2	0
SPECIFIC DIRECTIONS: Spray tree trunks to point of runoff.			

## SMALL FRUIT CROPS

Recommended dosages refer to quarts of CARBARYL 4L per acre. The optimum spray gallonage will depend on plant size, density and stage of growth. Typical spray gallonages per acre range from 100 to 300 gallons for dilute sprays, 30 to 100 gallons for concentrate sprays and 10 to 25 gallons for aerial sprays. Do not exceed maximum label rate per acre per application.

Crops	Insects	Qts. / A	PHI (Days)
Blackberries, Raspberries, Dewberries (including boysenberries, loganberries)	European sawflies, apple, Japanese beetle, Leafrollers, Leafrollers, Rose chafers, Snowy tree crickets	1 to 2	1
	Omnivorous leafrollers, Raspberry sawflies (CA Only)	2	
Blueberries	Blueberry maggots, Cherry fruitworms, Cranberry hutchworms, European fruit lecaniums, Japanese beetles	3	0
	SPECIFIC DIRECTIONS: Apply 3 weeks before harvest and repeat as necessary.		
Cranberries	Culworms, Cranberry fruitworms, Cranberry hutchworms, Cranberry twig girdlers, Elm span worms, Japanese beetles, Leafhoppers, Rose chafers, Sparganothus worms	1 to 2	1
	SPECIFIC DIRECTIONS: Repeat applications as necessary up to a total of 5 times, but not more often than once every 7 days		
Grapes	European fruit lecaniums, Grape leafrollers, Grape leafhoppers, Western grapeleaf skeletonizers, Western yellow striped armyworms	1 to 2	0
(continued)			

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Crops	Insects	Qts. / A	PHI (Days)
(continued) Grapes	Cutworms, Eight-spotted leafbeetles, Grape berry moths, Japanese beetles, June beetles, Orange tortrix, Omnivorous leafrollers, Redbanded leafrollers, Saltmarsh caterpillars	2	0
SPECIFIC DIRECTIONS: Apply before first brood Leafhopper larvae emerge from rolls			
Strawberries	Flea beetles, Meadow spittlebugs, Omnivorous leafhoppers (Strawberry fruitworms), Strawberry bud weevils, Strawberry clippers, Strawberry leafrollers, Strawberry weevils	1 to 2	1
SPECIFIC DIRECTIONS: CARBARYL 4L may injure Early Dawn and Sunrise varieties on the Delmarva Peninsula.			

#### POULTRY ROOSTS AND BUILDINGS ONLY\*

Pests	Qts. / 100 Gals.
Bed bugs, Chicken mites, Fleas, Lice, Northern louse mites	4 Apply 1 to 2 gallons of spray mixture per 1000 square feet of wall, litter or roost surface. Force spray into cracks. Repeat as needed.
Fowl ticks	16 Apply 2 gallons of spray mixture per 1000 square feet of floor space or litter surface. Repeat as needed.
Lesser mealworms	50 Apply 2 gallons of spray mixture per 1000 square feet of floor space or litter surface. Repeat as needed.
*Do not treat poultry or game birds. Avoid contamination of nests, eggs, feeding and watering troughs. Ventilate while spraying. Do not treat premises within 7 days of slaughter.	

#### STORAGE AND DISPOSAL

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

**STORAGE INSTRUCTIONS:** Storage should be under lock and key and secure from access by unauthorized persons and children. Storage should be in a cool dry area away from any heat or light on source. Avoid storage at high temperatures. Do not stack over 2 pallets high. Move containers by handles or cases. Do not move containers from one area to another unless they are securely sealed. Keep container tightly sealed when not in use. Keep away from any puncture source. Avoid storage near water supplies, food, feed and fertilizer to avoid contamination. Avoid contamination with acids and alkalis. Store in original containers only. If the contents are leaking or material is spilled, follow these steps:

1. Contain spill, absorb with a material such as sawdust, clay granules, or dirt.
2. Collect and place in suitable containers for disposal.
3. Wash area with water and soap to remove remaining pesticide.
4. Follow washing with clean water rinse.
5. Place a leaking container in a plastic tub and transfer the contents as soon as possible to an empty original container.
6. Do not allow run off to enter sewer or contaminate water supplies.
7. Dispose of wastes as indicated below:

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke.

#### WARRANTY—CONDITION OF SALE

OUR RECOMMENDATIONS FOR USE of this product are based upon tests believed reliable. Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically recommended, and other influencing factors in the use of this product are beyond the control of the Seller. Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith. In no case shall Drexel or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with directions given herewith. The foregoing is a condition of sale by Drexel Chemical Company and is accepted as such by the Buyer.

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